

**Multi-Institutional Registry of Large Bowel Cancer  
in Japan**

**Vol.10**

**Cases treated in 1991 and 1992**

**(Prospective Registry Data)**

**Japanese Society for Cancer of the Colon and Rectum**

## **Preface**

This, the tenth report of the 'Multi-institutional Registry of Large Bowel Cancer in Japan,' is composed of clinical and pathological data on patients treated in the year 1991 and 1992.

In response to members' requests for comprehensive and up-to-date information, we developed a prospective registration system in 1991, and have been using the system since 1992. In this issue an attempt was made to complement and extend the contents of prior reports dealing with the patients treated between 1974 and 1985. Data on recurrent disease and survival analyses will be published when a meaningful evaluation is possible. To make it easier to distinguish this prospective registration report from the previous ones, we have made the cover of the book light green.

It is our hope that this report will be used extensively in routine clinical activities and studies on colorectal cancer.

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June, 1995

Japanese Society for Cancer of the Colon and Rectum

President: Masayuki Yasutomi MD

Chairman, Registry Committee: Yasuo Koyama MD

Data manager, Registry Committee: Kenjiro Kotake MD

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**Multi-Institutional Registry of Large Bowel Cancer  
in Japan**

**Vol.10 - a  
Cases treated in 1991  
(Prospective Registry Data)**

## 1 Patients registered

### Number of registered patients by institutes

| Institute                                    | Department       | No. of registered cases | No. of cases analyzed |      |        |
|--|------------------|-------------------------|-----------------------|------|--------|
|  |                  |                         | Total                 | Male | Female |
| Aichi Cancer Center Hospital                 | Dpt GI Surg      | 127                     | 126                   | 77   | 49     |
| Akita University School of Medicine          | Dpt Surg I       | 32                      | 30                    | 19   | 11     |
| Asahikawa Kosei Hospital                     |                  | 43                      | 43                    | 22   | 21     |
| Beppu National Hospital                      |                  | 52                      | 44                    | 22   | 22     |
| Cancer Institute Hospital                    | Dpt Surg         | 54                      | 54                    | 23   | 31     |
| Dokkyo University School of Medicine         | Dpt Surg I       | 32                      | 32                    | 14   | 18     |
| Dokkyo University School of Medicine         | Dpt Surg II      | 22                      | 22                    | 8    | 14     |
| East Hospital, Kitazato University           | GE Center        | 61                      | 60                    | 34   | 26     |
| Faculty of Medicin, Kagoshima University     | Dpt SurgI        | 23                      | 23                    | 19   | 4      |
| Faculty of Medicine,University of Tokyo      | Dpt Surg I       | 60                      | 56                    | 35   | 21     |
| Fujita Health University School of Medicine  | Dpt Surg (Miura) | 39                      | 38                    | 19   | 19     |
| Fukui Prefectural Hospital                   | Dpt Surg I       | 95                      | 94                    | 42   | 52     |
| Fukushima Medical College                    | Dpt Surg I       | 36                      | 36                    | 25   | 11     |
| Gifu University School of Medicine           | Dpt Surg II      | 45                      | 45                    | 27   | 18     |
| Gihoku General Hospital                      | Dpt Surg         | 19                      | 18                    | 8    | 10     |
| Gunma Cancer Center                          | Dpt Surg         | 62                      | 61                    | 31   | 30     |
| Gunma University School of Medicine          | Dpt Surg II      | 23                      | 23                    | 13   | 10     |
| Gunma University School of Medicine          | Dpt Surg I       | 64                      | 62                    | 35   | 27     |
| Hamamatsu Medical Center                     |                  | 57                      | 57                    | 39   | 18     |
| Hamamatsu University School of Medicine      | Dpt Surg II      | 35                      | 33                    | 21   | 12     |
| Hiraga General Hospital                      | Dpt Surg         | 62                      | 60                    | 31   | 29     |
| Hirosaki University, School of Medicine      | Dpt Surg II      | 50                      | 50                    | 29   | 21     |
| Hirosaki University, School of Medicine      | 1st Dpt IM       | 14                      | 11                    | 9    | 2      |
| Hiroshima University School of Medicine      | Dpt Surg II      | 30                      | 29                    | 25   | 4      |
| Hokkaido University, School of Medicine      | 1st Dpt Surg     | 28                      | 28                    | 19   | 9      |
| Hokuriku Central Hospital                    | Dpt Surg         | 19                      | 18                    | 11   | 7      |
| Hyogo Medical Center for Adults              | Dpt Surg         | 59                      | 59                    | 34   | 25     |
| Hyogo Prefectural Kakogawa Hospital          |                  | 22                      | 22                    | 11   | 11     |
| Iwakuni National Hospital                    | Dpt Surg         | 25                      | 25                    | 20   | 5      |
| Iwate Medical University,School of Medicine  | Dpt I M          | 5                       | 5                     | 5    | 0      |
| Iwate Medical University, School of Medicine | Dpt Surg I       | 57                      | 54                    | 32   | 22     |
| Izushi Municipal Hospital                    |                  | 10                      | 10                    | 5    | 5      |
| Jichi Medical School, School of Medicine     | Dpt GI Gen Surg  | 69                      | 67                    | 39   | 28     |
| Juntendo University, School of Medicine      | Dpt Surg I       | 74                      | 74                    | 53   | 21     |
| Kagawa Medical School                        | Dpt Surg I       | 30                      | 29                    | 12   | 17     |
| Kanagawa Cancer Center                       | Dpt Surg IV      | 98                      | 97                    | 63   | 34     |
| Kanazawa Medical University                  | Dpt Surg II      | 34                      | 34                    | 24   | 10     |
| Kanto Rosai Hospital                         |                  | 37                      | 37                    | 23   | 14     |
| Kariya General Hospital.                     |                  | 49                      | 48                    | 29   | 19     |
| Kasumigaura National Hospital                | Dpt Surg         | 32                      | 32                    | 15   | 17     |
| Kawasaki City Ida Hospital                   | Dpt Surg         | 44                      | 44                    | 29   | 15     |
| Kawasaki Medical School                      | GE Surg          | 69                      | 69                    | 42   | 27     |
| Keiyu General Hospital                       |                  | 54                      | 52                    | 32   | 20     |
| Kinki University School of Medicine          | Dpt Surg I       | 95                      | 94                    | 57   | 37     |
| Kobe University School of Medicine           | Dpt Surg I       | 20                      | 19                    | 13   | 6      |
| Kurume University, School of Medicine        | Dpt Surg I       | 77                      | 77                    | 47   | 30     |

## Multi-Institutional Registry of Large Bowel Cancer

| Institute   | Department   | No. of registered cases | No. of cases analyzed |      |        |
|---|--------------|-------------------------|-----------------------|------|--------|
|   |              |                         | Total                 | Male | Female |
| Kyorin University, School of Medicine                                     | Dpt Surg I   | 36                      | 34                    | 20   | 14     |
| Kyorin University, School of Medicine                                     | Dpt Surg II  | 21                      | 20                    | 13   | 7      |
| Kyoto 1st Red Cross Hospital  | Dpt Surg     | 80                      | 77                    | 48   | 29     |
| Kyoto National Hospital   | Dpt Surg     | 76                      | 74                    | 37   | 37     |
| Kyoto University, Faculty of Medicine                                     | Dpt SurgII   | 13                      | 11                    | 6    | 5      |
| Medical School, Nagoya City University                                    | Dpt Surg I   | 35                      | 35                    | 21   | 14     |
| Mito Kyodo General Hospital   | Dpt Surg     | 38                      | 38                    | 18   | 20     |
| Miyagi Medical Center for Adults  | Dpt Surg     | 57                      | 57                    | 36   | 21     |
| Nagasaki University, School of Medicine                                   | Dpt Surg I   | 60                      | 60                    | 37   | 23     |
| Nagoya National Hospital  | Dpt Surg     | 60                      | 60                    | 31   | 29     |
| Nagoya University School of Medicine                                      | Dpt Surg I   | 9                       | 9                     | 4    | 5      |
| Nagoya University School of Medicine                                      | Dpt Surg II  | 37                      | 37                    | 21   | 16     |
| Nakamura Hospital   |              | 13                      | 13                    | 9    | 4      |
| National Cancer Center Hospital   | Dpt Surg     | 99                      | 99                    | 55   | 44     |
| National Cancer Center Hospital East                                      |              | 16                      | 16                    | 9    | 7      |
| National Defense Medical College  | Dpt Surg I   | 133                     | 132                   | 80   | 52     |
| National Fukuoka Central Hospital   |              | 75                      | 73                    | 43   | 30     |
| National Kyushu Cancer Center   | Dpt GE Surg  | 71                      | 69                    | 42   | 27     |
| National Okura Hospital   | Dpt Surg     | 30                      | 30                    | 14   | 16     |
| National Sanatorium Kanagawa Hospital                                     |              | 15                      | 14                    | 5    | 9      |
| National Sapporo Hospital Hokkaido Cancer Center                          | Dpt Surg     | 43                      | 42                    | 22   | 20     |
| Nihon University, School of Medicine                                      | Dpt Surg III | 44                      | 37                    | 23   | 14     |
| Niigata University, School of Medicine                                    | Dpt Surg I   | 34                      | 34                    | 23   | 11     |
| Nippon Medical School   | Dpt Surg I   | 72                      | 72                    | 37   | 35     |
| Nogaki Hospital   | Dpt Surg     | 26                      | 26                    | 17   | 9      |
| Okayama 1st Red Cross Hospital  | Dpt Surg     | 59                      | 57                    | 40   | 17     |
| Oomoto Hospital   |              | 55                      | 50                    | 25   | 25     |
| Osaka Medical College   | Dpt Surg     | 78                      | 76                    | 42   | 34     |
| Osaka Teishin Hospital  | Dpt Surg     | 48                      | 48                    | 24   | 24     |
| Osaka University Medical School   | Dpt Surg II  | 50                      | 46                    | 27   | 19     |
| Red Cross Ashikaga Hospital   | Dpt Surg     | 51                      | 51                    | 31   | 20     |
| Red cross Sendai Hospital   | Dpt Surg     | 90                      | 90                    | 53   | 37     |
| Research Institute for Nuclear Medicine and Biology, Hiroshima University | Dpt Surg     | 19                      | 19                    | 10   | 9      |
| Saitama Medical Center  | Dpt Surg II  | 48                      | 47                    | 24   | 23     |
| Sapporo-Kosei General Hospital  | Dpt Surg     | 47                      | 46                    | 32   | 14     |
| School of Medicine, Chiba University                                      | Dpt Surg I   | 56                      | 56                    | 34   | 22     |
| School of Medicine, Chiba University                                      | Dpt Surg II  | 47                      | 47                    | 32   | 15     |
| School of Medicine, Fukuoka University                                    |              |                         |                       |      |        |
| Tsukushi Hospital   | Dpt Surg     | 81                      | 78                    | 51   | 27     |
| School of Medicine, Gifu University                                       | Dpt Surg I   | 17                      | 16                    | 7    | 9      |
| School of Medicine, Keio University                                       | Dpt Surg     | 129                     | 127                   | 83   | 44     |
| School of Medicine, Kitasato University                                   | Dpt Surg     | 28                      | 28                    | 16   | 12     |
| School of Medicine, Mie University  | Dpt Surg I   | 10                      | 10                    | 4    | 6      |
| School of Medicine, Mie University  | Dpt SurgII   | 45                      | 44                    | 25   | 19     |
| School of Medicine, The University of Tokushima                           | Dpt Surg I   | 23                      | 23                    | 12   | 11     |
| School of Medicine, Tokai University                                      | Dpt Surg II  | 82                      | 81                    | 59   | 22     |
| Sendai Medical Center Sendai Open Hospital                                |              | 219                     | 213                   | 137  | 76     |

Cases treated in 1991

| Institute  | Department      | No. of registered cases | No. of cases analyzed |      |        |
|--|-----------------|-------------------------|-----------------------|------|--------|
|  |                 |                         | Total                 | Male | Female |
| Sendai National Hospital                                       | Dpt Surg        | 62                      | 60                    | 36   | 24     |
| Shikoku Cancer Center Hospital                                 | Drt Surg        | 66                      | 66                    | 38   | 28     |
| Shimada Municipal Hospital                                     | Dpt Surg        | 63                      | 61                    | 41   | 20     |
| Shimane Medical University                                     | Dpt Surg II     | 15                      | 15                    | 10   | 5      |
| Shizuoka Red Cross Hospital                                    | Dpt Surg        | 58                      | 56                    | 29   | 27     |
| Social Insurance Central Hospital,<br>Colo-proctologyCenter    |                 | 126                     | 124                   | 71   | 53     |
| Social Insurance Ritsurin Hospital                             |                 | 2                       | 22                    | 8    | 14     |
| St. Marianna University, School of Medicine                    | Dpt Surg I      | 43                      | 43                    | 24   | 19     |
| Takano Hospital Colo-proctology Center                         |                 | 189                     | 176                   | 107  | 69     |
| Teikyo University Hospital at Mizonokuchi                      | Dpt Surg        | 4                       | 4                     | 2    | 2      |
| Teikyo University School of Medicine                           | Dpt Surg I      | 18                      | 18                    | 11   | 7      |
| The Center for Adult Diseases Osaka                            | Dpt Surg        | 66                      | 64                    | 46   | 18     |
| Tochigi Cancer Center  | Dpt Surg        | 72                      | 71                    | 49   | 22     |
| Toho University School, School of Medicine,<br>Ohashi Hospital |                 | 33                      | 32                    | 15   | 17     |
| Toho University School of Medicine                             | Dpt Surg I      | 54                      | 53                    | 36   | 17     |
| Tohoku University, School of Medicine                          | Dpt Surg I      | 42                      | 41                    | 17   | 24     |
| Tokyo Medical and Dental University,<br>School of Medicine     | Dpt Surg II     | 7                       | 7                     | 4    | 3      |
| Tokyo Metropolitan Cancer Detection Center                     |                 | 18                      | 17                    | 12   | 5      |
| Tokyo Metropolitan Hiroo Hospital                              | Dpt Surg        | 57                      | 57                    | 35   | 22     |
| Tokyo Metropolitan Komagome Hospital                           | Dpt Surg        | 175                     | 175                   | 104  | 71     |
| Tokyo Women's Medical College                                  | Dpt Surg II     | 101                     | 100                   | 58   | 42     |
| Tokyo Women's Medical College                                  | Institute of GE | 116                     | 112                   | 70   | 42     |
| Tokyo Women's Medical College, Second Hospital                 | Dpt Surg        | 37                      | 37                    | 22   | 15     |
| Tottori University, Faculty of Medicine                        | Dpt Surg I      | 59                      | 59                    | 41   | 18     |
| Yamagata Prefectural Central Hospital                          | Dpt Surg        | 149                     | 148                   | 75   | 73     |
| Total  |                 | 6271                    | 6141                  | 3642 | 2499   |

Cases with an omission of following terms were excluded from analysis

1.Histological features 2.Date of birth 3.Date of treatment 4.Sex 5.Location of tumor

Abbreviation

Dpt: department, Surg: surgery, GI: gastrointestinal, GE: gastroenterology(ical), IM: internal medy, Gen: general

## 2 Patients analyzed

### 2-1 Site and sex

| Histological type                | Site   | Total No. | Sex   |        |
|----------------------------------|--------|-----------|-------|--------|
|                                  |        |           | Male  | Female |
| Adenocarcinoma <sup>a)</sup>     | Colon  | 3,460     | 1,962 | 1,498  |
|                                  | Rectum | 2,588     | 1,632 | 956    |
| Other malignancies <sup>b)</sup> | Colon  | 29        | 22    | 7      |
|                                  | Rectum | 64        | 26    | 38     |
| Total                            |        | 6,141     | 3,642 | 2,499  |

a): well-, moderately and poorly differentiated adenocarcinoma, mucinous carcinoma and signet-ring cell carcinoma

b): carcinomas other than adenocarcinoma and non-epithelial malignant neoplasms

### 2-2 Site and surgical treatment

| Histological type  | Site   | Surgery <sup>a)</sup> |                     | Total |
|--------------------|--------|-----------------------|---------------------|-------|
|                    |        | Yes                   | No                  |       |
| Adenocarcinoma     | Colon  | 3,454                 | [250] <sup>b)</sup> | 3,462 |
|                    | Rectum | 2,587                 | [92]                | 2,591 |
|                    | Total  | 6,041                 | [342]               | 6,053 |
| Other malignancies | Colon  | 27                    | [2]                 | 27    |
|                    | Rectum | 61                    | [3]                 | 61    |
|                    | Total  | 88                    | [5]                 | 88    |
| Total              |        | 6,129                 | [90]                | 6,141 |

a): Includes cryosurgery and electric cautery therapy.

b): The figures in parentheses represent the number of patients treated solely by endoscopic polypectomy, and those are included in the number in the left column.

### 3 Age incidence

all cases

#### 3-1 Male, by site

| Site           | Age |     |     |     |     |     |       |     |     | Total |
|----------------|-----|-----|-----|-----|-----|-----|-------|-----|-----|-------|
|                | -9  | -19 | -29 | -39 | -49 | -59 | -69   | -79 | 80- |       |
| I              | 0   | 0   | 1   | 0   | 1   | 2   | 0     | 0   | 0   | 4     |
| V              | 0   | 0   | 0   | 1   | 1   | 0   | 2     | 3   | 0   | 7     |
| C              | 0   | 0   | 4   | 2   | 12  | 27  | 45    | 46  | 15  | 151   |
| A              | 0   | 0   | 0   | 3   | 32  | 81  | 130   | 77  | 25  | 348   |
| T              | 0   | 0   | 2   | 8   | 30  | 73  | 85    | 63  | 20  | 281   |
| D              | 1   | 0   | 2   | 7   | 15  | 48  | 67    | 44  | 14  | 198   |
| S              | 0   | 1   | 4   | 10  | 78  | 278 | 364   | 194 | 66  | 995   |
| Total          | 1   | 1   | 13  | 31  | 169 | 509 | 693   | 427 | 140 | 1,984 |
| Rs             | 0   | 0   | 1   | 4   | 27  | 110 | 141   | 80  | 17  | 380   |
| Ra             | 0   | 0   | 1   | 10  | 45  | 161 | 168   | 99  | 31  | 515   |
| Rb             | 0   | 0   | 3   | 11  | 83  | 182 | 237   | 162 | 38  | 716   |
| P              | 0   | 0   | 0   | 1   | 4   | 8   | 14    | 11  | 5   | 43    |
| E              | 0   | 0   | 0   | 0   | 0   | 1   | 2     | 1   | 0   | 4     |
| Total          | 0   | 0   | 5   | 26  | 159 | 462 | 562   | 353 | 91  | 1,658 |
| Colon & Rectum | 1   | 1   | 18  | 57  | 328 | 971 | 1,255 | 780 | 231 | 3,642 |

#### 3-2 Female, by site

| Site           | Age |     |     |     |     |     |       |     |     | Total |
|----------------|-----|-----|-----|-----|-----|-----|-------|-----|-----|-------|
|                | -9  | -19 | -29 | -39 | -49 | -59 | -69   | -79 | 80- |       |
| I              | 0   | 0   | 0   | 0   | 3   | 0   | 1     | 0   | 0   | 4     |
| V              | 0   | 0   | 0   | 1   | 1   | 0   | 2     | 1   | 1   | 6     |
| C              | 0   | 0   | 1   | 3   | 15  | 32  | 46    | 49  | 16  | 162   |
| A              | 0   | 0   | 0   | 2   | 25  | 93  | 132   | 95  | 29  | 376   |
| T              | 0   | 1   | 4   | 8   | 26  | 56  | 111   | 73  | 26  | 305   |
| D              | 0   | 1   | 0   | 4   | 24  | 39  | 70    | 36  | 10  | 184   |
| S              | 0   | 0   | 6   | 20  | 95  | 267 | 391   | 222 | 70  | 1,071 |
| Total          | 0   | 2   | 11  | 38  | 189 | 487 | 753   | 476 | 152 | 2,108 |
| Rs             | 0   | 0   | 0   | 4   | 31  | 105 | 176   | 85  | 19  | 420   |
| Ra             | 0   | 0   | 1   | 5   | 61  | 104 | 191   | 112 | 21  | 495   |
| Rb             | 0   | 0   | 5   | 16  | 81  | 175 | 227   | 120 | 36  | 660   |
| P              | 0   | 0   | 0   | 3   | 0   | 11  | 9     | 11  | 4   | 38    |
| E              | 0   | 0   | 0   | 0   | 2   | 0   | 0     | 1   | 0   | 0     |
| Total          | 0   | 0   | 6   | 28  | 175 | 395 | 603   | 329 | 80  | 1,616 |
| Colon & Rectum | 0   | 2   | 17  | 66  | 364 | 882 | 1,356 | 805 | 232 | 3,724 |

Colon: I: ileum, V: veriform processus, C: caecum, A: ascending colon, T: transverse colon, D: descending colon, S: sigmoid colon

Rectum and Anus: Rs: rectosigmoid, Ra: rectum above the peritoneal reflection, Rb: rectum below the peritoneal reflection, P: proctos, E: external skin

## 4 Occupation

adenocarcinoma

### 4-1 Site and sex

| Occupation             | Colon |        | Rectum |        | Total |
|------------------------|-------|--------|--------|--------|-------|
|                        | Male  | Female | Male   | Female |       |
| None                   | 575   | 1,012  | 469    | 604    | 2,660 |
| Agriculture            | 95    | 55     | 116    | 36     | 302   |
| Fishery                | 57    | 2      | 27     | 0      | 86    |
| Industry               | 86    | 18     | 120    | 10     | 234   |
| Physical labor         | 8     | 2      | 7      | 4      | 21    |
| Office worker          | 414   | 80     | 315    | 63     | 872   |
| Specialist             | 106   | 39     | 82     | 24     | 251   |
| Administrative         | 124   | 10     | 95     | 6      | 235   |
| Other service industry | 142   | 73     | 132    | 68     | 415   |
| Unknown                | 355   | 207    | 269    | 141    | 972   |
| Total                  | 1,962 | 1,498  | 1,632  | 956    | 6,048 |

### 4-2 Age distribution, colon, male

| Occupation             | Age |     |     |     |     |     | Total |
|------------------------|-----|-----|-----|-----|-----|-----|-------|
|                        | <39 | <49 | <59 | <69 | <79 | 80> |       |
| None                   | 3   | 2   | 35  | 193 | 248 | 94  | 575   |
| Agriculture            | 2   | 0   | 19  | 44  | 23  | 7   | 95    |
| Fishery                | 3   | 5   | 32  | 15  | 2   | 0   | 57    |
| Industry               | 3   | 13  | 34  | 28  | 4   | 4   | 86    |
| Physical labor         | 0   | 1   | 2   | 4   | 1   | 0   | 8     |
| Office worker          | 19  | 70  | 181 | 128 | 13  | 3   | 414   |
| Specialist             | 3   | 10  | 28  | 45  | 15  | 5   | 106   |
| Administrative         | 0   | 7   | 33  | 54  | 23  | 7   | 124   |
| Other service industry | 1   | 18  | 47  | 57  | 18  | 1   | 142   |
| Unknown                | 7   | 39  | 93  | 124 | 74  | 18  | 355   |
| Total                  | 41  | 165 | 504 | 692 | 421 | 139 | 1,962 |

### 4-3 Age distribution, colon, female

| Occupation             | Age |     |     |     |     |     | Total |
|------------------------|-----|-----|-----|-----|-----|-----|-------|
|                        | <39 | <49 | <59 | <69 | <79 | 80> |       |
| None                   | 19  | 80  | 178 | 332 | 300 | 103 | 1,012 |
| Agriculture            | 0   | 1   | 15  | 26  | 10  | 3   | 55    |
| Fishery                | 0   | 0   | 1   | 1   | 0   | 0   | 2     |
| Industry               | 0   | 4   | 9   | 3   | 2   | 0   | 18    |
| Physical labor         | 0   | 0   | 0   | 2   | 0   | 0   | 2     |
| Office worker          | 4   | 24  | 43  | 9   | 0   | 0   | 80    |
| Specialist             | 1   | 8   | 12  | 14  | 3   | 1   | 39    |
| Administrative         | 0   | 1   | 1   | 5   | 2   | 1   | 10    |
| Other service industry | 0   | 11  | 36  | 19  | 6   | 1   | 73    |
| Unknown                | 6   | 21  | 54  | 69  | 41  | 16  | 207   |
| Total                  | 30  | 150 | 349 | 480 | 364 | 125 | 1,498 |

**4-4 Age distribution, rectum, male**

| Occupation             | Age |     |     |     |     |     | Total |
|------------------------|-----|-----|-----|-----|-----|-----|-------|
|                        | <39 | <49 | <59 | <69 | <79 | 80> |       |
| None                   | 0   | 7   | 23  | 179 | 198 | 62  | 469   |
| Agriculture            | 1   | 2   | 31  | 52  | 27  | 3   | 116   |
| Fishery                | 1   | 8   | 12  | 4   | 2   | 0   | 27    |
| Industry               | 3   | 21  | 48  | 35  | 12  | 1   | 120   |
| Physical labor         | 0   | 1   | 2   | 3   | 1   | 0   | 7     |
| Office worker          | 12  | 52  | 149 | 81  | 20  | 1   | 315   |
| Specialist             | 7   | 10  | 24  | 28  | 10  | 3   | 82    |
| Administrative         | 1   | 5   | 32  | 38  | 16  | 3   | 95    |
| Other service industry | 2   | 14  | 51  | 46  | 15  | 4   | 132   |
| Unknown                | 3   | 34  | 84  | 90  | 45  | 13  | 269   |
| Total                  | 30  | 154 | 456 | 556 | 346 | 90  | 1,632 |

**4-5 Age distribution, rectum, female**

| Occupation             | Age |     |     |     |     |     | Total |
|------------------------|-----|-----|-----|-----|-----|-----|-------|
|                        | <39 | <49 | <59 | <69 | <79 | 80> |       |
| None                   | 15  | 58  | 123 | 179 | 164 | 65  | 604   |
| Agriculture            | 1   | 1   | 14  | 15  | 5   | 0   | 36    |
| Fishery                | 0   | 0   | 0   | 0   | 0   | 0   | 0     |
| Industry               | 0   | 5   | 3   | 1   | 1   | 0   | 10    |
| Physical labor         | 0   | 0   | 1   | 2   | 1   | 0   | 4     |
| Office worker          | 5   | 17  | 27  | 11  | 2   | 1   | 63    |
| Specialist             | 2   | 2   | 12  | 5   | 3   | 0   | 24    |
| Administrative         | 0   | 0   | 3   | 3   | 0   | 0   | 6     |
| Other service industry | 2   | 17  | 23  | 15  | 10  | 1   | 68    |
| Unknown                | 7   | 19  | 37  | 40  | 28  | 10  | 141   |
| Total                  | 32  | 119 | 243 | 271 | 214 | 77  | 956   |

**5 Family history of cancers****adenocarcinoma****5-1 Family history of colorectal cancer**

| Site  | Family history of colorectal cancer |     |         | Total |
|-------|-------------------------------------|-----|---------|-------|
|       | No                                  | Yes | Unknown |       |
| I     | 3                                   | 0   | 0       | 3     |
| V     | 11                                  | 2   | 2       | 15    |
| C     | 244                                 | 31  | 25      | 300   |
| A     | 569                                 | 50  | 86      | 705   |
| T     | 408                                 | 37  | 40      | 485   |
| D     | 243                                 | 19  | 31      | 293   |
| S     | 1,322                               | 136 | 201     | 1,659 |
| Rs    | 517                                 | 49  | 61      | 627   |
| Ra    | 656                                 | 65  | 77      | 798   |
| Rb    | 892                                 | 78  | 119     | 1,089 |
| P     | 62                                  | 1   | 8       | 71    |
| E     | 2                                   | 1   | 0       | 3     |
| Total | 4,929                               | 469 | 670     | 6,048 |

**5-2 Family history of other cancers**

| Site  | Family history of other cancers |       |         | Total |
|-------|---------------------------------|-------|---------|-------|
|       | No                              | Yes   | Unknown |       |
| I     | 2                               | 1     | 0       | 3     |
| V     | 12                              | 1     | 2       | 15    |
| C     | 205                             | 69    | 26      | 300   |
| A     | 415                             | 202   | 88      | 705   |
| T     | 306                             | 142   | 37      | 485   |
| D     | 185                             | 75    | 33      | 293   |
| S     | 1,017                           | 441   | 201     | 1,659 |
| Rs    | 405                             | 163   | 59      | 627   |
| Ra    | 511                             | 214   | 73      | 798   |
| Rb    | 666                             | 301   | 122     | 1,089 |
| P     | 47                              | 20    | 4       | 71    |
| E     | 3                               | 0     | 0       | 3     |
| Total | 3,774                           | 1,629 | 645     | 6,048 |

### 5-3 Age distribution, colon

|       |     | Family history of colorectal cancer |          |         |                                 |          |         |          |          |         |
|-------|-----|-------------------------------------|----------|---------|---------------------------------|----------|---------|----------|----------|---------|
|       |     | Negative                            |          |         | Positive                        |          |         | Unknown  |          |         |
|       |     |                                     |          |         | Family history of other cancers |          |         |          |          |         |
|       |     | Negative                            | Positive | Unknown | Negative                        | Positive | Unknown | Negative | Positive | Unknown |
| Age   | <39 | 44                                  | 6        | 0       | 10                              | 3        | 1       | 0        | 0        | 7       |
|       | <49 | 175                                 | 64       | 1       | 19                              | 14       | 0       | 1        | 4        | 37      |
|       | <59 | 479                                 | 211      | 6       | 38                              | 25       | 8       | 2        | 6        | 78      |
|       | <69 | 664                                 | 295      | 6       | 56                              | 29       | 7       | 0        | 7        | 108     |
|       | <79 | 454                                 | 176      | 6       | 26                              | 22       | 2       | 1        | 16       | 82      |
|       | <80 | 162                                 | 49       | 2       | 11                              | 2        | 2       | 0        | 2        | 34      |
| Total |     | 1,978                               | 801      | 21      | 160                             | 95       | 20      | 4        | 35       | 346     |

### 5-4 Age distribution, rectum

|       |     | Family history of colorectal cancer |          |         |                                 |          |         |          |          |         |
|-------|-----|-------------------------------------|----------|---------|---------------------------------|----------|---------|----------|----------|---------|
|       |     | Negative                            |          |         | Positive                        |          |         | Unknown  |          |         |
|       |     |                                     |          |         | Family history of other cancers |          |         |          |          |         |
|       |     | Negative                            | Positive | Unknown | Negative                        | Positive | Unknown | Negative | Positive | Unknown |
| Age   | <39 | 39                                  | 11       | 1       | 3                               | 4        | 0       | 0        | 1        | 3       |
|       | <49 | 159                                 | 57       | 3       | 19                              | 6        | 0       | 0        | 4        | 25      |
|       | <59 | 406                                 | 164      | 4       | 40                              | 11       | 5       | 1        | 13       | 55      |
|       | <69 | 464                                 | 225      | 9       | 30                              | 19       | 3       | 1        | 7        | 69      |
|       | <79 | 332                                 | 116      | 4       | 32                              | 8        | 3       | 2        | 6        | 57      |
|       | <80 | 101                                 | 34       | 0       | 3                               | 8        | 0       | 0        | 4        | 17      |
| Total |     | 1,501                               | 607      | 21      | 127                             | 56       | 11      | 4        | 35       | 226     |

## 6 Past history

**adenocarcinoma**

### 6-1 Diseases of the colon, rectum and anus, by site

|                    | I | V  | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P  | E | Total |
|--------------------|---|----|-----|-----|-----|-----|-------|-----|-----|-------|----|---|-------|
| None               | 3 | 13 | 203 | 455 | 330 | 204 | 1,159 | 438 | 567 | 784   | 50 | 0 | 4,206 |
| Adenoma            | 0 | 0  | 149 | 54  | 33  | 15  | 131   | 33  | 34  | 55    | 1  | 0 | 505   |
| Adenomatosis       | 0 | 0  | 3   | 1   | 1   | 1   | 1     | 2   | 0   | 1     | 0  | 0 | 10    |
| Ulcerative colitis | 0 | 0  | 1   | 0   | 0   | 0   | 0     | 3   | 1   | 2     | 1  | 0 | 8     |
| Crohn's disease    | 0 | 0  | 0   | 0   | 0   | 0   | 0     | 0   | 0   | 0     | 0  | 0 | 0     |
| Anal fistula       | 0 | 0  | 3   | 7   | 5   | 6   | 23    | 8   | 12  | 19    | 3  | 1 | 87    |
| Radiation colitis  | 0 | 0  | 0   | 0   | 0   | 0   | 0     | 0   | 0   | 0     | 0  | 0 | 0     |
| Diverticulosis     | 0 | 0  | 3   | 7   | 3   | 0   | 9     | 2   | 6   | 5     | 0  | 0 | 35    |
| Hemorrhoid         | 0 | 0  | 9   | 32  | 21  | 17  | 95    | 63  | 64  | 85    | 10 | 0 | 396   |
| Appendicitis       | 0 | 2  | 58  | 124 | 80  | 44  | 238   | 80  | 122 | 128   | 11 | 2 | 889   |
| Others             | 0 | 0  | 7   | 27  | 25  | 6   | 27    | 10  | 13  | 13    | 1  | 0 | 129   |
| Unknown            | 0 | 0  | 7   | 28  | 10  | 7   | 48    | 10  | 9   | 29    | 0  | 0 | 148   |
| Total              | 3 | 15 | 443 | 735 | 508 | 300 | 1,731 | 649 | 828 | 1,121 | 77 | 3 | 6,413 |

### 6-2 Diseases of the colon, rectum and anus, by age, male

| Past history       | Age |     |     |       |     |     | Total |
|--------------------|-----|-----|-----|-------|-----|-----|-------|
|                    | <39 | <49 | <59 | <69   | <79 | >80 |       |
| None               | 54  | 206 | 560 | 774   | 494 | 177 | 2,265 |
| Adenoma            | 6   | 17  | 81  | 96    | 60  | 12  | 272   |
| Adenomatosis       | 0   | 1   | 1   | 1     | 3   | 0   | 6     |
| Ulcerative colitis | 0   | 0   | 0   | 1     | 0   | 0   | 1     |
| Crohn's disease    | 0   | 0   | 0   | 0     | 0   | 0   | 0     |
| Anal fistula       | 1   | 8   | 25  | 23    | 17  | 2   | 76    |
| Radiation colitis  | 0   | 0   | 0   | 0     | 0   | 0   | 0     |
| Diverticulosis     | 0   | 2   | 8   | 7     | 6   | 1   | 24    |
| Hemorrhoid         | 4   | 24  | 73  | 113   | 66  | 12  | 292   |
| Appendicitis       | 5   | 44  | 166 | 178   | 75  | 14  | 482   |
| Others             | 1   | 9   | 22  | 28    | 20  | 4   | 84    |
| Unknown            | 0   | 8   | 24  | 27    | 26  | 7   | 92    |
| Total              | 71  | 319 | 960 | 1,248 | 767 | 229 | 3,594 |

### 6-3 Diseases of the colon, rectum and anus, by age, female

| Past history       | Age |     |     |     |     |     | Total |
|--------------------|-----|-----|-----|-----|-----|-----|-------|
|                    | <39 | <49 | <59 | <69 | <79 | >80 |       |
| None               | 48  | 172 | 391 | 501 | 449 | 145 | 1,706 |
| Adenoma            | 2   | 7   | 25  | 39  | 25  | 5   | 103   |
| Adenomatosis       | 1   | 0   | 0   | 1   | 1   | 1   | 4     |
| Ulcerative colitis | 0   | 0   | 4   | 1   | 2   | 0   | 7     |
| Crohn's disease    | 0   | 0   | 0   | 0   | 0   | 0   | 0     |
| Anal fistula       | 0   | 1   | 4   | 5   | 1   | 0   | 11    |
| Radiation colitis  | 0   | 0   | 0   | 0   | 0   | 0   | 0     |
| Diverticulosis     | 0   | 0   | 1   | 5   | 3   | 2   | 11    |
| Hemorrhoid         | 2   | 15  | 35  | 33  | 14  | 5   | 104   |
| Appendicitis       | 7   | 63  | 118 | 134 | 62  | 23  | 407   |
| Others             | 2   | 4   | 8   | 11  | 10  | 10  | 45    |
| Unknown            | 0   | 7   | 6   | 21  | 11  | 11  | 56    |
| Total              | 62  | 269 | 592 | 751 | 578 | 202 | 2,454 |

**6-4 Diseases of other digestive organs, by site**

|                     | I | V  | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P  | E | Total |
|---------------------|---|----|-----|-----|-----|-----|-------|-----|-----|-------|----|---|-------|
| None                | 3 | 10 | 224 | 508 | 381 | 215 | 1,204 | 477 | 598 | 847   | 57 | 0 | 4,52  |
| Gall stone ope(-)   | 0 | 1  | 8   | 18  | 11  | 10  | 48    | 23  | 19  | 30    | 1  | 1 | 170   |
| Gall stone ope(+)   | 0 | 1  | 14  | 31  | 19  | 7   | 70    | 17  | 23  | 39    | 1  | 0 | 222   |
| Pancreatitis        | 0 | 0  | 0   | 3   | 2   | 0   | 8     | 2   | 1   | 4     | 1  | 0 | 21    |
| Hepatitis           | 0 | 0  | 8   | 24  | 10  | 5   | 48    | 21  | 27  | 30    | 0  | 0 | 173   |
| Peptic ulcer ope(-) | 0 | 2  | 25  | 46  | 26  | 15  | 101   | 41  | 50  | 64    | 5  | 1 | 376   |
| Peptic ulcer ope(+) | 0 | 0  | 6   | 18  | 15  | 12  | 48    | 17  | 20  | 28    | 3  | 1 | 168   |
| Others              | 0 | 0  | 10  | 38  | 17  | 21  | 83    | 25  | 44  | 42    | 2  | 0 | 282   |
| Unknown             | 0 | 1  | 10  | 41  | 16  | 15  | 77    | 19  | 27  | 34    | 2  | 0 | 242   |
| Total               | 3 | 15 | 305 | 727 | 497 | 300 | 1,687 | 642 | 809 | 1,118 | 72 | 3 | 6,178 |

**6-5 Diseases of other digestive organs, by age, male**

| Past history        | Age |     |     |       |     |     | Total |
|---------------------|-----|-----|-----|-------|-----|-----|-------|
|                     | <39 | <49 | <59 | <69   | <79 | >80 |       |
| None                | 62  | 247 | 660 | 819   | 532 | 160 | 2,480 |
| Gall stone ope(-)   | 1   | 4   | 23  | 47    | 20  | 6   | 101   |
| Gall stone ope(+)   | 0   | 5   | 23  | 50    | 29  | 9   | 116   |
| Pancreatitis        | 0   | 1   | 4   | 7     | 1   | 0   | 13    |
| Hepatitis           | 0   | 13  | 46  | 51    | 14  | 5   | 129   |
| Peptic ulcer ope(-) | 2   | 30  | 72  | 107   | 65  | 14  | 290   |
| Peptic ulcer ope(+) | 2   | 3   | 39  | 49    | 44  | 6   | 143   |
| Others              | 0   | 6   | 46  | 67    | 35  | 16  | 170   |
| Unknown             | 4   | 10  | 47  | 51    | 27  | 13  | 152   |
| Total               | 71  | 319 | 960 | 1,248 | 767 | 229 | 3,594 |

**6-6 Diseases of other digestive organs, by age, female**

| Past history        | Age |     |     |     |     |     | Total |
|---------------------|-----|-----|-----|-----|-----|-----|-------|
|                     | <39 | <49 | <59 | <69 | <79 | >80 |       |
| None                | 49  | 224 | 487 | 559 | 439 | 156 | 1,914 |
| Gall stone ope(-)   | 3   | 6   | 9   | 23  | 22  | 6   | 69    |
| Gall stone ope(+)   | 1   | 9   | 22  | 36  | 26  | 12  | 106   |
| Pancreatitis        | 0   | 0   | 1   | 5   | 1   | 1   | 8     |
| Hepatitis           | 0   | 2   | 9   | 19  | 11  | 3   | 44    |
| Peptic ulcer ope(-) | 2   | 9   | 16  | 31  | 26  | 2   | 86    |
| Peptic ulcer ope(+) | 0   | 2   | 7   | 9   | 6   | 1   | 25    |
| Others              | 2   | 9   | 19  | 40  | 29  | 13  | 112   |
| Unknown             | 5   | 8   | 22  | 29  | 18  | 8   | 90    |
| Total               | 62  | 269 | 592 | 751 | 578 | 202 | 2,454 |

## 7 Symptom (multi-answer)

**adenocarcinoma**

### 7-1 Site

| Symptom              | I | V  | C   | A   | T   | D   | S     | Rs  | Ra    | Rb    | P   | E | Total |
|----------------------|---|----|-----|-----|-----|-----|-------|-----|-------|-------|-----|---|-------|
| None                 | 0 | 1  | 34  | 117 | 94  | 54  | 258   | 67  | 76    | 88    | 6   | 0 | 795   |
| Anal bleeding        | 1 | 3  | 58  | 117 | 90  | 91  | 727   | 361 | 489   | 779   | 43  | 1 | 2,760 |
| Mucous discharge     | 0 | 0  | 2   | 0   | 3   | 6   | 31    | 18  | 14    | 26    | 1   | 0 | 101   |
| Constipation         | 1 | 0  | 21  | 62  | 44  | 47  | 242   | 104 | 120   | 154   | 8   | 0 | 803   |
| Diarrhea             | 0 | 1  | 21  | 38  | 38  | 12  | 120   | 69  | 80    | 74    | 1   | 0 | 454   |
| Tenesmus             | 0 | 0  | 3   | 2   | 1   | 3   | 27    | 25  | 28    | 61    | 1   | 0 | 151   |
| Narrowed stool       | 0 | 0  | 0   | 4   | 9   | 13  | 94    | 38  | 70    | 81    | 7   | 0 | 316   |
| Anal tumor           | 0 | 1  | 1   | 1   | 1   | 1   | 3     | 3   | 5     | 21    | 9   | 2 | 48    |
| Anal pain            | 1 | 0  | 2   | 1   | 1   | 0   | 13    | 9   | 17    | 85    | 38  | 4 | 171   |
| Nausea, vomiting     | 1 | 1  | 10  | 25  | 16  | 10  | 24    | 11  | 9     | 8     | 1   | 0 | 116   |
| Ileus                | 0 | 0  | 22  | 26  | 28  | 23  | 61    | 12  | 10    | 5     | 0   | 0 | 187   |
| Abdominal distension | 0 | 2  | 17  | 46  | 38  | 18  | 90    | 31  | 26    | 18    | 1   | 0 | 287   |
| Abdominal pain       | 5 | 10 | 117 | 229 | 143 | 80  | 304   | 67  | 62    | 59    | 1   | 0 | 1,077 |
| Abdominal mass       | 0 | 2  | 25  | 25  | 15  | 2   | 15    | 0   | 4     | 1     | 1   | 0 | 90    |
| Anemia               | 0 | 0  | 37  | 110 | 56  | 9   | 51    | 8   | 17    | 10    | 1   | 0 | 299   |
| Weight loss          | 0 | 2  | 30  | 94  | 62  | 22  | 174   | 56  | 60    | 78    | 13  | 1 | 592   |
| Total                | 9 | 23 | 400 | 897 | 639 | 391 | 2,234 | 879 | 1,087 | 1,548 | 132 | 8 | 8,247 |

### 7-2 Duration of symptom, by site

| Site  | None | Duration of symptom |       |       |     |     |     |         |       | Total |
|-------|------|---------------------|-------|-------|-----|-----|-----|---------|-------|-------|
|       |      | <1m                 | <3m   | <6m   | <1y | <2y | >2y | Unknown |       |       |
| I     | 0    | 1                   | 0     | 3     | 1   | 1   | 0   | 0       | 6     |       |
| V     | 1    | 5                   | 7     | 3     | 1   | 0   | 0   | 1       | 18    |       |
| C     | 38   | 79                  | 101   | 48    | 19  | 4   | 5   | 15      | 309   |       |
| A     | 130  | 167                 | 194   | 110   | 60  | 9   | 6   | 30      | 706   |       |
| T     | 98   | 105                 | 149   | 61    | 34  | 13  | 12  | 16      | 488   |       |
| D     | 58   | 76                  | 82    | 40    | 14  | 7   | 5   | 12      | 294   |       |
| S     | 301  | 339                 | 468   | 244   | 140 | 49  | 50  | 77      | 1,668 |       |
| Rs    | 81   | 133                 | 176   | 101   | 73  | 20  | 20  | 26      | 630   |       |
| Ra    | 90   | 164                 | 221   | 153   | 100 | 24  | 18  | 33      | 803   |       |
| Rb    | 103  | 196                 | 308   | 229   | 145 | 62  | 41  | 40      | 1,124 |       |
| P     | 4    | 14                  | 23    | 12    | 18  | 4   | 9   | 6       | 90    |       |
| E     | 0    | 0                   | 1     | 1     | 1   | 0   | 3   | 1       | 7     |       |
| Total | 904  | 1,279               | 1,730 | 1,005 | 606 | 193 | 169 | 257     | 6,143 |       |

### 7-3 Duration of symptom, by symptom

| Symptom              | None  | <1m   | <3m   | <6m | <1y | <2y | >2y | Unknown | Total |
|----------------------|-------|-------|-------|-----|-----|-----|-----|---------|-------|
| None                 | 795   |       |       |     |     |     |     | 0       | 795   |
| Anal bleeding        | 574   | 864   | 536   | 362 | 122 | 91  | 91  | 120     | 2,760 |
| Mucous discharge     | 26    | 26    | 30    | 8   | 3   | 2   | 4   | 2       | 101   |
| Constipation         | 144   | 246   | 174   | 117 | 31  | 26  | 38  | 27      | 803   |
| Diarrhea             | 83    | 146   | 98    | 64  | 19  | 15  | 17  | 12      | 454   |
| Tenesmus             | 22    | 46    | 36    | 24  | 6   | 9   | 4   | 4       | 151   |
| Narrowed stool       | 60    | 97    | 74    | 44  | 13  | 14  | 6   | 8       | 316   |
| Anal tumor           | 17    | 9     | 10    | 8   | 2   | 2   | 0   | 0       | 48    |
| Anal pain            | 29    | 48    | 33    | 23  | 8   | 18  | 10  | 2       | 171   |
| Nausea, vomiting     | 43    | 41    | 14    | 9   | 2   | 2   | 2   | 3       | 116   |
| Ileus                | 94    | 51    | 14    | 9   | 0   | 4   | 7   | 8       | 187   |
| Abdominal distension | 81    | 94    | 50    | 26  | 13  | 8   | 10  | 5       | 287   |
| Abdominal pain       | 296   | 359   | 195   | 97  | 22  | 30  | 34  | 44      | 1,077 |
| Abdominal mass       | 22    | 35    | 12    | 7   | 2   | 2   | 6   | 4       | 90    |
| Anemia               | 63    | 88    | 52    | 36  | 16  | 3   | 14  | 27      | 299   |
| Weight loss          | 30    | 64    | 43    | 26  | 12  | 2   | 6   | 409     | 592   |
| Total                | 1,584 | 2,214 | 1,371 | 860 | 271 | 228 | 249 | 675     | 8,247 |

## 8 Serum carcinoembryonic antigen (CEA)

adenocarcinoma

### 8-1 Measurement

| Methods      |       |
|--------------|-------|
| Not examined | 329   |
| Z-gel        | 1,806 |
| Sandwitch    | 2,653 |
| CIS          | 1,057 |
| Others       | 203   |
| Total        | 6,048 |

### 8-2 Serum CEA value

| CEA value (ng/ml) | No. of patients |
|-------------------|-----------------|
| <2.5              | 2,141           |
| <5.0              | 1,295           |
| <10               | 744             |
| <30               | 594             |
| <50               | 152             |
| >50               | 355             |
| Unknown           | 235             |
| Total             | 5,516           |

(Z-gel, Sandwitch, CIS)

## 9 Multiple primary cancers

**adenocarcinoma**

### 9-1 Synchronous, by site

| Multiple primary cancers                        | I | V  | C  | A | T  | D  | S | Rs | Ra | Rb | P | E | Total |
|---|---|----|----|---|----|----|---|----|----|----|---|---|-------|
| Head and neck                                   |   |    | 1  |   |    | 1  | 1 | 1  | 1  |    |   |   | 5     |
| Chest wall                                      |   |    |    |   |    |    |   |    |    |    |   |   | 0     |
| Breast  |   |    |    |   | 1  |    |   | 1  |    |    |   |   | 2     |
| Lung & bronchus                                 |   |    |    |   |    | 1  | 5 | 1  | 4  | 2  |   |   | 13    |
| Mediastium                                      |   |    |    |   |    |    |   |    |    |    |   |   | 0     |
| Esophagus                                       |   |    |    |   | 1  |    | 1 |    |    | 3  | 1 |   | 6     |
| Stomach   | 7 | 18 | 7  | 1 | 4  | 26 | 7 | 17 | 14 | 1  |   |   | 101   |
| Small intestine                                 |   |    | 2  |   | 1  |    | 2 | 1  |    |    |   |   | 6     |
| Colon and rectum                                | 9 | 39 | 12 |   | 13 | 45 | 8 | 25 | 23 |    |   |   | 174   |
| Liver   | 2 | 3  | 2  |   |    |    | 7 | 4  | 3  | 3  |   |   | 24    |
| Biliary tract                                   | 1 |    | 3  |   |    |    | 3 |    |    | 3  |   |   | 10    |
| Pancreas  |   |    |    |   |    |    | 2 |    | 1  |    |   |   | 3     |
| Cervix uteri                                    |   |    |    |   |    |    |   | 2  |    | 1  |   |   | 3     |
| Corpus uteri                                    |   |    |    |   |    |    |   |    |    |    |   |   | 0     |
| Uterus NOS                                      |   |    | 1  |   |    |    |   | 2  | 2  | 1  |   |   | 6     |
| Adnexa  |   |    | 4  |   |    |    | 1 | 1  |    | 1  |   |   | 7     |
| Vagina  |   |    |    |   |    |    |   |    |    |    | 1 |   | 1     |
| Prostate  |   |    |    |   |    |    | 2 | 2  |    | 2  |   |   | 6     |
| Testis  |   |    |    |   |    |    |   |    |    |    |   |   | 0     |
| Bladder   | 1 |    |    | 1 |    |    | 1 |    | 2  | 2  | 1 |   | 8     |
| Kidney  |   |    |    |   |    |    | 5 | 1  |    | 2  |   |   | 8     |
| Skin  | 1 |    | 1  |   |    |    | 1 | 1  |    | 1  |   |   | 5     |
| Bone  |   |    | 1  |   |    |    |   |    |    | 1  |   |   | 2     |
| Soft tissue                                     |   |    |    |   |    |    |   |    |    |    |   |   | 0     |
| Hematopoietic and<br>reticuloendothelial system |   |    |    |   |    |    | 1 |    |    | 2  | 1 |   | 4     |
| Unknown site                                    |   |    | 1  |   |    |    | 1 |    |    |    |   |   | 0     |
|   |   |    |    |   |    |    |   |    |    |    |   |   | 2     |

**9-2 Metachronous, by site**

| Multiple primary cancers                        | I | V | C  | A  | T  | D  | S | Rs | Ra | Rb | P | E | Total |
|---|---|---|----|----|----|----|---|----|----|----|---|---|-------|
| Head and neck                                   |   |   |    | 2  | 1  | 1  | 8 | 6  | 7  | 2  |   |   | 27    |
| Chest wall                                      |   |   |    |    |    |    |   |    |    |    |   |   | 0     |
| Breast  |   |   | 3  | 9  | 2  | 5  | 9 | 4  | 4  | 6  | 2 |   | 44    |
| Lung & bronchus                                 |   |   | 1  | 1  | 1  | 1  | 5 | 1  | 2  | 1  |   |   | 13    |
| Mediastinum                                     |   |   |    |    |    |    |   |    |    |    |   |   | 0     |
| Esophagus                                       |   |   |    |    |    |    | 1 | 1  |    |    |   |   | 3     |
| Stomach   |   |   | 7  | 13 | 11 | 7  | 3 | 9  | 11 | 2  | 1 |   | 64    |
| Small intestine                                 |   |   |    |    |    |    |   |    |    | 1  |   |   | 1     |
| Colon and rectum                                | 1 | 7 | 37 | 31 | 12 | 17 | 3 | 8  | 16 | 2  |   |   | 134   |
| Liver   |   |   | 1  | 1  | 2  | 2  |   | 1  | 1  |    |   |   | 8     |
| Biliary tract                                   |   |   |    |    |    | 1  |   |    |    |    |   |   | 1     |
| Pancreas  |   |   |    |    |    |    | 1 |    |    |    |   |   | 2     |
| Cervix uteri                                    |   |   | 1  |    |    | 1  |   | 2  | 1  | 4  |   |   | 12    |
| Corpus uteri                                    |   |   |    |    |    | 1  |   |    |    | 1  |   |   | 2     |
| Uterus NOS                                      |   |   | 1  | 4  | 6  |    | 6 | 6  | 4  | 7  | 1 |   | 35    |
| Adnexa  |   |   | 1  | 1  |    | 1  | 2 |    |    | 1  |   |   | 6     |
| Vagina  |   |   |    |    |    |    |   |    |    |    |   |   | 0     |
| Prostate  |   |   | 1  |    |    | 1  | 2 |    | 1  |    |   |   | 6     |
| Testis  |   |   |    |    |    | 1  |   |    | 1  | 1  |   |   | 3     |
| Bladder   |   |   |    | 3  |    | 1  | 1 |    |    |    | 3 |   | 8     |
| Kidney  |   |   |    | 2  | 1  |    |   |    |    | 1  |   |   | 4     |
| Skin  |   |   |    |    |    |    |   | 1  | 2  |    | 1 |   | 4     |
| Bone  |   |   |    |    |    |    |   |    | 1  |    |   |   | 1     |
| Soft tissue                                     |   |   |    |    |    |    |   | 1  |    |    |   |   | 1     |
| Hematopoietic and<br>reticuloendothelial system |   |   |    |    |    |    |   | 1  | 2  | 1  |   |   | 0     |
| Unknown site                                    |   |   |    |    |    |    |   |    |    |    |   |   | 0     |

**10 Multiple colorectal cancers****adenocarcinoma****10a Macroscopic****10a-1 Number of tumors**

| Number of tumors |     |    |    |   |   |   |    |         | Total |
|------------------|-----|----|----|---|---|---|----|---------|-------|
| 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |       |
| 5,629            | 321 | 56 | 12 | 6 | 2 | 4 | 2  | 16      | 6,048 |

**10a-2 Male, by age**

| Age   | Number of tumors |     |    |    |   |   |   |    |         | Total |
|-------|------------------|-----|----|----|---|---|---|----|---------|-------|
|       | 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |       |
| <39   | 69               | 1   | 0  | 0  | 0 | 0 | 0 | 0  | 1       | 71    |
| <49   | 302              | 14  | 1  | 1  | 0 | 0 | 0 | 1  | 0       | 319   |
| <59   | 871              | 63  | 15 | 4  | 1 | 0 | 1 | 0  | 5       | 960   |
| <69   | 1,140            | 82  | 17 | 4  | 1 | 1 | 0 | 0  | 3       | 1,248 |
| <79   | 709              | 44  | 9  | 1  | 1 | 0 | 2 | 0  | 1       | 767   |
| >80   | 204              | 22  | 1  | 1  | 0 | 1 | 0 | 0  | 0       | 229   |
| Total | 3,295            | 226 | 43 | 11 | 3 | 2 | 3 | 1  | 10      | 3,594 |

**10a-3 Female, by age**

| Age   | Number of tumors |    |    |   |   |   |   |    |         | Total |
|-------|------------------|----|----|---|---|---|---|----|---------|-------|
|       | 1                | 2  | 3  | 4 | 5 | 6 | 7 | >8 | Unknown |       |
| <39   | 57               | 3  | 1  | 0 | 1 | 0 | 0 | 0  | 0       | 62    |
| <49   | 260              | 7  | 2  | 0 | 0 | 0 | 0 | 0  | 0       | 269   |
| <59   | 559              | 21 | 6  | 1 | 1 | 0 | 1 | 0  | 3       | 592   |
| <69   | 713              | 34 | 2  | 0 | 1 | 0 | 0 | 1  | 0       | 751   |
| <79   | 551              | 23 | 2  | 0 | 0 | 0 | 0 | 0  | 2       | 578   |
| >80   | 194              | 7  | 0  | 0 | 0 | 0 | 0 | 0  | 1       | 202   |
| Total | 2,334            | 95 | 13 | 1 | 3 | 0 | 1 | 1  | 6       | 2,454 |

**10a-4 Male and female, by site**

| Site  | Number of tumors |     |    |    |   |   |   |    |         | Total |
|-------|------------------|-----|----|----|---|---|---|----|---------|-------|
|       | 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |       |
| I     | 3                | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 3     |
| V     | 13               | 2   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 15    |
| C     | 279              | 18  | 1  | 0  | 0 | 0 | 1 | 1  | 0       | 300   |
| A     | 647              | 43  | 7  | 3  | 1 | 0 | 1 | 0  | 3       | 705   |
| T     | 446              | 30  | 6  | 1  | 0 | 0 | 0 | 0  | 2       | 485   |
| D     | 256              | 25  | 6  | 2  | 2 | 0 | 1 | 0  | 1       | 293   |
| S     | 1,540            | 99  | 16 | 1  | 0 | 1 | 1 | 0  | 1       | 1,659 |
| Rs    | 595              | 23  | 5  | 0  | 1 | 0 | 0 | 1  | 2       | 627   |
| Ra    | 753              | 35  | 5  | 2  | 1 | 0 | 0 | 0  | 2       | 798   |
| Rb    | 1,025            | 45  | 10 | 3  | 1 | 1 | 0 | 0  | 4       | 1,089 |
| P     | 69               | 1   | 0  | 0  | 0 | 0 | 0 | 0  | 1       | 71    |
| E     | 3                | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 3     |
| Total | 5,629            | 321 | 56 | 12 | 6 | 2 | 4 | 2  | 16      | 6,048 |

**10b Histological****10b-1 Number of tumors**

| Number of tumors |     |    |    |   |   |   |    |         | Total |
|------------------|-----|----|----|---|---|---|----|---------|-------|
| 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |       |
| 5,575            | 359 | 64 | 17 | 6 | 2 | 4 | 4  | 17      | 6,048 |

**10b-2 Male, by age**

| Age   | Number of tumors |     |    |    |   |   |   |    |         | Total |
|-------|------------------|-----|----|----|---|---|---|----|---------|-------|
|       | 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |       |
| <39   | 67               | 2   | 1  | 0  | 0 | 0 | 0 | 0  | 1       | 71    |
| <49   | 296              | 17  | 3  | 2  | 0 | 0 | 0 | 1  | 0       | 319   |
| <59   | 868              | 71  | 12 | 4  | 1 | 0 | 1 | 0  | 3       | 960   |
| <69   | 1,131            | 88  | 20 | 2  | 2 | 2 | 0 | 1  | 2       | 1,248 |
| <79   | 704              | 47  | 11 | 1  | 1 | 0 | 2 | 0  | 1       | 767   |
| >80   | 199              | 25  | 2  | 1  | 0 | 0 | 0 | 0  | 2       | 229   |
| Total | 3,265            | 250 | 49 | 10 | 4 | 2 | 3 | 2  | 9       | 3,594 |

**10b-3 Female, by age**

| Age   | Number of tumors |     |    |   |   |   |   |    |         | Total |
|-------|------------------|-----|----|---|---|---|---|----|---------|-------|
|       | 1                | 2   | 3  | 4 | 5 | 6 | 7 | >8 | Unknown |       |
| <39   | 55               | 4   | 1  | 0 | 1 | 0 | 0 | 0  | 1       | 62    |
| <49   | 258              | 7   | 2  | 1 | 0 | 0 | 0 | 0  | 1       | 269   |
| <59   | 558              | 25  | 5  | 1 | 1 | 0 | 1 | 0  | 1       | 592   |
| <69   | 703              | 39  | 3  | 3 | 0 | 0 | 0 | 2  | 1       | 751   |
| <79   | 547              | 27  | 2  | 1 | 0 | 0 | 0 | 0  | 1       | 578   |
| >80   | 189              | 7   | 2  | 1 | 0 | 0 | 0 | 0  | 3       | 202   |
| Total | 2,310            | 109 | 15 | 7 | 2 | 0 | 1 | 2  | 8       | 2,454 |

**10b-4 Male and female, by site**

| Site  | Number of tumors |     |    |    |   |   |   |    |         | Total |
|-------|------------------|-----|----|----|---|---|---|----|---------|-------|
|       | 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |       |
| I     | 3                | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 3     |
| V     | 12               | 2   | 0  | 0  | 0 | 0 | 0 | 0  | 1       | 15    |
| C     | 276              | 16  | 3  | 1  | 1 | 0 | 1 | 1  | 1       | 300   |
| A     | 637              | 50  | 10 | 4  | 0 | 0 | 1 | 2  | 1       | 705   |
| T     | 434              | 38  | 8  | 2  | 0 | 1 | 0 | 0  | 2       | 485   |
| D     | 252              | 29  | 5  | 2  | 2 | 1 | 1 | 0  | 1       | 293   |
| S     | 1,530            | 104 | 17 | 3  | 0 | 0 | 1 | 0  | 4       | 1,659 |
| Rs    | 587              | 30  | 6  | 0  | 1 | 0 | 0 | 1  | 2       | 627   |
| Ra    | 747              | 42  | 4  | 1  | 1 | 0 | 0 | 0  | 3       | 798   |
| Rb    | 1,026            | 46  | 11 | 4  | 1 | 0 | 0 | 0  | 1       | 1,089 |
| P     | 68               | 2   | 0  | 0  | 0 | 0 | 0 | 0  | 1       | 71    |
| E     | 3                | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 3     |
| Total | 5,575            | 359 | 64 | 17 | 6 | 2 | 4 | 4  | 17      | 6,048 |

## 11 Modality of principal treatment <sup>a)</sup>

| Modality                 | Adenocarcinoma |        | Other malignancies |        |
|--------------------------|----------------|--------|--------------------|--------|
|                          | Colon          | Rectum | Colon              | Rectum |
| No definitive treatment  | 10             | 10     | 0                  | 2      |
| Endoscopic polypectomy   | 248            | 89     | 2                  | 3      |
| Surgery                  | 3,193          | 2,480  | 27                 | 59     |
| Cryosurgery              | 0              | 2      | 0                  | 0      |
| Electric cautery therapy | 0              | 0      | 0                  | 0      |
| Radiation                | 1              | 2      | 0                  | 0      |
| Chemotherapy             | 7              | 4      | 0                  | 0      |
| Other modalities         | 1              | 1      | 0                  | 0      |
| Total                    | 3,460          | 2,588  | 29                 | 64     |

a): Modalities regarded as the most effective and beneficial treatment for cancer.

## 12 Additional or adjuvant treatment

adenocarcinoma

| Additional or adjuvant treatment | I | V  | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P   | E | Total |
|----------------------------------|---|----|-----|-----|-----|-----|-------|-----|-----|-------|-----|---|-------|
| None                             | 1 | 8  | 112 | 275 | 203 | 134 | 760   | 240 | 328 | 415   | 19  | 1 | 2,496 |
| Endoscopic Surgery               | 0 | 0  | 0   | 0   | 0   | 0   | 0     | 1   | 1   | 17    | 45  | 5 | 69    |
| Surgery                          | 0 | 0  | 1   | 0   | 0   | 1   | 1     | 1   | 0   | 4     | 0   | 0 | 8     |
| Cryosurgery                      | 0 | 0  | 0   | 2   | 2   | 1   | 7     | 3   | 9   | 36    | 7   | 0 | 67    |
| Electric cautery therapy         | 0 | 0  | 0   | 1   | 0   | 0   | 0     | 0   | 0   | 19    | 6   | 0 | 26    |
| Radiation                        | 0 | 0  | 2   | 9   | 2   | 2   | 5     | 6   | 10  | 11    | 2   | 0 | 49    |
| Chemotherapy                     | 1 | 5  | 159 | 369 | 253 | 141 | 784   | 337 | 361 | 475   | 27  | 2 | 2,914 |
| Others                           | 1 | 0  | 8   | 23  | 7   | 8   | 44    | 17  | 48  | 53    | 3   | 0 | 212   |
| Unknown                          | 0 | 2  | 18  | 26  | 18  | 6   | 58    | 22  | 24  | 31    | 2   | 0 | 207   |
| Total                            | 3 | 15 | 300 | 705 | 485 | 293 | 1,659 | 627 | 781 | 1,061 | 111 | 8 | 6,048 |

## 13 Previous surgical treatment

adenocarcinoma

|             |       |
|-------------|-------|
| None        | 5,488 |
| Enterostomy | 64    |
| Polypectomy | 202   |
| Others      | 47    |
| Unknown     | 247   |
| Total       | 6,048 |

## 14 Non- Surgical cases

adenocarcinoma

| Reasons for non-surgical treatment   |    |
|--------------------------------------|----|
| Unresectable disease                 | 8  |
| Physical condition impending surgery | 4  |
| Refusal                              | 2  |
| Other reasons                        | 5  |
| Total                                | 19 |

## 15 Gross appearance of the primary lesion

### 15-1 Adenocarcinoma

| Site           | Superficial | Protruding | Localized ulcerating | Infiltrated ulcerating | Diffuse infiltrating | Unclassified | Unknown | Total |
|----------------|-------------|------------|----------------------|------------------------|----------------------|--------------|---------|-------|
| I              | 1           | 0          | 2                    | 0                      | 0                    | 0            | 0       | 3     |
| V              | 3           | 3          | 4                    | 0                      | 0                    | 2            | 3       | 15    |
| C              | 36          | 43         | 159                  | 53                     | 3                    | 3            | 3       | 300   |
| A              | 95          | 72         | 428                  | 81                     | 2                    | 12           | 15      | 705   |
| T              | 68          | 33         | 300                  | 69                     | 2                    | 5            | 8       | 485   |
| D              | 69          | 24         | 160                  | 29                     | 2                    | 0            | 9       | 293   |
| S              | 398         | 132        | 934                  | 155                    | 9                    | 9            | 22      | 1,659 |
| Total          | 670         | 307        | 1,987                | 387                    | 18                   | 31           | 60      | 3,460 |
| Rs             | 114         | 62         | 373                  | 64                     | 3                    | 4            | 7       | 627   |
| Ra             | 123         | 73         | 512                  | 64                     | 4                    | 9            | 13      | 798   |
| Rb             | 200         | 80         | 657                  | 118                    | 7                    | 11           | 16      | 1,089 |
| P              | 9           | 3          | 29                   | 14                     | 0                    | 11           | 5       | 71    |
| E              | 1           | 0          | 0                    | 0                      | 0                    | 1            | 1       | 3     |
| Total          | 447         | 218        | 1,571                | 260                    | 14                   | 36           | 42      | 2,588 |
| Colon & Rectum | 1,117       | 525        | 3,558                | 647                    | 32                   | 67           | 102     | 6,048 |

### 15-2 Other malignancies

| Site           | Superficial | Protruding | Localized ulcerating | Infiltrated ulcerating | Diffuse infiltrating | Unclassified | Unknown | Total |
|----------------|-------------|------------|----------------------|------------------------|----------------------|--------------|---------|-------|
| I              | 0           | 0          | 2                    | 0                      | 0                    | 0            | 1       | 3     |
| V              | 0           | 0          | 0                    | 0                      | 1                    | 2            | 0       | 3     |
| C              | 2           | 2          | 1                    | 1                      | 0                    | 3            | 0       | 9     |
| A              | 0           | 0          | 1                    | 0                      | 0                    | 0            | 0       | 1     |
| T              | 0           | 1          | 1                    | 1                      | 0                    | 0            | 0       | 3     |
| D              | 0           | 0          | 0                    | 1                      | 0                    | 0            | 0       | 1     |
| S              | 7           | 0          | 2                    | 0                      | 0                    | 0            | 0       | 9     |
| Total          | 9           | 3          | 7                    | 3                      | 1                    | 5            | 1       | 29    |
| Rs             | 0           | 0          | 0                    | 0                      | 1                    | 0            | 2       | 3     |
| Ra             | 1           | 2          | 1                    | 0                      | 0                    | 1            | 0       | 5     |
| Rb             | 12          | 7          | 10                   | 2                      | 0                    | 0            | 2       | 33    |
| P              | 1           | 1          | 7                    | 4                      | 0                    | 4            | 2       | 19    |
| E              | 0           | 1          | 1                    | 0                      | 0                    | 1            | 1       | 4     |
| Total          | 14          | 11         | 19                   | 6                      | 1                    | 6            | 7       | 64    |
| Colon & Rectum | 23          | 14         | 26                   | 9                      | 2                    | 11           | 8       | 93    |

Macroscopic classification of the tumor based on "The General Rules for Clinical and Pathological Studies on Cancer of the Colon, Rectum and Anus" by Japanese Society for Cancer of the Colon and Rectum (JSCCR).

Japanese Journal of Surgery 13: 557-573, 1983

**16 Gross appearance, modificatory subtypes**

| Site  | None  | Strictured | Mucinous | Schirrous | Villous | Others | Unknown | Total |
|-------|-------|------------|----------|-----------|---------|--------|---------|-------|
| I     | 3     | 0          | 0        | 0         | 0       | 0      | 0       | 3     |
| V     | 13    | 0          | 1        | 0         | 0       | 0      | 1       | 15    |
| C     | 204   | 8          | 2        | 1         | 8       | 1      | 76      | 300   |
| A     | 536   | 20         | 5        | 2         | 5       | 0      | 137     | 705   |
| T     | 346   | 31         | 2        | 0         | 2       | 0      | 104     | 485   |
| D     | 214   | 11         | 3        | 0         | 6       | 2      | 57      | 293   |
| S     | 1,238 | 45         | 4        | 3         | 8       | 4      | 357     | 1,659 |
| Rs    | 483   | 11         | 1        | 1         | 4       | 0      | 127     | 627   |
| Ra    | 606   | 22         | 1        | 0         | 8       | 3      | 158     | 798   |
| Rb    | 805   | 23         | 7        | 2         | 21      | 1      | 230     | 1,089 |
| P     | 48    | 0          | 1        | 0         | 0       | 3      | 19      | 71    |
| E     | 2     | 0          | 0        | 0         | 0       | 0      | 1       | 3     |
| Total | 4,498 | 171        | 27       | 9         | 62      | 14     | 1,267   | 6,048 |

**17 Gross appearance, early cancer (superficial type)**

| Site  | Ip  | Is  | IIa | IIb | IIc | Others | Unknown | Total |
|-------|-----|-----|-----|-----|-----|--------|---------|-------|
| I     | 0   | 0   | 1   | 0   | 0   | 0      | 0       | 1     |
| V     | 0   | 1   | 2   | 0   | 0   | 0      | 0       | 3     |
| C     | 6   | 17  | 10  | 0   | 1   | 3      | 1       | 38    |
| A     | 22  | 39  | 23  | 0   | 2   | 6      | 3       | 95    |
| T     | 12  | 25  | 19  | 0   | 3   | 7      | 2       | 6     |
| D     | 31  | 18  | 12  | 1   | 1   | 3      | 3       | 69    |
| S     | 185 | 127 | 51  | 1   | 3   | 23     | 15      | 405   |
| Rs    | 35  | 44  | 19  | 0   | 1   | 12     | 3       | 114   |
| Ra    | 29  | 58  | 18  | 1   | 3   | 9      | 6       | 124   |
| Rb    | 37  | 95  | 48  | 1   | 9   | 11     | 12      | 213   |
| P     | 2   | 2   | 4   | 0   | 0   | 1      | 1       | 10    |
| E     | 0   | 0   | 0   | 1   | 0   | 0      | 0       | 1     |
| Total | 359 | 426 | 207 | 5   | 23  | 75     | 46      | 1,141 |

**18 Tumor site by circumferential division of the bowel wall**

adenocarcinoma

| Site  | Dorsal<br>(Posterior) | Ventral<br>(Anterior) | Medial<br>(Right) | Lateral<br>(Left) | Circular | Unknown | Total |
|-------|-----------------------|-----------------------|-------------------|-------------------|----------|---------|-------|
| I     | 0                     | 1                     | 0                 | 0                 | 1        | 1       | 3     |
| V     | 1                     | 2                     | 0                 | 0                 | 6        | 6       | 15    |
| C     | 51                    | 64                    | 14                | 18                | 118      | 35      | 300   |
| A     | 121                   | 96                    | 42                | 42                | 318      | 86      | 705   |
| T     | 71                    | 90                    | 12                | 8                 | 243      | 61      | 485   |
| D     | 43                    | 33                    | 14                | 16                | 135      | 52      | 293   |
| S     | 317                   | 252                   | 101               | 77                | 579      | 333     | 1,659 |
| Rs    | 122                   | 115                   | 33                | 44                | 207      | 106     | 627   |
| Ra    | 161                   | 164                   | 60                | 62                | 239      | 112     | 798   |
| Rb    | 229                   | 270                   | 126               | 148               | 191      | 125     | 1,089 |
| P     | 17                    | 12                    | 7                 | 10                | 17       | 8       | 71    |
| E     | 0                     | 0                     | 0                 | 0                 | 1        | 2       | 3     |
| Total | 1,133                 | 1,099                 | 409               | 425               | 2,055    | 927     | 6,048 |

**19 Size of the tumor**

adenocarcinoma

**19-1 Circumferential occupancy, by site**

| Site  | <1/3  | <1/2 | <2/3 | Semicircular | Circular | Unknown | Total |
|-------|-------|------|------|--------------|----------|---------|-------|
| I     | 0     | 0    | 0    | 1            | 1        | 1       | 3     |
| V     | 3     | 1    | 0    | 1            | 7        | 3       | 15    |
| C     | 44    | 43   | 40   | 41           | 122      | 10      | 300   |
| A     | 135   | 72   | 70   | 116          | 286      | 26      | 705   |
| T     | 74    | 41   | 45   | 79           | 230      | 16      | 485   |
| D     | 63    | 32   | 23   | 36           | 125      | 14      | 293   |
| S     | 473   | 184  | 178  | 219          | 540      | 65      | 1,659 |
| Rs    | 142   | 92   | 76   | 117          | 175      | 25      | 627   |
| Ra    | 181   | 110  | 123  | 147          | 208      | 29      | 798   |
| Rb    | 300   | 205  | 194  | 180          | 168      | 42      | 1,089 |
| P     | 19    | 11   | 12   | 9            | 16       | 4       | 71    |
| E     | 0     | 0    | 0    | 0            | 1        | 2       | 3     |
| Total | 1,434 | 791  | 761  | 946          | 1,879    | 237     | 6,048 |

**19-2 Circumferential occupancy and maximum diameter**

| Diameter (cm) | <1/3  | <1/2 | <2/3 | Semicircular | Circular | Unknown | Total |
|---------------|-------|------|------|--------------|----------|---------|-------|
| <2            | 631   | 30   | 5    | 4            | 14       | 72      | 756   |
| <3            | 405   | 146  | 33   | 10           | 19       | 23      | 636   |
| <5            | 269   | 481  | 393  | 212          | 307      | 45      | 1,707 |
| <7            | 26    | 84   | 235  | 456          | 644      | 20      | 1,465 |
| >7            | 16    | 16   | 54   | 208          | 738      | 8       | 1,040 |
| Unknown       | 87    | 34   | 41   | 56           | 157      | 69      | 444   |
| Total         | 1,434 | 791  | 761  | 946          | 1,879    | 237     | 6,048 |

**20 Serosal invasion of the tumor****adenocarcinoma, surgical cases**

| Site  | S <sub>0</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Unknown | Total |
|-------|----------------|----------------|----------------|----------------|---------|-------|
| I     | 0              | 0              | 0              | 2              | 0       | 2     |
| V     | 6              | 2              | 2              | 3              | 1       | 14    |
| C     | 62             | 28             | 132            | 71             | 1       | 294   |
| A     | 159            | 100            | 313            | 100            | 4       | 676   |
| T     | 84             | 62             | 230            | 88             | 2       | 466   |
| D     | 64             | 33             | 118            | 49             | 1       | 265   |
| S     | 437            | 242            | 568            | 234            | 6       | 1,487 |
| Rs    | 169            | 99             | 236            | 83             | 6       | 593   |
| Ra    | 244            | 141            | 304            | 65             | 13      | 767   |
| Rb    | 573            | 143            | 211            | 92             | 42      | 1,061 |
| P     | 45             | 4              | 6              | 11             | 5       | 71    |
| E     | 0              | 0              | 0              | 0              | 3       | 3     |
| Total | 1,843          | 854            | 2,120          | 798            | 84      | 5,699 |

S<sub>0</sub>: No serosal invasionS<sub>1</sub>: Slight or questionable serosal invasionS<sub>2</sub>: Definite serosal invasionS<sub>3</sub>: Invasion to other organs or tissue through serosa

## 21 Histological type

### 21-1 Adenocarcinoma

| Site           | w/d   | m/d   | p/d | muc | sig | Adenoca |  | Total |
|----------------|-------|-------|-----|-----|-----|---------|--|-------|
|                |       |       |     |     |     | NOS     |  |       |
| I              | 2     | 1     | 0   | 0   | 0   | 0       |  | 3     |
| V              | 9     | 1     | 0   | 4   | 0   | 1       |  | 15    |
| C              | 150   | 100   | 12  | 25  | 0   | 13      |  | 300   |
| A              | 331   | 277   | 44  | 28  | 7   | 18      |  | 705   |
| T              | 200   | 215   | 30  | 22  | 1   | 17      |  | 485   |
| D              | 162   | 98    | 7   | 10  | 0   | 16      |  | 293   |
| S              | 910   | 597   | 30  | 26  | 1   | 95      |  | 1,659 |
| Total          | 1,764 | 1,289 | 123 | 115 | 9   | 160     |  | 3,460 |
| Rs             | 309   | 272   | 14  | 12  | 1   | 19      |  | 627   |
| Ra             | 370   | 348   | 24  | 23  | 4   | 29      |  | 798   |
| Rb             | 529   | 468   | 34  | 22  | 1   | 35      |  | 1,089 |
| P              | 23    | 24    | 4   | 15  | 2   | 3       |  | 71    |
| E              | 2     | 0     | 0   | 1   | 0   | 0       |  | 3     |
| Total          | 1,233 | 1,112 | 76  | 73  | 8   | 86      |  | 2,588 |
| Colon & Rectum | 2,997 | 2,401 | 199 | 188 | 17  | 246     |  | 6,048 |

w/d: well-differentiated adenocarcinoma, m/d: moderately differentiated adenocarcinoma,

p/d: poorly differentiated adenocarcinoma, muc: mucinous carcinoma, sig: signet ring cell carcinoma.

NOS: not otherwise specified Refer to the general rules of JSCCR for details of the classification

### 21-2 Other malignancies

| Site           | sq | as | ud | Basaloid | cd | Melanoma | Leiomyo-Leiomyo-Malignant |         |          |        | Total |
|----------------|----|----|----|----------|----|----------|---------------------------|---------|----------|--------|-------|
|                |    |    |    |          |    |          | blastoma                  | sarcoma | lymphoma | Others |       |
| I              | 0  | 0  | 0  | 0        | 0  | 0        | 0                         | 0       | 3        | 0      | 3     |
| V              | 0  | 0  | 0  | 0        | 0  | 0        | 0                         | 0       | 1        | 2      | 3     |
| C              | 0  | 0  | 3  | 0        | 0  | 0        | 0                         | 0       | 4        | 2      | 9     |
| A              | 0  | 0  | 0  | 0        | 1  | 0        | 0                         | 0       | 0        | 0      | 1     |
| T              | 0  | 0  | 0  | 0        | 0  | 0        | 0                         | 0       | 2        | 1      | 3     |
| D              | 0  | 1  | 0  | 0        | 0  | 0        | 0                         | 0       | 0        | 0      | 1     |
| S              | 0  | 0  | 2  | 0        | 0  | 0        | 0                         | 0       | 0        | 7      | 9     |
| Total          | 0  | 1  | 5  | 0        | 1  | 0        | 0                         | 0       | 10       | 12     | 29    |
| Rs             | 1  | 1  | 0  | 0        | 1  | 0        | 0                         | 0       | 0        | 0      | 3     |
| Ra             | 0  | 2  | 0  | 0        | 2  | 0        | 0                         | 1       | 0        | 0      | 5     |
| Rb             | 4  | 1  | 4  | 2        | 13 | 2        | 0                         | 2       | 1        | 4      | 33    |
| P              | 13 | 1  | 2  | 0        | 0  | 0        | 0                         | 0       | 0        | 3      | 19    |
| E              | 1  | 1  | 0  | 0        | 0  | 0        | 0                         | 0       | 0        | 2      | 4     |
| Total          | 19 | 6  | 6  | 2        | 16 | 2        | 0                         | 3       | 1        | 9      | 64    |
| Colon & Rectum | 19 | 7  | 11 | 2        | 17 | 2        | 0                         | 3       | 11       | 21     | 93    |

sq: squamous cell carcinoma, as: adeno-squamous carcinoma, ud: undifferentiated carcinoma,

basaloid: basaloid cell carcinoma, cd: carcinoid

**22 Metastasis****adenocarcinoma, surgical cases****22-1 Liver**

| Site                      | H <sub>0</sub> | H <sub>1</sub> | H <sub>2</sub> | H <sub>3</sub> | Unknown   | Total        |
|---------------------------|----------------|----------------|----------------|----------------|-----------|--------------|
| I                         | 2              | 0              | 0              | 0              | 0         | 2            |
| V                         | 14             | 0              | 0              | 0              | 0         | 14           |
| C                         | 258            | 4              | 10             | 19             | 3         | 294          |
| A                         | 587            | 25             | 15             | 43             | 6         | 676          |
| T                         | 407            | 18             | 12             | 28             | 1         | 466          |
| D                         | 239            | 12             | 2              | 12             | 0         | 265          |
| S                         | 1,277          | 58             | 40             | 99             | 13        | 1,487        |
| <b>Total</b>              | <b>2,784</b>   | <b>117</b>     | <b>79</b>      | <b>201</b>     | <b>23</b> | <b>3,204</b> |
| Rs                        | 503            | 20             | 25             | 41             | 4         | 593          |
| Ra                        | 687            | 29             | 14             | 29             | 8         | 767          |
| Rb                        | 944            | 28             | 17             | 35             | 37        | 1,061        |
| P                         | 65             | 0              | 0              | 3              | 3         | 71           |
| E                         | 3              | 0              | 0              | 0              | 0         | 3            |
| <b>Total</b>              | <b>2,202</b>   | <b>77</b>      | <b>56</b>      | <b>108</b>     | <b>52</b> | <b>2,495</b> |
| <b>Colon &amp; Rectum</b> | <b>4,986</b>   | <b>194</b>     | <b>135</b>     | <b>309</b>     | <b>75</b> | <b>5,699</b> |

H<sub>0</sub>: No evidence of liver metastasisH<sub>1</sub>: Metastasis in one hepatic lobe onlyH<sub>2</sub>: A few scattered metastases in both lobesH<sub>3</sub>: Numerous metastases in both lobes**22-2 Peritoneum**

| Site                      | P <sub>0</sub> | P <sub>1</sub> | P <sub>2</sub> | P <sub>3</sub> | Unknown   | Total        |
|---------------------------|----------------|----------------|----------------|----------------|-----------|--------------|
| I                         | 2              | 0              | 0              | 0              | 0         | 2            |
| V                         | 12             | 0              | 1              | 1              | 0         | 14           |
| C                         | 252            | 12             | 16             | 14             | 0         | 294          |
| A                         | 603            | 17             | 30             | 23             | 3         | 676          |
| T                         | 428            | 12             | 13             | 12             | 1         | 466          |
| D                         | 248            | 3              | 8              | 6              | 0         | 26           |
| S                         | 1,386          | 49             | 19             | 26             | 7         | 1,487        |
| <b>Total</b>              | <b>2,931</b>   | <b>93</b>      | <b>87</b>      | <b>82</b>      | <b>11</b> | <b>3,204</b> |
| Rs                        | 546            | 29             | 10             | 6              | 2         | 593          |
| Ra                        | 730            | 16             | 2              | 6              | 13        | 767          |
| Rb                        | 987            | 15             | 6              | 1              | 52        | 1,061        |
| P                         | 64             | 0              | 0              | 0              | 7         | 71           |
| E                         | 3              | 0              | 0              | 0              | 0         | 3            |
| <b>Total</b>              | <b>2,330</b>   | <b>60</b>      | <b>18</b>      | <b>13</b>      | <b>74</b> | <b>2,495</b> |
| <b>Colon &amp; Rectum</b> | <b>5,261</b>   | <b>153</b>     | <b>105</b>     | <b>95</b>      | <b>85</b> | <b>5,699</b> |

P<sub>0</sub>: No evidence of peritoneal disseminationP<sub>1</sub>: Slight disseminations in the peritoneum adjacent to the primary lesion (It seemed to be resectable)P<sub>2</sub>: Scattered disseminations in the peritoneum remote from the primary lesion. Dissemination limited to the major omentum or to ovary is classified as P<sub>2</sub>P<sub>3</sub>: Marked disseminations in the remote peritoneum

**22-3 Remote organs-1**

| Site                      | M <sub>0</sub> | M <sub>1</sub> | Unknown    | Total        |
|---------------------------|----------------|----------------|------------|--------------|
| I                         | 2              | 0              | 0          | 2            |
| V                         | 13             | 0              | 1          | 14           |
| C                         | 282            | 6              | 6          | 294          |
| A                         | 630            | 29             | 17         | 676          |
| T                         | 445            | 13             | 8          | 466          |
| D                         | 253            | 6              | 6          | 265          |
| S                         | 1,421          | 41             | 25         | 1,487        |
| <b>Total</b>              | <b>3,046</b>   | <b>95</b>      | <b>63</b>  | <b>3,204</b> |
| Rs                        | 566            | 18             | 9          | 593          |
| Ra                        | 730            | 23             | 14         | 767          |
| Rb                        | 997            | 30             | 34         | 1,061        |
| P                         | 62             | 6              | 3          | 71           |
| E                         | 3              | 0              | 0          | 3            |
| <b>Total</b>              | <b>2,358</b>   | <b>77</b>      | <b>60</b>  | <b>2,495</b> |
| <b>Colon &amp; Rectum</b> | <b>5,404</b>   | <b>172</b>     | <b>123</b> | <b>5,699</b> |

M<sub>0</sub>: No evidence of metastasis in remote organ(s) but liver and peritoneumM<sub>1</sub>: Evidence of metastases in the remote organ(s)**22-4 Remote organs-2**

| Site         | None         | Lung      | Bone      | Ovary     | Virchow   | Brain    | Adrenal  | Skin     | Others    | Unknown    | Total        |
|--------------|--------------|-----------|-----------|-----------|-----------|----------|----------|----------|-----------|------------|--------------|
| I            | 2            | 0         | 0         | 0         | 0         | 0        | 0        | 0        | 0         | 0          | 2            |
| V            | 13           | 0         | 0         | 0         | 0         | 0        | 0        | 0        | 0         | 1          | 14           |
| C            | 282          | 3         | 1         | 1         | 1         | 0        | 0        | 0        | 0         | 6          | 294          |
| A            | 630          | 16        | 2         | 5         | 1         | 0        | 0        | 0        | 5         | 17         | 676          |
| T            | 445          | 8         | 0         | 0         | 0         | 0        | 0        | 0        | 5         | 8          | 466          |
| D            | 253          | 3         | 1         | 1         | 0         | 0        | 0        | 0        | 1         | 6          | 265          |
| S            | 1,421        | 20        | 4         | 6         | 2         | 5        | 1        | 0        | 3         | 25         | 1,487        |
| Rs           | 566          | 9         | 2         | 2         | 3         | 1        | 0        | 0        | 1         | 9          | 593          |
| Ra           | 730          | 16        | 3         | 0         | 2         | 1        | 0        | 1        | 0         | 14         | 767          |
| Rb           | 997          | 18        | 5         | 2         | 1         | 0        | 0        | 0        | 4         | 34         | 1,061        |
| P            | 62           | 4         | 1         | 0         | 0         | 0        | 0        | 1        | 0         | 3          | 71           |
| E            | 3            | 0         | 0         | 0         | 0         | 0        | 0        | 0        | 0         | 0          | 3            |
| <b>Total</b> | <b>5,404</b> | <b>97</b> | <b>19</b> | <b>17</b> | <b>10</b> | <b>7</b> | <b>1</b> | <b>2</b> | <b>19</b> | <b>123</b> | <b>5,699</b> |

## 22-5 Lymph nodes, macroscopic

| Site           | N0    | N1    | N2    | N3  | N4  | Nx  | Total |
|----------------|-------|-------|-------|-----|-----|-----|-------|
| I              | 0     | 0     | 1     | 0   | 1   | 0   | 2     |
| V              | 7     | 2     | 3     | 1   | 0   | 1   | 14    |
| C              | 67    | 95    | 88    | 28  | 11  | 5   | 294   |
| A              | 198   | 220   | 168   | 54  | 22  | 14  | 676   |
| T              | 152   | 149   | 90    | 37  | 24  | 14  | 466   |
| D              | 113   | 95    | 37    | 9   | 4   | 7   | 265   |
| S              | 630   | 465   | 253   | 53  | 56  | 30  | 1,487 |
| Total          | 1,167 | 1,026 | 640   | 182 | 118 | 71  | 3,204 |
| Rs             | 234   | 211   | 87    | 20  | 27  | 14  | 593   |
| Ra             | 320   | 267   | 108   | 25  | 24  | 23  | 767   |
| Rb             | 479   | 284   | 175   | 28  | 26  | 69  | 1,061 |
| P              | 33    | 9     | 14    | 3   | 4   | 8   | 71    |
| E              | 3     | 0     | 0     | 0   | 0   | 0   | 3     |
| Total          | 1,069 | 771   | 384   | 76  | 81  | 114 | 2,495 |
| Colon & Rectum | 2,236 | 1,797 | 1,024 | 258 | 199 | 185 | 5,699 |

No: No macroscopic evidence of lymph node metastasis

N1: Macroscopic evidence of metastasis in group 1 lymph nodes

N2: Macroscopic evidence of metastasis in group 2 lymph nodes

N3: Macroscopic evidence of metastasis in group 3 lymph nodes

N4: Macroscopic evidence of metastasis in group 4 lymph nodes

Nx: Unknown or not assessed lymph node metastasis

## 22-6 Lymph nodes, histological

| Site           | n0    | n1    | n2  | n3  | n4  | nx  | Total |
|----------------|-------|-------|-----|-----|-----|-----|-------|
| I              | 2     | 0     | 0   | 0   | 0   | 0   | 2     |
| V              | 9     | 1     | 0   | 0   | 0   | 4   | 14    |
| C              | 149   | 65    | 42  | 19  | 7   | 12  | 294   |
| A              | 362   | 147   | 80  | 42  | 13  | 32  | 676   |
| T              | 249   | 97    | 53  | 26  | 12  | 29  | 466   |
| D              | 167   | 57    | 25  | 2   | 2   | 12  | 265   |
| S              | 896   | 292   | 186 | 18  | 22  | 73  | 1,487 |
| Total          | 1,834 | 659   | 386 | 107 | 56  | 162 | 3,204 |
| Rs             | 327   | 146   | 72  | 13  | 12  | 23  | 593   |
| Ra             | 424   | 179   | 96  | 14  | 14  | 40  | 767   |
| Rb             | 533   | 196   | 155 | 36  | 17  | 124 | 1,061 |
| P              | 28    | 11    | 10  | 4   | 4   | 14  | 71    |
| E              | 3     | 0     | 0   | 0   | 0   | 0   | 3     |
| Total          | 1,315 | 532   | 333 | 67  | 47  | 201 | 2,495 |
| Colon & Rectum | 3,149 | 1,191 | 719 | 174 | 103 | 363 | 5,699 |

no: No histological evidence of lymph node metastasis

n1: Histological evidence of metastasis in group 1 lymph nodes

n2: Histological evidence of metastasis in group 2 lymph nodes

n3: Histological evidence of metastasis in group 3 lymph nodes

n4: Histological evidence of metastasis in group 4 lymph nodes

nx: Unknown or not assessed lymph node metastasis

## 23 Depth of invasion

adenocarcinoma, surgical cases

### 23-1 Macroscopic

| Site           | M   | SM  | PM  | SS, A1 | S, A2 | Si, Ai | Unknown | Total |
|----------------|-----|-----|-----|--------|-------|--------|---------|-------|
| I              | 0   | 0   | 0   | 0      | 0     | 1      | 1       | 2     |
| V              | 2   | 1   | 1   | 1      | 3     | 3      | 3       | 14    |
| C              | 14  | 22  | 12  | 53     | 110   | 68     | 15      | 294   |
| A              | 39  | 35  | 45  | 159    | 279   | 92     | 27      | 676   |
| T              | 25  | 27  | 20  | 108    | 180   | 89     | 17      | 466   |
| D              | 21  | 18  | 17  | 47     | 105   | 49     | 8       | 265   |
| S              | 83  | 166 | 126 | 335    | 503   | 227    | 47      | 1,487 |
| Total          | 184 | 269 | 221 | 703    | 1,180 | 529    | 118     | 3,204 |
| Rs             | 28  | 55  | 69  | 128    | 209   | 81     | 23      | 593   |
| Ra             | 38  | 64  | 91  | 225    | 254   | 64     | 31      | 767   |
| Rb             | 84  | 89  | 183 | 272    | 272   | 121    | 40      | 1,061 |
| P              | 7   | 3   | 9   | 12     | 18    | 17     | 5       | 71    |
| E              | 0   | 0   | 0   | 1      | 1     | 0      | 1       | 3     |
| Total          | 157 | 211 | 352 | 638    | 754   | 283    | 100     | 2,495 |
| Colon & Rectum | 341 | 480 | 573 | 1,341  | 1,934 | 812    | 218     | 5,699 |

M: Carcinoma is limited to within the mucosa

SM: Carcinoma is limited to within the mucosa and submucosa

PM: Carcinoma is limited to within the mucosa, submucosa and proper muscle

SS: Carcinoma extended from the mucosa beyond the proper muscle but is not exposed on the serosal surface

S: Carcinoma exposed on the serosal surface

Si: Carcinoma definitely infiltrating other organs

At the site without serosa

A1: Carcinoma extended beyond the proper muscle but does not penetrate deeper

A2: Carcinoma extended beyond the proper muscle infiltrating deeper but without infiltrating other organs

Ai: Carcinoma definitely infiltrating other organs

### 23-2 Histological

| Site           | m   | sm  | pm  | ss, a1 | s, a2 | si, ai | Unknown | Total |
|----------------|-----|-----|-----|--------|-------|--------|---------|-------|
| I              | 0   | 0   | 0   | 2      | 0     | 0      | 0       | 2     |
| V              | 1   | 3   | 0   | 3      | 3     | 2      | 2       | 14    |
| C              | 23  | 19  | 19  | 109    | 83    | 36     | 5       | 294   |
| A              | 47  | 31  | 46  | 286    | 203   | 47     | 16      | 676   |
| T              | 35  | 23  | 29  | 219    | 100   | 56     | 4       | 466   |
| D              | 25  | 17  | 21  | 120    | 59    | 19     | 4       | 265   |
| S              | 92  | 176 | 156 | 609    | 304   | 129    | 21      | 1,487 |
| Total          | 223 | 269 | 271 | 1,348  | 752   | 289    | 52      | 3,204 |
| Rs             | 31  | 58  | 73  | 227    | 155   | 42     | 7       | 593   |
| Ra             | 50  | 74  | 103 | 297    | 199   | 29     | 15      | 767   |
| Rb             | 91  | 116 | 225 | 263    | 283   | 63     | 20      | 1,061 |
| P              | 5   | 3   | 13  | 14     | 17    | 16     | 3       | 71    |
| E              | 0   | 0   | 1   | 0      | 2     | 0      | 0       | 3     |
| Total          | 177 | 251 | 415 | 801    | 656   | 150    | 45      | 2,495 |
| Colon & Rectum | 400 | 520 | 686 | 2,149  | 1,408 | 439    | 97      | 5,699 |

Definition and classification of depth of invasion are equally applicable to histological findings.

Small letters (i.e., m, sm, pm, ss(a1), s(a2), si(ai)) represent histological findings.

**24 Surgical margin of the resected specimen**

adenocarcinoma ,surgical cases

**24-1 Distance of proximal (oral side) margin, macroscopic**

| Site  | OW   |      |       |       |         | Total |
|-------|------|------|-------|-------|---------|-------|
|       | <3cm | <5cm | <10cm | >10cm | Unknown |       |
| I     | 0    | 0    | 0     | 2     | 0       | 2     |
| V     | 0    | 0    | 3     | 7     | 4       | 14    |
| C     | 7    | 16   | 80    | 167   | 24      | 294   |
| A     | 13   | 27   | 169   | 406   | 61      | 676   |
| T     | 19   | 43   | 102   | 267   | 35      | 466   |
| D     | 12   | 23   | 80    | 127   | 23      | 265   |
| S     | 56   | 117  | 540   | 681   | 93      | 1,487 |
| Rs    | 16   | 37   | 119   | 381   | 40      | 593   |
| Ra    | 25   | 17   | 99    | 566   | 60      | 767   |
| Rb    | 52   | 16   | 49    | 801   | 143     | 1,061 |
| P     | 4    | 0    | 0     | 54    | 13      | 71    |
| E     | 0    | 0    | 0     | 1     | 2       | 3     |
| Total | 204  | 296  | 1,241 | 3,460 | 498     | 5,699 |

**24-2 Distance of distal (anal side) margin, macroscopic, colon**

| Site  | AW   |       |       |         | Total |
|-------|------|-------|-------|---------|-------|
|       | <5cm | <10cm | >10cm | Unknown |       |
| I     | 0    | 0     | 2     | 0       | 2     |
| V     | 1    | 2     | 7     | 4       | 14    |
| C     | 19   | 61    | 192   | 22      | 294   |
| A     | 52   | 130   | 434   | 60      | 676   |
| T     | 74   | 145   | 217   | 30      | 466   |
| D     | 30   | 84    | 128   | 23      | 265   |
| S     | 375  | 586   | 438   | 88      | 1,487 |
| Total | 551  | 1,008 | 1,418 | 227     | 3,204 |

**24-3 Distance of distal (anal side) margin, macroscopic, rectum**

| Site  | AW   |      |      |      |         | Total |
|-------|------|------|------|------|---------|-------|
|       | <2cm | <3cm | <5cm | >5cm | Unknown |       |
| Rs    | 34   | 67   | 234  | 221  | 37      | 593   |
| Ra    | 99   | 183  | 245  | 181  | 59      | 767   |
| Rb    | 204  | 182  | 249  | 268  | 158     | 1,061 |
| P     | 17   | 13   | 13   | 7    | 21      | 71    |
| E     | 0    | 0    | 1    | 0    | 2       | 3     |
| Total | 354  | 445  | 742  | 677  | 277     | 2,495 |

**24-4 Proximal and distal margin, colon**

|    | AW      |       |       |         |     | Total |
|----|---------|-------|-------|---------|-----|-------|
|    | <5cm    | <10cm | >10cm | Unknown |     |       |
| OW | <5cm    | 172   | 100   | 59      | 0   | 331   |
|    | <10cm   | 200   | 427   | 339     | 4   | 970   |
|    | >10cm   | 171   | 472   | 1,012   | 0   | 1,655 |
|    | Unknown | 6     | 7     | 4       | 231 | 248   |
|    | Total   | 549   | 1,006 | 1,414   | 235 | 3,204 |

## 24-5 Proximal and distal margin, rectum

|       |         | AW   |      |      |      |         |       |
|-------|---------|------|------|------|------|---------|-------|
|       |         | <2cm | <3cm | <5cm | >5cm | Unknown | Total |
| OW    | <5cm    | 70   | 30   | 26   | 38   | 2       | 166   |
|       | <10cm   | 39   | 62   | 92   | 72   | 2       | 267   |
|       | >10cm   | 237  | 345  | 613  | 561  | 46      | 1,802 |
|       | Unknown | 7    | 8    | 11   | 5    | 229     | 260   |
| Total |         | 353  | 445  | 742  | 676  | 279     | 2,495 |

## 24-6 Cancer infiltration at the margin of resected bowel

| Site  | ow    |   |         | aw    |    |         | ew    |     |         |
|-------|-------|---|---------|-------|----|---------|-------|-----|---------|
|       | -     | + | Unknown | -     | +  | Unknown | -     | +   | Unknown |
| I     | 3     | 0 | 0       | 3     | 0  | 0       | 2     | 1   | 0       |
| V     | 13    | 0 | 2       | 13    | 0  | 2       | 12    | 0   | 3       |
| C     | 291   | 0 | 9       | 291   | 0  | 9       | 257   | 11  | 32      |
| A     | 659   | 0 | 46      | 658   | 0  | 47      | 600   | 20  | 85      |
| T     | 461   | 0 | 24      | 461   | 0  | 24      | 412   | 13  | 60      |
| D     | 262   | 0 | 31      | 262   | 0  | 31      | 236   | 5   | 52      |
| S     | 1,504 | 0 | 155     | 1,502 | 2  | 155     | 1,371 | 46  | 242     |
| Rs    | 586   | 0 | 41      | 585   | 1  | 41      | 541   | 12  | 74      |
| Ra    | 753   | 2 | 43      | 754   | 3  | 41      | 715   | 12  | 71      |
| Rb    | 1,035 | 2 | 52      | 1,028 | 8  | 53      | 944   | 40  | 105     |
| P     | 66    | 1 | 4       | 64    | 1  | 6       | 60    | 3   | 8       |
| E     | 3     | 0 | 0       | 3     | 0  | 0       | 2     | 0   | 1       |
| Total | 5,636 | 5 | 407     | 5,624 | 15 | 409     | 5,152 | 163 | 733     |

OW: Distance between proximal (oral) edge of the tumor and surgical margin of the bowel

AW: Distance between distal (anal) edge of the tumor and surgical margin of the bowel

ow(+): The cancer cells are seen within 5 mm of the oral margin

ow(-): No cancer cells within the 5 mm

aw(+): The cancer cells are seen within 5 mm of the anal margin

aw(-): No cancer cells within the 5 mm

ew(+): The cancer is exposed at the external surgical surface

ew(-): No exposure of cancer cells

**25 Lymphatic and venous vessel invasion****adenocarcinoma, surgical cases****25-1 Site**

| Site  | ly    |       |         | v     |       |         |
|-------|-------|-------|---------|-------|-------|---------|
|       | -     | +     | Unknown | -     | +     | Unknown |
| I     | 0     | 2     | 0       | 1     | 1     | 0       |
| V     | 6     | 5     | 3       | 7     | 4     | 3       |
| C     | 77    | 199   | 18      | 149   | 123   | 22      |
| A     | 189   | 453   | 34      | 349   | 287   | 40      |
| T     | 141   | 307   | 18      | 230   | 215   | 21      |
| D     | 83    | 166   | 16      | 138   | 109   | 18      |
| S     | 473   | 941   | 73      | 777   | 630   | 80      |
| Rs    | 187   | 380   | 26      | 303   | 260   | 30      |
| Ra    | 230   | 497   | 40      | 353   | 370   | 44      |
| Rb    | 330   | 655   | 76      | 509   | 474   | 78      |
| P     | 14    | 50    | 7       | 25    | 39    | 7       |
| E     | 1     | 2     | 0       | 2     | 1     | 0       |
| Total | 1,731 | 3,657 | 311     | 2,843 | 2,513 | 343     |

**25-2 Lymph node metastasis, colon**

| v       | n0  |     |         | n+  |       |         |
|---------|-----|-----|---------|-----|-------|---------|
|         | ly  |     |         | ly  |       |         |
|         | -   | +   | Unknown | -   | +     | Unknown |
| -       | 720 | 416 | 1       | 101 | 367   | 2       |
| +       | 94  | 519 | 2       | 29  | 669   | 0       |
| Unknown | 4   | 10  | 68      | 1   | 11    | 28      |
| Total   | 818 | 945 | 71      | 131 | 1,047 | 30      |

**25-3 Lymph node metastasis, rectum**

| v       | n0  |     |         | n+  |     |         |
|---------|-----|-----|---------|-----|-----|---------|
|         | ly  |     |         | ly  |     |         |
|         | -   | +   | Unknown | -   | +   | Unknown |
| -       | 486 | 295 | 2       | 77  | 241 | 0       |
| +       | 77  | 396 | 5       | 38  | 584 | 0       |
| Unknown | 5   | 5   | 44      | 1   | 7   | 31      |
| Total   | 568 | 696 | 51      | 116 | 832 | 31      |

**25-4 Liver metastasis****25-4-1 Negative venous invasion [v (-)]**

| ly      | H0    | H1 | H1d | H1s | H1x | H2 | H3 |
|---------|-------|----|-----|-----|-----|----|----|
| -       | 1,416 | 12 | 1   | 0   | 7   | 15 | 26 |
| +       | 213   | 10 | 2   | 0   | 6   | 9  | 2  |
| Unknown | 0     | 1  | 0   | 0   | 0   | 1  | 26 |
| Total   | 1,629 | 23 | 3   | 0   | 13  | 25 | 54 |

**25-4-2 Positive venous invasion [v (+)]**

| ly      | H0    | H1  | H1d | H1s | H1x | H2  | H3 |
|---------|-------|-----|-----|-----|-----|-----|----|
| -       | 1,263 | 13  | 7   | 3   | 27  | 38  | 8  |
| +       | 1,825 | 92  | 33  | 5   | 85  | 201 | 22 |
| Unknown | 26    | 2   | 0   | 0   | 2   | 5   | 0  |
| Total   | 3,114 | 107 | 40  | 8   | 114 | 244 | 30 |

**25-4-3 Unknown venous invasion**

| ly      | H0  | H1 | H1d | H1s | H1x | H2 | H3 |
|---------|-----|----|-----|-----|-----|----|----|
| -       | 6   | 0  | 0   | 0   | 1   | 0  | 0  |
| +       | 7   | 0  | 0   | 0   | 0   | 1  | 0  |
| Unknown | 220 | 11 | 2   | 0   | 7   | 40 | 16 |
| Total   | 233 | 11 | 2   | 0   | 8   | 41 | 16 |

ly: Lymphatic vessel invasion

v: Venous vessel invasion

**26 Histological classification and Dukes' stage      adenocarcinoma, surgical cases****26-1 Colon (excluding: I, V)**

|         | w/d   | m/d   | p/d | muc | sig | NOS | Total |
|---------|-------|-------|-----|-----|-----|-----|-------|
| Dukes A | 455   | 132   | 5   | 3   | 0   | 34  | 595   |
| Dukes B | 514   | 422   | 28  | 54  | 2   | 25  | 1,020 |
| Dukes C | 344   | 388   | 47  | 22  | 2   | 22  | 803   |
| Dukes D | 167   | 235   | 30  | 23  | 2   | 5   | 457   |
| Unknown | 88    | 89    | 13  | 9   | 3   | 25  | 202   |
| Total   | 1,568 | 1,266 | 123 | 111 | 9   | 111 | 3,077 |

**26-2 Rectum (excluding: P, E)**

|         | w/d   | m/d   | p/d | muc | sig | NOS | Total |
|---------|-------|-------|-----|-----|-----|-----|-------|
| Dukes A | 384   | 180   | 4   | 2   | 0   | 26  | 570   |
| Dukes B | 288   | 292   | 5   | 13  | 0   | 11  | 598   |
| Dukes C | 256   | 377   | 40  | 26  | 3   | 10  | 702   |
| Dukes D | 82    | 158   | 13  | 12  | 0   | 3   | 265   |
| Unknown | 126   | 75    | 10  | 4   | 3   | 18  | 218   |
| Total   | 1,136 | 1,082 | 72  | 57  | 6   | 68  | 2,353 |

**27 Accompanied lesions in the resected specimen      adenocarcinoma, surgical cases****27-1 By site of carcinoma (multi-answer)**

| Accompanied lesion | I | V  | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P  | E | Total |
|--------------------|---|----|-----|-----|-----|-----|-------|-----|-----|-------|----|---|-------|
| None               | 1 | 8  | 210 | 465 | 345 | 179 | 1,073 | 446 | 582 | 798   | 56 | 1 | 4,164 |
| Adenoma            | 1 | 0  | 50  | 149 | 84  | 54  | 299   | 97  | 128 | 171   | 4  | 0 | 1,037 |
| Adenomatosis       | 0 | 0  | 5   | 3   | 3   | 7   | 11    | 2   | 1   | 6     | 0  | 0 | 38    |
| Hyperplastic polyp | 0 | 0  | 6   | 31  | 14  | 8   | 38    | 25  | 33  | 36    | 1  | 0 | 192   |
| Ulcerative colitis | 0 | 0  | 1   | 0   | 1   | 0   | 0     | 2   | 1   | 2     | 1  | 0 | 8     |
| Diverticulosis     | 0 | 1  | 7   | 9   | 5   | 3   | 16    | 2   | 4   | 6     | 1  | 0 | 54    |
| Anal fistula       | 0 | 0  | 0   | 0   | 0   | 0   | 1     | 0   | 1   | 0     | 3  | 2 | 7     |
| Radiation colitis  | 0 | 0  | 0   | 0   | 0   | 0   | 0     | 0   | 0   | 1     | 0  | 0 | 1     |
| Crohn's disease    | 0 | 0  | 0   | 0   | 1   | 0   | 0     | 0   | 0   | 0     | 0  | 0 | 1     |
| Others             | 0 | 3  | 11  | 14  | 9   | 9   | 39    | 13  | 14  | 17    | 2  | 0 | 131   |
| Unknown            | 0 | 2  | 6   | 10  | 8   | 5   | 24    | 6   | 8   | 25    | 3  | 0 | 97    |
| Total              | 2 | 14 | 296 | 681 | 470 | 265 | 1,501 | 593 | 772 | 1,062 | 71 | 3 | 5,730 |

**27-2 By number of carcinomas (multi-answer)**

| Accompanied lesion | Number of carcinomas |     |    |    |   |   |   |    |         | Total |
|--------------------|----------------------|-----|----|----|---|---|---|----|---------|-------|
|                    | 1                    | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |       |
| None               | 3,956                | 163 | 27 | 8  | 0 | 2 | 0 | 2  | 6       | 4,164 |
| Adenoma            | 868                  | 129 | 24 | 7  | 4 | 0 | 4 | 1  | 0       | 1,037 |
| Adenomatosis       | 29                   | 4   | 2  | 1  | 1 | 0 | 0 | 1  | 0       | 38    |
| Hyperplastic polyp | 171                  | 18  | 2  | 0  | 1 | 0 | 0 | 0  | 0       | 0     |
| Ulcerative colitis | 6                    | 1   | 1  | 0  | 0 | 0 | 0 | 0  | 0       | 8     |
| Diverticulosis     | 49                   | 5   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 54    |
| Anal fistula       | 7                    | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 7     |
| Radiation colitis  | 1                    | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 1     |
| Crohn's disease    | 1                    | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       | 1     |
| Others             | 117                  | 12  | 2  | 0  | 0 | 0 | 0 | 0  | 0       | 131   |
| Unknown            | 80                   | 7   | 4  | 0  | 0 | 0 | 0 | 0  | 6       | 97    |
| Total              | 5,285                | 339 | 62 | 16 | 6 | 2 | 4 | 4  | 12      | 5,730 |

**28 Grades of operative procedures****adenocarcinoma, surgical cases**

| Site  | R <sub>0</sub> | R <sub>1</sub> | R <sub>2</sub> | R <sub>3</sub> | R <sub>4</sub> | R <sub>x</sub> | Total |
|-------|----------------|----------------|----------------|----------------|----------------|----------------|-------|
| I     | 0              | 0              | 0              | 2              | 0              | 0              | 2     |
| V     | 1              | 3              | 3              | 7              | 0              | 0              | 14    |
| C     | 7              | 42             | 98             | 140            | 2              | 5              | 294   |
| A     | 32             | 67             | 240            | 319            | 7              | 11             | 676   |
| T     | 32             | 82             | 137            | 200            | 9              | 6              | 466   |
| D     | 14             | 47             | 114            | 83             | 4              | 3              | 265   |
| S     | 79             | 250            | 513            | 595            | 29             | 21             | 1,487 |
| Rs    | 23             | 103            | 234            | 212            | 17             | 4              | 593   |
| Ra    | 43             | 113            | 288            | 289            | 18             | 16             | 767   |
| Rb    | 134            | 176            | 307            | 408            | 19             | 17             | 1,061 |
| P     | 10             | 11             | 18             | 27             | 3              | 2              | 71    |
| E     | 0              | 0              | 0              | 3              | 0              | 0              | 3     |
| Total | 375            | 894            | 1,952          | 2,285          | 108            | 85             | 5,699 |

R<sub>0</sub>: Incomplete dissection of Group 1 lymph nodesR<sub>1</sub>: Complete dissection of Group 1 lymph nodesR<sub>2</sub>: Complete dissection of Group 1 and 2 lymph nodesR<sub>3</sub>: Complete dissection of Group 1, 2 and 3 lymph nodes

Rx: Assessment of grade of lymph nodes dissection are not met

## 29 Evaluation of operative procedure

adenocarcinoma

### 29-1 Macroscopic, male

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| V              | 3                  | 1        | 0                      | 0        | 0            | 0       | 4     |
| C              | 94                 | 19       | 7                      | 20       | 1            | 0       | 141   |
| A              | 233                | 21       | 10                     | 53       | 10           | 0       | 327   |
| T              | 173                | 29       | 13                     | 42       | 3            | 7       | 267   |
| D              | 124                | 21       | 7                      | 20       | 4            | 1       | 177   |
| S              | 607                | 67       | 40                     | 131      | 8            | 6       | 859   |
| Total          | 1,234              | 158      | 77                     | 266      | 26           | 14      | 1,775 |
| Rs             | 234                | 31       | 23                     | 61       | 5            | 0       | 354   |
| Ra             | 355                | 45       | 20                     | 57       | 11           | 5       | 493   |
| Rb             | 484                | 61       | 28                     | 87       | 8            | 9       | 677   |
| P              | 21                 | 3        | 5                      | 7        | 2            | 1       | 39    |
| E              | 3                  | 0        | 0                      | 0        | 0            | 0       | 3     |
| Total          | 1,097              | 140      | 76                     | 212      | 26           | 15      | 1,566 |
| Colon & Rectum | 2,331              | 298      | 153                    | 478      | 52           | 29      | 3,341 |

### 29-2 Macroscopic, female

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 1                  | 0        | 0                      | 1        | 0            | 0       | 2     |
| V              | 6                  | 1        | 1                      | 1        | 0            | 1       | 10    |
| C              | 76                 | 24       | 7                      | 41       | 3            | 2       | 153   |
| A              | 219                | 42       | 27                     | 52       | 4            | 5       | 349   |
| T              | 119                | 32       | 10                     | 33       | 2            | 3       | 199   |
| D              | 66                 | 6        | 3                      | 11       | 1            | 1       | 88    |
| S              | 446                | 52       | 34                     | 82       | 8            | 6       | 628   |
| Total          | 933                | 157      | 82                     | 221      | 18           | 18      | 1,429 |
| Rs             | 170                | 14       | 16                     | 35       | 2            | 2       | 239   |
| Ra             | 208                | 24       | 13                     | 22       | 3            | 4       | 274   |
| Rb             | 280                | 44       | 12                     | 33       | 8            | 7       | 384   |
| P              | 17                 | 5        | 2                      | 6        | 0            | 2       | 32    |
| E              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| Total          | 675                | 87       | 43                     | 96       | 13           | 15      | 929   |
| Colon & Rectum | 1,608              | 244      | 125                    | 317      | 31           | 33      | 2,358 |

### 29-3 Histological, male

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| V              | 3                  | 1        | 0                      | 0        | 0            | 0       | 4     |
| C              | 104                | 10       | 6                      | 21       | 0            | 0       | 141   |
| A              | 240                | 14       | 9                      | 51       | 10           | 3       | 327   |
| T              | 186                | 24       | 8                      | 42       | 3            | 4       | 267   |
| D              | 134                | 11       | 5                      | 21       | 4            | 2       | 177   |
| S              | 621                | 50       | 39                     | 131      | 8            | 10      | 859   |
| Total          | 1,288              | 110      | 67                     | 266      | 25           | 19      | 1,775 |
| Rs             | 239                | 30       | 21                     | 56       | 5            | 3       | 354   |
| Ra             | 374                | 28       | 14                     | 65       | 10           | 2       | 493   |
| Rb             | 485                | 54       | 28                     | 90       | 7            | 13      | 677   |
| P              | 17                 | 3        | 8                      | 8        | 1            | 2       | 39    |
| E              | 3                  | 0        | 0                      | 0        | 0            | 0       | 3     |
| Total          | 1,118              | 115      | 71                     | 219      | 23           | 20      | 1,566 |
| Colon & Rectum | 2,406              | 225      | 138                    | 485      | 48           | 39      | 3,341 |

## 29-4 Histological, female

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 2                  | 0        | 0                      | 0        | 0            | 0       | 2     |
| V              | 6                  | 0        | 2                      | 1        | 0            | 1       | 10    |
| C              | 90                 | 13       | 7                      | 38       | 3            | 2       | 153   |
| A              | 231                | 32       | 23                     | 56       | 3            | 4       | 349   |
| T              | 131                | 19       | 9                      | 34       | 2            | 4       | 199   |
| D              | 67                 | 6        | 3                      | 9        | 1            | 2       | 88    |
| S              | 452                | 51       | 30                     | 83       | 6            | 6       | 628   |
| Total          | 979                | 121      | 74                     | 221      | 15           | 19      | 1,429 |
| Rs             | 168                | 13       | 15                     | 37       | 2            | 4       | 239   |
| Ra             | 207                | 25       | 9                      | 25       | 2            | 6       | 274   |
| Rb             | 269                | 51       | 13                     | 39       | 8            | 4       | 384   |
| P              | 19                 | 4        | 1                      | 7        | 0            | 1       | 32    |
| E              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| Total          | 663                | 93       | 38                     | 108      | 12           | 15      | 929   |
| Colon & Rectum | 1,642              | 214      | 112                    | 329      | 27           | 34      | 2,358 |

## 29-5 Endoscopic polypectomy cases, histological

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 1                  | 0        | 0                      | 0        | 0            | 0       | 1     |
| V              | 0                  | 1        | 0                      | 0        | 0            | 0       | 1     |
| C              | 5                  | 0        | 0                      | 0        | 0            | 0       | 5     |
| A              | 24                 | 1        | 0                      | 1        | 0            | 3       | 29    |
| T              | 13                 | 1        | 0                      | 0        | 0            | 4       | 18    |
| D              | 18                 | 1        | 0                      | 1        | 0            | 7       | 27    |
| S              | 112                | 13       | 1                      | 1        | 1            | 39      | 167   |
| Total          | 173                | 17       | 1                      | 3        | 1            | 53      | 248   |
| Rs             | 22                 | 5        | 0                      | 0        | 1            | 6       | 34    |
| Ra             | 20                 | 0        | 0                      | 0        | 0            | 9       | 29    |
| Rb             | 21                 | 1        | 0                      | 0        | 0            | 4       | 26    |
| P              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| E              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| Total          | 63                 | 6        | 0                      | 0        | 1            | 19      | 89    |
| Colon & Rectum | 236                | 23       | 1                      | 3        | 2            | 72      | 337   |

Minimum requirements for 'curative resection' are as follows

1. No metastasis in the liver, peritoneum or extra-abdominal organs
2. No cancerous infiltration in the surgical margin of the resected specimen

When the minimum requirements for curative resection are not met, the operation is classified as 'non-curative resection'.

'Absolute' and 'relative' categories are determined by the extent of lymph node dissection and assessment of the lymph node metastasis. Refer to the general rules of "JSCCR" on terminology and classification used in this report.

**30 Operative method****adenocarcinoma, surgical cases**

|   |       |
|---|-------|
| Non resection                           |       |
| Laparotomy only                         | 10    |
| Enterostomy                             |       |
| ileum                                   | 1     |
| right colon                             | 1     |
| transverse colon                        | 17    |
| left colon                              | 35    |
| unknown                                 | 0     |
| Intestinal by-pass                      | 21    |
| Others                                  | 3     |
| Polypectomy                             |       |
| trans-abdominal                         | 12    |
| trans-anal                              | 55    |
| trans-sacral                            | 9     |
| trans-sphincteric                       | 4     |
| Tumorectomy                             |       |
| trans-abdominal                         | 13    |
| trans-anal                              | 42    |
| trans-sacral                            | 10    |
| trans-sphincteric                       | 7     |
| Appendectomy                            | 3     |
| Ileocecal resection                     | 118   |
| Ascending colectomy                     | 44    |
| Right colectomy                         | 962   |
| Transversectomy                         | 234   |
| Descending colectomy                    | 105   |
| Left colectomy                          | 200   |
| Sigmoidectomy                           | 1,247 |
| Subtotal colectomy                      | 11    |
| Total colectomy                         | 13    |
| Total resection of the colon and rectum | 6     |
| Sphincter-preserving operation          |       |
| high anterior resection                 | 380   |
| low anterior resection                  | 1,147 |
| posterior resection                     | 4     |
| invagination method                     | 3     |
| pull-through procedure                  | 4     |
| abdominosacral resection                | 11    |
| Hartmann's operation                    | 161   |
| Amputation of the rectum                |       |
| abdominoperineal                        | 718   |
| abdominosacral                          | 11    |
| sacroabdominal                          | 5     |
| Total pelvic exenteration               | 37    |
| Others                                  | 30    |
| Unknown                                 | 5     |
| Total                                   | 5,699 |

**31 Combined resection of other organs****adenocarcinoma, surgical cases**

| Combined resection | Colon | Rectum | Total |
|--------------------|-------|--------|-------|
| None               | 2,772 | 2,154  | 4,926 |
| Abdominal wall     | 97    | 3      | 100   |
| Pelvic wall        | 2     | 6      | 8     |
| Uterus             | 29    | 41     | 70    |
| Adnexa             | 59    | 33     | 92    |
| Vagina             | 1     | 53     | 54    |
| Seminal vesicle    | 1     | 33     | 34    |
| Prostate           | 1     | 39     | 40    |
| Bladder            | 70    | 51     | 121   |
| Ureter             | 11    | 16     | 27    |
| Stomach            | 21    | 6      | 27    |
| Duodenum           | 25    | 0      | 25    |
| Small intestine    | 90    | 24     | 114   |
| Colon              | 30    | 12     | 42    |
| Rectum             | 11    | 1      | 12    |
| Liver              | 80    | 47     | 127   |
| Omentum            | 33    | 0      | 33    |
| Remote organs      | 5     | 4      | 9     |
| Others             | 87    | 35     | 122   |
| Unknown            | 35    | 30     | 65    |
| Total              | 3,460 | 2,588  | 6,048 |

**32 Operative mortality****surgical cases****32-1 Site**

|                | Adenocarcinoma    |                  |     | Other malignancies |                  |      |
|----------------|-------------------|------------------|-----|--------------------|------------------|------|
|                | No. of Operations | Operative deaths | %   | No. of Operations  | Operative deaths | %    |
| I              | 2                 | 0                |     | 3                  | 0                |      |
| V              | 14                | 0                |     | 3                  | 0                |      |
| C              | 294               | 4                | 1.4 | 8                  | 0                |      |
| A              | 676               | 11               | 1.6 | 1                  | 0                |      |
| T              | 466               | 6                | 1.3 | 3                  | 0                |      |
| D              | 265               | 6                | 2.3 | 1                  | 0                |      |
| S              | 1,487             | 18               | 1.2 | 8                  | 0                |      |
| Total          | 3,204             | 45               | 1.4 | 27                 | 0                |      |
| Rs             | 593               | 7                | 1.2 | 3                  | 1                | 33.3 |
| Ra             | 767               | 7                | 0.9 | 5                  | 1                | 20.0 |
| Rb             | 1,061             | 6                | 0.6 | 30                 | 0                |      |
| P              | 71                | 0                |     | 19                 | 1                | 5.3  |
| E              | 3                 | 0                |     | 4                  | 0                |      |
| Total          | 2,495             | 20               | 0.8 | 61                 | 3                | 4.9  |
| Colon & Rectum | 5,699             | 65               | 1.1 | 88                 | 3                | 3.4  |

**32-2 Grades of operative procedures, adenocarcinoma**

|        | Colon                      | Curative resection |          | Noncurative resection |          | Not resected | Unknown | Total  |
|--------|----------------------------|--------------------|----------|-----------------------|----------|--------------|---------|--------|
|        |                            | absolute           | relative | relative              | absolute |              |         |        |
| Colon  | No. of operations          | 2,267              | 231      | 141                   | 487      | 40           | 38      | 3204   |
|        | No. of operative deaths(%) | 11 0.5             | 3 1.3    | 1 0.7                 | 23 4.7   | 5 12.5       | 2 5.3   | 45 1.4 |
| Rectum | No. of operations          | 1,781              | 208      | 109                   | 327      | 35           | 35      | 2495   |
|        | No. of operative deaths(%) | 11 0.6             | 0        | 2 1.8                 | 3 0.9    | 4 11.4       | 0       | 20 0.8 |

**32-3 Grades of operative procedures, other malignancies**

|        | Colon                      | Curative resection |          | Noncurative resection |          | Not resected | Unknown | Total |
|--------|----------------------------|--------------------|----------|-----------------------|----------|--------------|---------|-------|
|        |                            | absolute           | relative | relative              | absolute |              |         |       |
| Colon  | No. of operations          | 12                 | 2        | 2                     | 10       | 1            | 0       | 27    |
|        | No. of operative deaths(%) | 0                  | 0        | 0                     | 0        | 0            | 0       | 0     |
| Rectum | No. of operations          | 31                 | 7        | 1                     | 17       | 2            | 3       | 61    |
|        | No. of operative deaths(%) | 1 3.2              | 0        | 0                     | 1 5.9    | 0            | 1 33.3  | 3 4.9 |

### 32-4 Operative procedures

|   | No. of cases | Operative mortality |       |
|---|--------------|---------------------|-------|
|   |              | No. of deaths       | %     |
| Non resection                           |              |                     |       |
| Laparotomy only                         | 10           | 3                   | 30.0  |
| Enterostomy                             |              |                     |       |
| ileum                                   | 1            | 1                   | 100.0 |
| right colon                             | 1            | 0                   |       |
| transverse colon                        | 17           | 2                   | 11.8  |
| left colon                              | 35           | 3                   | 8.6   |
| unknown                                 | 0            | 0                   |       |
| Intestinal by-pass                      | 21           | 1                   | 4.8   |
| Others                                  | 3            | 0                   |       |
| Polypectomy                             |              |                     |       |
| trans-abdominal                         | 12           | 0                   |       |
| trans-anal                              | 55           | 0                   |       |
| trans-sacral                            | 9            | 0                   |       |
| trans-sphincteric                       | 4            | 0                   |       |
| Tumorectomy                             |              |                     |       |
| trans-abdominal                         | 13           | 1                   | 7.7   |
| trans-anal                              | 42           | 0                   |       |
| trans-sacral                            | 10           | 0                   |       |
| trans-sphincteric                       | 7            | 0                   |       |
| Appendectomy                            | 3            | 3                   | 100.0 |
| Ileocecal resection                     | 118          | 2                   | 1.7   |
| Ascending colectomy                     | 44           | 9                   | 20.5  |
| Right colectomy                         | 962          | 4                   | 0.4   |
| Transversectomy                         | 234          | 4                   | 1.7   |
| Descending colectomy                    | 105          | 3                   | 2.9   |
| Left colectomy                          | 200          | 12                  | 6.0   |
| Sigmalectomy                            | 1247         | 0                   |       |
| Sub total colectomy                     | 11           | 0                   |       |
| Total colectomy                         | 13           | 0                   |       |
| Total resection of the colon and rectum | 6            | 2                   | 33.3  |
| Spincter-preserving operation           |              |                     |       |
| high anterior resection                 | 380          | 4                   | 1.1   |
| low anterior resection                  | 1147         | 0                   |       |
| posterior resection                     | 4            | 0                   |       |
| invagination method                     | 3            | 0                   |       |
| pull-through procedure                  | 4            | 0                   |       |
| abdominosacral resection                | 11           | 4                   | 36.4  |
| Hartmann's                              | 161          | 5                   | 3.1   |
| Amputation of the rectum                |              |                     |       |
| abdominoperineal                        | 718          | 1                   | 0.1   |
| abdominosacral                          | 11           | 0                   |       |
| sacroabdominal                          | 5            | 1                   | 20.0  |
| Total pelvic exenteration               | 37           | 0                   |       |
| Others                                  | 30           | 0                   |       |
| Unknown                                 | 5            | 0                   |       |
| Total                                   | 5,699        | 65                  | 1.1   |



**Multi-Institutional Registry of Large Bowel Cancer  
in Japan**

**Vol.10 - b  
Cases treated in 1992  
(Prospective Registry Data)**

## 1 Patients registered

### Number of registered patients by institutes

| Institute                                    | Department          | No. of registered cases | No. of cases analyzed |      |        |
|--|---------------------|-------------------------|-----------------------|------|--------|
|  |                     |                         | Total                 | Male | Female |
| Aichi Cancer Center Hospital                 | Dpt GI Surg         | 121                     | 119                   | 79   | 40     |
| Asahikawa Kosei Hospital                     |                     | 63                      | 62                    | 31   | 31     |
| Beppu National Hospital                      |                     | 55                      | 53                    | 27   | 26     |
| Cancer Institute Hospital                    | Dpt Surg            | 33                      | 33                    | 19   | 14     |
| Chiba Cancer Center                          | Dpt Surg            | 70                      | 70                    | 50   | 20     |
| Dokkyo University School of Medicine         | Dpt Surg I          | 30                      | 30                    | 17   | 13     |
| Dokkyo University School of Medicine         | Dpt Surg II         | 25                      | 27                    | 16   | 11     |
| East Hospital, Kitazato University           | GE Center           | 70                      | 69                    | 43   | 26     |
| Faculty of Medicin, Kagoshima University     | Dpt SurgI           | 46                      | 46                    | 25   | 21     |
| Faculty of Medicine, University of Tokyo     | Dpt Surg I          | 60                      | 59                    | 38   | 21     |
| Fujita Health University School of Medicine  | Dpt Surg            | 22                      | 21                    | 13   | 8      |
| Fujita Health University School of Medicine  | Dpt Surg (Miura)    | 40                      | 40                    | 20   | 20     |
| Fujita Health University School of Medicine  | Dpt Surg (Funabiki) | 24                      | 24                    | 14   | 10     |
| Fukui Prefectural Hospital                   | Dpt Surg I          | 107                     | 107                   | 57   | 50     |
| Fukushima Medical College                    | Dpt Surg I          | 48                      | 48                    | 28   | 20     |
| Gifu University School of Medicine           | Dpt Surg II         | 47                      | 45                    | 28   | 17     |
| Gihoku General Hospital                      | Dpt Surg            | 28                      | 28                    | 14   | 14     |
| Gunma Cancer Center                          | Dpt Surg            | 52                      | 52                    | 36   | 16     |
| Gunma University School of Medicine          | Dpt Surg II         | 17                      | 16                    | 8    | 8      |
| Gunma University School of Medicine          | Dpt Surg I          | 66                      | 62                    | 38   | 24     |
| Hamamatsu Medical Center                     |                     | 58                      | 57                    | 36   | 21     |
| Hiraga General Hospital                      | Dpt Surg            | 57                      | 57                    | 37   | 20     |
| Hirosaki University, School of Medicine      | Dpt Surg II         | 43                      | 43                    | 27   | 16     |
| Hirosaki University, School of Medicine      | 1st Dpt IM          | 15                      | 12                    | 8    | 4      |
| Hiroshima University School of Medicine      | Dpt Surg II         | 43                      | 42                    | 23   | 19     |
| Hokkaido University, School of Medicine      | 1st Dpt Surg        | 27                      | 26                    | 16   | 10     |
| Hokuriku Central Hospital                    | Dpt Surg            | 30                      | 30                    | 17   | 13     |
| Hyogo Medical Center for Adults              | Dpt Surg            | 66                      | 64                    | 31   | 33     |
| Hyogo Prefectural Kakogawa Hospital          |                     | 28                      | 27                    | 13   | 14     |
| Iwakuni National Hospital                    | Dpt Surg            | 24                      | 24                    | 13   | 11     |
| Iwate Medical University School of Medicine  | Dpt I M             | 13                      | 13                    | 9    | 4      |
| Iwate Medical University, School of Medicine | Dpt Surg I          | 46                      | 46                    | 26   | 20     |
| Izushi Municipal Hospital                    |                     | 20                      | 20                    | 13   | 7      |
| Jichi Medical School, School of Medicine     | Dpt GI Gen Surg     | 77                      | 77                    | 42   | 35     |
| Juntendo University School of Medicine       | Dpt Surg I          | 51                      | 51                    | 27   | 24     |
| Kagawa Medical School                        | Dpt Surg I          | 21                      | 21                    | 12   | 9      |
| Kanagawa Cancer Center                       | Dpt Surg IV         | 105                     | 104                   | 69   | 35     |
| Kanto Rosai Hospital                         |                     | 51                      | 50                    | 37   | 13     |
| Kariya General Hospital.                     |                     | 41                      | 41                    | 23   | 18     |
| Kawasaki City Ida Hospital                   | Dpt Surg            | 34                      | 34                    | 22   | 12     |
| Kawasaki Medical School                      | GE Surg             | 68                      | 68                    | 41   | 27     |
| Keiyou General Hospital                      |                     | 49                      | 48                    | 27   | 21     |
| Kinki University School of Medicine          | Dpt Surg I          | 80                      | 78                    | 41   | 37     |
| Kobe University School of Medicine           | Dpt Surg I          | 26                      | 25                    | 18   | 7      |
| Kumamoto University, Medical School          | Dpt Surg II         | 40                      | 40                    | 27   | 13     |
| Kurume University, School of Medicine        | Dpt Surg I          | 91                      | 88                    | 52   | 36     |

## Multi-Institutional Registry of Large Bowel Cancer

| Institute   | Department   | No. of registered cases | No. of cases analyzed |      |        |
|---|--------------|-------------------------|-----------------------|------|--------|
|   |              |                         | Total                 | Male | Female |
| Kyorin University, School of Medicine                                     | Dpt Surg II  | 27                      | 24                    | 14   | 10     |
| Kyoto 1st Red Cross Hospital  | Dpt Surg     | 52                      | 50                    | 23   | 27     |
| Kyoto National Hospital   | Dpt Surg     | 79                      | 72                    | 37   | 35     |
| Kyoto University, Faculty of Medicine                                     | Dpt Surg I   | 39                      | 34                    | 17   | 17     |
| Kyoto University, Faculty of Medicine                                     | Dpt SurgII   | 17                      | 15                    | 11   | 4      |
| Medical School, Nagoya City University                                    | Dpt Surg I   | 42                      | 41                    | 20   | 21     |
| Mito Kyodo General Hospital   | Dpt Surg     | 40                      | 40                    | 23   | 17     |
| Miyagi Medical Center for Adults  | Dpt Surg     | 55                      | 55                    | 41   | 14     |
| Nagasaki University, School of Medicine                                   | Dpt Surg I   | 62                      | 61                    | 45   | 16     |
| Nagoya National Hospital  | Dpt Surg     | 33                      | 32                    | 13   | 19     |
| Nagoya University School of Medicine                                      | Dpt Surg II  | 38                      | 38                    | 21   | 17     |
| Nakamura Hospital   |              | 7                       | 7                     | 7    | 0      |
| National Cancer Center Hospital   | Dpt Surg     | 181                     | 181                   | 110  | 71     |
| National Defense Medical College  | Dpt Surg I   | 136                     | 135                   | 71   | 64     |
| National Fukuoka Central Hospital   |              | 79                      | 77                    | 37   | 40     |
| National Kyushu Cancer Center   | Dpt GE Surg  | 89                      | 89                    | 54   | 35     |
| National Okura Hospital   | Dpt Surg     | 32                      | 32                    | 20   | 12     |
| National Sanatorium Kanagawa Hospital                                     |              | 14                      | 12                    | 8    | 4      |
| National Sapporo Hospital Hokkaido Cancer Center                          | Dpt Surg     | 40                      | 40                    | 20   | 20     |
| Niigata Cancer Centar Hospital  | Dpt Surg     | 96                      | 96                    | 56   | 40     |
| Nihon University, School of Medicine                                      | Dpt Surg III | 35                      | 34                    | 18   | 16     |
| Niigata University, School of Medicine                                    | Dpt Surg I   | 50                      | 43                    | 20   | 23     |
| Nippon Medical School   | Dpt Surg I   | 87                      | 86                    | 53   | 33     |
| Nogaki Hospital   | Dpt Surg     | 37                      | 35                    | 24   | 11     |
| Oita Medical University   | Dpt Surg     | 37                      | 37                    | 21   | 16     |
| Okayama 1st Red Cross Hospital  | Dpt Surg     | 53                      | 51                    | 26   | 25     |
| Oomoto Hospital   |              | 49                      | 49                    | 27   | 22     |
| Osaka Medical College   | Dpt Surg     | 58                      | 58                    | 36   | 22     |
| Osaka Teishin Hospital  | Dpt Surg     | 54                      | 54                    | 28   | 26     |
| Red Cross Ashikaga Hospital   | Dpt Surg     | 40                      | 40                    | 24   | 16     |
| Red Cross Sendai Hospital   | Dpt Surg     | 84                      | 83                    | 49   | 34     |
| Research Institute for Nuclear Medicine and Biology, Hiroshima University | Dpt Surg     | 17                      | 17                    | 11   | 6      |
| Saitama Medical Center  | Dpt Surg II  | 39                      | 36                    | 21   | 15     |
| Saitama Medical School  | Dpt Surg II  | 48                      | 44                    | 19   | 25     |
| Sapporo-Kosei General Hospital  | Dpt Surg     | 94                      | 93                    | 55   | 38     |
| School of Medicine, Chiba University                                      | Dpt Surg I   | 57                      | 54                    | 35   | 19     |
| School of Medicine, Chiba University                                      | Dpt Surg II  | 51                      | 50                    | 31   | 19     |
| School of Medicine, Fukuoka University                                    |              |                         |                       |      |        |
| Tsukushi Hospital   | Dpt Surg     | 104                     | 101                   | 65   | 36     |
| School of Medicine, Gifu University                                       | Dpt Surg I   | 24                      | 24                    | 16   | 8      |
| School of Medicine, Keio University                                       | Dpt Surg     | 34                      | 34                    | 21   | 13     |
| School of Medicine, Kitasato University                                   | Dpt Surg     | 29                      | 28                    | 17   | 11     |
| School of Medicine, Mie University  | Dpt Surg I   | 10                      | 10                    | 3    | 7      |
| School of Medicine, Mie University  | Dpt SurgII   | 52                      | 52                    | 30   | 22     |
| School of Medicine, Tokai University                                      | Dpt Surg II  | 63                      | 63                    | 37   | 26     |
| Sendai Medical Center Open Hospital                                       |              | 243                     | 239                   | 157  | 82     |
| Sendai National Hospital  | Dpt Surg     | 63                      | 62                    | 32   | 30     |

| Institute  | Department      | No. of registered cases | No. of cases analyzed |      |        |
|--|-----------------|-------------------------|-----------------------|------|--------|
|  |                 |                         | Total                 | Male | Female |
| Shikoku Cancer Center Hospital                               | Drt Surg        | 80                      | 79                    | 40   | 39     |
| Shimada Municipal Hospital                                   | Dpt Surg        | 39                      | 35                    | 19   | 16     |
| Social Insurance Central Hospital,<br>Colo-proctology Center |                 | 125                     | 122                   | 79   | 43     |
| Social Insurance Ritsurin Hospital                           |                 | 13                      | 13                    | 8    | 5      |
| St. Marianna University, School of Medicine                  | Dpt Surg I      | 51                      | 50                    | 24   | 26     |
| Takano Hospital Colo-proctology Center                       |                 | 232                     | 209                   | 117  | 92     |
| Teikyo University School of Medicine                         | Dpt Surg I      | 20                      | 19                    | 11   | 8      |
| The Center for Adult Diseases Osaka                          | Dpt Surg        | 119                     | 111                   | 82   | 29     |
| Tochigi Cancer Center  |                 | 89                      | 88                    | 54   | 34     |
| Toho University School of Medicine                           | Dpt Surg I      | 48                      | 45                    | 32   | 13     |
| Tokyo Medical and Dental University,<br>School of Medicine   | Dpt Surg II     | 43                      | 40                    | 22   | 18     |
| Tokyo Metropolitan Cancer Detection Center                   |                 | 9                       | 9                     | 6    | 3      |
| Tokyo Metropolitan Hiroo Hospital                            | Dpt Surg        | 49                      | 49                    | 26   | 23     |
| Tokyo Metropolitan Komagome Hospital                         | Dpt Surg        | 162                     | 162                   | 97   | 65     |
| Tokyo Women's Medical College                                | Dpt Surg II     | 81                      | 79                    | 47   | 32     |
| Tokyo Women's Medical College                                | Institute of GE | 115                     | 111                   | 77   | 34     |
| Tokyo Women's Medical College, Second Hospital               | Dpt Surg        | 43                      | 42                    | 23   | 19     |
| Tottori University, Faculty of Medicine                      | Dpt Surg I      | 75                      | 75                    | 41   | 34     |
| Wakayama Medical College                                     | Dpt GI Surg     | 40                      | 38                    | 20   | 18     |
| Yamagata Prefectural Central Hospital                        | Dpt Surg        | 122                     | 122                   | 67   | 55     |
| Total  |                 | 6453                    | 6303                  | 3724 | 2579   |

Cases with an omission of following terms were excluded from analysis

1. Histological features 2. Date of birth 3. Date of treatment 4. Sex 5. Location of tumor

Abbreviation

Dpt: department, Surg: surgery, GI: gastrointestinal, GE: gastroenterology(ical), IM: internal medicine, Gen: general

## 2 Patients analyzed

### 2-1 Site and sex

| Histological type                | Site   | Total No. | Sex   |        |
|----------------------------------|--------|-----------|-------|--------|
|                                  |        |           | Male  | Female |
| Adenocarcinoma <sup>a)</sup>     | Colon  | 3,656     | 2,092 | 1,564  |
|                                  | Rectum | 2,540     | 1,577 | 963    |
| Other malignancies <sup>b)</sup> | Colon  | 29        | 16    | 13     |
|                                  | Rectum | 78        | 39    | 39     |
| Total                            |        | 6,303     | 3,724 | 2,579  |

a): well-, moderately and poorly differentiated adenocarcinoma, mucinous carcinoma and signet-ring cell carcinoma

b): carcinomas other than adenocarcinoma and non-epithelial malignant neoplasms

### 2-2 Site and surgical treatment

| Histological type  | Site   | Surgery <sup>a)</sup> |                     |       |
|--------------------|--------|-----------------------|---------------------|-------|
|                    |        | Yes                   | No                  | Total |
| Adenocarcinoma     | Colon  | 3,650                 | [322] <sup>b)</sup> | 6     |
|                    | Rectum | 2,534                 | [112]               | 6     |
|                    | Total  | 6,184                 | [434]               | 12    |
| Other malignancies | Colon  | 29                    | [3]                 | 0     |
|                    | Rectum | 77                    | [5]                 | 1     |
|                    | Total  | 106                   | [8]                 | 1     |
| Total              |        | 6,290                 | [442]               | 13    |
|                    |        |                       |                     | 6,303 |

a): Includes cryosurgery and electric cautery therapy.

b): The figures in parentheses represent the number of patients treated solely by endoscopic polypectomy, and those are included in the number in the left column.

### 3 Age incidence

all cases

#### 3-1 Male, by site

| Site           | Age |     |     |     |     |     |       |     |     | Total |
|----------------|-----|-----|-----|-----|-----|-----|-------|-----|-----|-------|
|                | -9  | -19 | -29 | -39 | -49 | -59 | -69   | -79 | 80- |       |
| I              | 0   | 0   | 0   | 0   | 3   | 0   | 1     | 0   | 0   | 4     |
| V              | 0   | 0   | 0   | 1   | 1   | 0   | 2     | 1   | 1   | 6     |
| C              | 0   | 0   | 1   | 3   | 15  | 32  | 46    | 49  | 16  | 162   |
| A              | 0   | 0   | 0   | 2   | 25  | 93  | 132   | 95  | 29  | 376   |
| T              | 0   | 1   | 4   | 8   | 26  | 56  | 111   | 73  | 26  | 305   |
| D              | 0   | 1   | 0   | 4   | 24  | 39  | 70    | 36  | 10  | 184   |
| S              | 0   | 0   | 6   | 20  | 95  | 267 | 391   | 222 | 70  | 1,071 |
| Total          | 0   | 2   | 11  | 38  | 189 | 487 | 753   | 476 | 152 | 2,108 |
| Rs             | 0   | 0   | 0   | 4   | 31  | 105 | 176   | 85  | 19  | 420   |
| Ra             | 0   | 0   | 1   | 5   | 61  | 104 | 191   | 112 | 21  | 495   |
| Rb             | 0   | 0   | 5   | 16  | 81  | 175 | 227   | 120 | 36  | 660   |
| P              | 0   | 0   | 0   | 3   | 0   | 11  | 9     | 11  | 4   | 38    |
| E              | 0   | 0   | 0   | 0   | 2   | 0   | 0     | 1   | 0   | 3     |
| Total          | 0   | 0   | 6   | 28  | 175 | 395 | 603   | 329 | 80  | 1,616 |
| Colon & Rectum | 0   | 2   | 17  | 66  | 364 | 882 | 1,356 | 805 | 232 | 3,724 |

#### 3-2 Female, by site

| Site           | Age |     |     |     |     |     |     |     |     | Total |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
|                | -9  | -19 | -29 | -39 | -49 | -59 | -69 | -79 | 80- |       |
| I              | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1   | 0   | 2     |
| V              | 0   | 0   | 0   | 2   | 1   | 2   | 4   | 0   | 2   | 11    |
| C              | 0   | 1   | 0   | 2   | 7   | 28  | 53  | 50  | 17  | 158   |
| A              | 0   | 0   | 0   | 4   | 24  | 71  | 123 | 99  | 37  | 358   |
| T              | 0   | 1   | 2   | 2   | 18  | 49  | 62  | 52  | 21  | 207   |
| D              | 0   | 0   | 0   | 3   | 8   | 27  | 31  | 21  | 6   | 96    |
| S              | 0   | 0   | 1   | 12  | 92  | 174 | 209 | 143 | 42  | 673   |
| Total          | 0   | 2   | 3   | 25  | 150 | 351 | 483 | 366 | 125 | 1,505 |
| Rs             | 0   | 0   | 1   | 6   | 30  | 72  | 69  | 55  | 17  | 250   |
| Ra             | 0   | 0   | 1   | 6   | 36  | 71  | 87  | 64  | 23  | 288   |
| Rb             | 0   | 0   | 1   | 19  | 55  | 97  | 116 | 86  | 32  | 406   |
| P              | 0   | 0   | 0   | 1   | 4   | 11  | 8   | 16  | 7   | 47    |
| E              | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 3   | 0   | 3     |
| Total          | 0   | 0   | 3   | 32  | 125 | 251 | 280 | 224 | 79  | 994   |
| Colon & Rectum | 0   | 2   | 6   | 57  | 275 | 602 | 763 | 590 | 204 | 2,499 |

Colon: I: ileum, V: veriform processus, C: caecum, A: ascending colon, T: transverse colon, D: descending colon, S: sigmoid colon

Rectum and Anus: Rs: rectosigmoid, Ra: rectum above the peritoneal reflection, Rb: rectum below the peritoneal reflection, P: proctos, E: external skin

**4 Occupation****adenocarcinoma****4-1 Site and sex**

| Occupation             | Colon |        | Rectum |        | Total |
|------------------------|-------|--------|--------|--------|-------|
|                        | Male  | Female | Male   | Female |       |
| None                   | 699   | 1,091  | 468    | 637    | 2,895 |
| Agriculture            | 96    | 50     | 125    | 35     | 306   |
| Fishery                | 37    | 0      | 35     | 0      | 72    |
| Industry               | 99    | 19     | 110    | 16     | 244   |
| Physical labor         | 3     | 4      | 4      | 0      | 11    |
| Office worker          | 452   | 78     | 310    | 57     | 897   |
| Specialist             | 111   | 52     | 89     | 33     | 285   |
| Administrative         | 115   | 17     | 90     | 9      | 231   |
| Other service industry | 183   | 81     | 115    | 53     | 432   |
| Unknown                | 297   | 172    | 231    | 123    | 823   |
| Total                  | 2,092 | 1,564  | 1,577  | 963    | 6,196 |

**4-2 Age distribution, colon, male**

| Occupation             | Age |     |     |     |     |     | Total |
|------------------------|-----|-----|-----|-----|-----|-----|-------|
|                        | <39 | <49 | <59 | <69 | <79 | 80> |       |
| None                   | 3   | 3   | 33  | 257 | 288 | 115 | 699   |
| Agriculture            | 1   | 8   | 11  | 47  | 24  | 5   | 96    |
| Fishery                | 3   | 8   | 14  | 10  | 2   | 0   | 37    |
| Industry               | 3   | 7   | 36  | 36  | 15  | 2   | 99    |
| Physical labor         | 0   | 1   | 0   | 2   | 0   | 0   | 3     |
| Office worker          | 26  | 88  | 186 | 126 | 24  | 2   | 452   |
| Specialist             | 3   | 7   | 30  | 50  | 15  | 6   | 111   |
| Administrative         | 0   | 14  | 30  | 45  | 23  | 3   | 115   |
| Other service industry | 4   | 21  | 56  | 70  | 30  | 2   | 183   |
| Unknown                | 7   | 30  | 87  | 108 | 51  | 14  | 297   |
| Total                  | 50  | 187 | 483 | 751 | 472 | 149 | 2,092 |

**4-3 Age distribution, colon, female**

| Occupation             | Age |     |     |     |     |     | Total |
|------------------------|-----|-----|-----|-----|-----|-----|-------|
|                        | <39 | <49 | <59 | <69 | <79 | 80> |       |
| None                   | 19  | 73  | 174 | 350 | 344 | 131 | 1,091 |
| Agriculture            | 0   | 1   | 12  | 20  | 14  | 3   | 50    |
| Fishery                | 0   | 0   | 0   | 0   | 0   | 0   | 0     |
| Industry               | 0   | 2   | 10  | 3   | 4   | 0   | 19    |
| Physical labor         | 0   | 0   | 3   | 1   | 0   | 0   | 4     |
| Office worker          | 6   | 22  | 33  | 15  | 2   | 0   | 78    |
| Specialist             | 4   | 14  | 14  | 14  | 4   | 2   | 52    |
| Administrative         | 1   | 1   | 5   | 6   | 4   | 0   | 17    |
| Other service industry | 7   | 14  | 34  | 20  | 6   | 0   | 81    |
| Unknown                | 7   | 16  | 42  | 52  | 44  | 11  | 172   |
| Total                  | 44  | 143 | 327 | 481 | 422 | 147 | 1,564 |

**4-4 Age distribution, rectum, male**

| Occupation             | Age |     |     |     |     |     | Total |
|------------------------|-----|-----|-----|-----|-----|-----|-------|
|                        | <39 | <49 | <59 | <69 | <79 | 80> |       |
| None                   | 2   | 2   | 15  | 198 | 188 | 63  | 468   |
| Agriculture            | 1   | 9   | 24  | 62  | 26  | 3   | 125   |
| Fishery                | 1   | 8   | 17  | 7   | 2   | 0   | 35    |
| Industry               | 4   | 20  | 33  | 39  | 13  | 1   | 110   |
| Physical labor         | 0   | 0   | 1   | 3   | 0   | 0   | 4     |
| Office worker          | 12  | 61  | 145 | 73  | 16  | 3   | 310   |
| Specialist             | 3   | 9   | 22  | 32  | 19  | 4   | 89    |
| Administrative         | 0   | 13  | 31  | 37  | 7   | 2   | 90    |
| Other service industry | 4   | 16  | 30  | 45  | 19  | 1   | 115   |
| Unknown                | 4   | 30  | 67  | 97  | 31  | 2   | 231   |
| Total                  | 31  | 168 | 385 | 593 | 321 | 79  | 1,577 |

**4-5 Age distribution, rectum, female**

| Occupation             | Age |     |     |     |     |     | Total |
|------------------------|-----|-----|-----|-----|-----|-----|-------|
|                        | <39 | <49 | <59 | <69 | <79 | 80> |       |
| None                   | 13  | 39  | 140 | 233 | 163 | 49  | 637   |
| Agriculture            | 3   | 2   | 8   | 13  | 6   | 3   | 35    |
| Fishery                | 0   | 0   | 0   | 0   | 0   | 0   | 0     |
| Industry               | 0   | 2   | 8   | 5   | 1   | 0   | 16    |
| Physical labor         | 0   | 0   | 0   | 0   | 0   | 0   | 0     |
| Office worker          | 7   | 13  | 20  | 14  | 2   | 0   | 56    |
| Specialist             | 4   | 7   | 9   | 9   | 4   | 0   | 33    |
| Administrative         | 0   | 1   | 4   | 4   | 0   | 0   | 9     |
| Other service industry | 4   | 9   | 27  | 11  | 2   | 0   | 53    |
| Unknown                | 4   | 18  | 32  | 39  | 22  | 8   | 123   |
| Total                  | 35  | 91  | 248 | 328 | 200 | 60  | 962   |

**5 Family history of cancers****adenocarcinoma****5-1 Family history of colorectal cancer**

| Site  | Family history of colorectal cancer |     |         | Total |
|-------|-------------------------------------|-----|---------|-------|
|       | No                                  | Yes | Unknown |       |
| I     | 5                                   | 1   | 0       | 6     |
| V     | 4                                   | 3   | 1       | 8     |
| C     | 302                                 | 35  | 36      | 373   |
| A     | 584                                 | 67  | 65      | 716   |
| T     | 433                                 | 41  | 55      | 529   |
| D     | 252                                 | 20  | 15      | 287   |
| S     | 1,453                               | 134 | 150     | 1,737 |
| Rs    | 590                                 | 45  | 37      | 672   |
| Ra    | 655                                 | 59  | 39      | 753   |
| Rb    | 896                                 | 77  | 84      | 1,057 |
| P     | 51                                  | 4   | 0       | 55    |
| E     | 3                                   | 0   | 0       | 3     |
| Total | 5,228                               | 486 | 482     | 6,196 |

**5-2 Family history of other cancers**

| Site  | Family history of colorectal cancer |       |         | Total |
|-------|-------------------------------------|-------|---------|-------|
|       | No                                  | Yes   | Unknown |       |
| I     | 4                                   | 1     | 1       | 6     |
| V     | 3                                   | 4     | 1       | 8     |
| C     | 232                                 | 106   | 35      | 373   |
| A     | 441                                 | 212   | 63      | 716   |
| T     | 338                                 | 131   | 60      | 529   |
| D     | 183                                 | 87    | 17      | 287   |
| S     | 1,127                               | 469   | 141     | 1,737 |
| Rs    | 455                                 | 178   | 39      | 672   |
| Ra    | 504                                 | 209   | 40      | 753   |
| Rb    | 662                                 | 317   | 78      | 1,057 |
| P     | 34                                  | 21    | 0       | 55    |
| E     | 3                                   | 0     | 0       | 3     |
| Total | 3,986                               | 1,735 | 475     | 6,196 |

### 5-3 Age distribution, colon

|       |     | Family history of colorectal cancer |          |         |          |          |         |          |          |         |
|-------|-----|-------------------------------------|----------|---------|----------|----------|---------|----------|----------|---------|
|       |     | Negative                            |          |         | Positive |          |         | Unknown  |          |         |
| Age   |     | Family history of other cancers     |          |         |          |          |         |          |          |         |
|       |     | Negative                            | Positive | Unknown | Negative | Positive | Unknown | Negative | Positive | Unknown |
| Age   | <39 | 64                                  | 9        | 0       | 11       | 3        | 0       | 0        | 1        | 6       |
|       | <49 | 193                                 | 81       | 3       | 18       | 11       | 2       | 0        | 3        | 19      |
|       | <59 | 462                                 | 198      | 5       | 39       | 33       | 6       | 0        | 2        | 65      |
|       | <69 | 713                                 | 308      | 5       | 64       | 42       | 5       | 5        | 11       | 80      |
|       | <79 | 533                                 | 207      | 6       | 33       | 20       | 1       | 2        | 7        | 86      |
|       | >80 | 181                                 | 65       | 0       | 10       | 3        | 0       | 0        | 6        | 31      |
| Total |     | 2146                                | 868      | 19      | 175      | 112      | 14      | 7        | 30       | 287     |

### 5-4 Age distribution, rectum

|       |     | Family history of colorectal cancer |          |         |          |          |         |          |          |         |
|-------|-----|-------------------------------------|----------|---------|----------|----------|---------|----------|----------|---------|
|       |     | Negative                            |          |         | Positive |          |         | Unknown  |          |         |
| Age   |     | Family history of other cancers     |          |         |          |          |         |          |          |         |
|       |     | Negative                            | Positive | Unknown | Negative | Positive | Unknown | Negative | Positive | Unknown |
| Age   | <39 | 49                                  | 7        | 0       | 3        | 3        | 0       | 0        | 0        | 5       |
|       | <49 | 163                                 | 58       | 1       | 19       | 5        | 0       | 0        | 4        | 9       |
|       | <59 | 388                                 | 154      | 5       | 29       | 18       | 3       | 0        | 4        | 32      |
|       | <69 | 548                                 | 248      | 5       | 39       | 21       | 1       | 0        | 8        | 51      |
|       | <79 | 316                                 | 133      | 3       | 17       | 20       | 0       | 0        | 5        | 27      |
|       | >80 | 82                                  | 34       | 1       | 5        | 2        | 0       | 0        | 1        | 14      |
| Total |     | 1,546                               | 634      | 15      | 112      | 69       | 4       | 0        | 22       | 138     |

## 6 Past history

adenocarcinoma

### 6-1 Diseases of the colon, rectum and anus, by site

|                    | I | V | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P  | E | Total |
|--------------------|---|---|-----|-----|-----|-----|-------|-----|-----|-------|----|---|-------|
| None               | 5 | 7 | 245 | 495 | 360 | 197 | 1,196 | 470 | 506 | 720   | 32 | 3 | 4,236 |
| Adenoma            | 0 | 0 | 33  | 71  | 59  | 20  | 127   | 28  | 58  | 73    | 7  | 0 | 476   |
| Adenomatosis       | 0 | 0 | 4   | 2   | 2   | 2   | 7     | 4   | 5   | 4     | 0  | 0 | 30    |
| Ulcerative colitis | 0 | 0 | 0   | 0   | 0   | 0   | 0     | 0   | 2   | 3     | 0  | 0 | 5     |
| Crohn's disease    | 0 | 0 | 1   | 0   | 1   | 0   | 1     | 1   | 0   | 0     | 0  | 0 | 4     |
| Anal fistula       | 0 | 0 | 0   | 6   | 4   | 4   | 16    | 7   | 11  | 15    | 6  | 0 | 69    |
| Radiation colitis  | 0 | 0 | 1   | 0   | 0   | 0   | 0     | 0   | 0   | 2     | 0  | 0 | 3     |
| Diverticulosis     | 0 | 0 | 3   | 7   | 2   | 1   | 14    | 5   | 9   | 3     | 0  | 0 | 44    |
| Hemorrhoid         | 0 | 0 | 16  | 34  | 28  | 14  | 133   | 51  | 66  | 80    | 8  | 0 | 430   |
| Appendicitis       | 0 | 0 | 69  | 105 | 66  | 43  | 258   | 109 | 108 | 156   | 9  | 0 | 923   |
| Others             | 1 | 1 | 12  | 16  | 18  | 12  | 27    | 8   | 12  | 15    | 1  | 0 | 123   |
| Unknown            | 0 | 0 | 7   | 13  | 11  | 6   | 39    | 8   | 14  | 25    | 0  | 0 | 123   |
| Total              | 6 | 8 | 391 | 749 | 551 | 299 | 1,818 | 691 | 791 | 1,096 | 63 | 3 | 6,466 |

### 6-2 Diseases of the colon, rectum and anus, by age, male

| Past history       | Age |     |     |       |     |     | Total |
|--------------------|-----|-----|-----|-------|-----|-----|-------|
|                    | <39 | <49 | <59 | <69   | <79 | >80 |       |
| None               | 55  | 234 | 496 | 775   | 531 | 165 | 2,256 |
| Adenoma            | 3   | 19  | 97  | 122   | 79  | 19  | 339   |
| Adenomatosis       | 3   | 3   | 3   | 10    | 3   | 0   | 22    |
| Ulcerative colitis | 2   | 1   | 0   | 0     | 0   | 1   | 4     |
| Crohn's disease    | 0   | 0   | 2   | 1     | 0   | 0   | 3     |
| Anal fistula       | 0   | 6   | 15  | 20    | 12  | 3   | 56    |
| Radiation colitis  | 0   | 1   | 0   | 0     | 0   | 0   | 1     |
| Diverticulosis     | 0   | 2   | 5   | 11    | 8   | 0   | 26    |
| Hemorrhoid         | 5   | 20  | 81  | 145   | 56  | 7   | 314   |
| Appendicitis       | 9   | 53  | 138 | 199   | 81  | 22  | 502   |
| Others             | 2   | 9   | 12  | 32    | 10  | 9   | 74    |
| Unknown            | 2   | 7   | 19  | 29    | 13  | 2   | 72    |
| Total              | 81  | 355 | 868 | 1,344 | 793 | 228 | 3,669 |

### 6-3 Diseases of the colon, rectum and anus, by age, female

| Past history       | Age |     |     |     |     |     | Total |
|--------------------|-----|-----|-----|-----|-----|-----|-------|
|                    | <39 | <49 | <59 | <69 | <79 | >80 |       |
| None               | 62  | 150 | 374 | 503 | 460 | 161 | 1,710 |
| Adenoma            | 4   | 16  | 26  | 50  | 30  | 11  | 137   |
| Adenomatosis       | 1   | 3   | 1   | 2   | 0   | 1   | 8     |
| Ulcerative colitis | 0   | 0   | 0   | 1   | 0   | 0   | 1     |
| Crohn's disease    | 0   | 0   | 0   | 1   | 0   | 0   | 1     |
| Anal fistula       | 0   | 1   | 4   | 8   | 0   | 0   | 13    |
| Radiation colitis  | 0   | 0   | 0   | 0   | 2   | 0   | 2     |
| Diverticulosis     | 0   | 0   | 1   | 4   | 11  | 2   | 18    |
| Hemorrhoid         | 1   | 8   | 34  | 46  | 16  | 11  | 116   |
| Appendicitis       | 12  | 44  | 114 | 165 | 73  | 13  | 421   |
| Others             | 0   | 3   | 9   | 13  | 18  | 6   | 49    |
| Unknown            | 0   | 9   | 12  | 16  | 12  | 2   | 51    |
| Total              | 80  | 234 | 575 | 809 | 622 | 207 | 2,527 |

#### 6-4 Diseases of the other digestive organs, by site

|                     | I | V | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P  | E | Total |
|---------------------|---|---|-----|-----|-----|-----|-------|-----|-----|-------|----|---|-------|
| None                | 4 | 8 | 289 | 547 | 402 | 223 | 1,357 | 512 | 585 | 819   | 44 | 3 | 4,793 |
| Gall stone ope(-)   | 0 | 0 | 13  | 17  | 16  | 6   | 34    | 11  | 13  | 26    | 1  | 0 | 137   |
| Gall stone ope(+)   | 1 | 0 | 13  | 22  | 15  | 7   | 50    | 22  | 17  | 30    | 1  | 0 | 178   |
| Pancreatitis        | 0 | 0 | 2   | 0   | 1   | 2   | 7     | 4   | 1   | 6     | 0  | 0 | 23    |
| Hepatitis           | 0 | 0 | 8   | 18  | 17  | 10  | 51    | 25  | 30  | 27    | 2  | 0 | 188   |
| Peptic ulcer ope(-) | 2 | 0 | 20  | 52  | 28  | 13  | 116   | 55  | 59  | 73    | 6  | 0 | 424   |
| Peptic ulcer ope(+) | 0 | 0 | 10  | 18  | 12  | 10  | 31    | 12  | 15  | 28    | 1  | 0 | 137   |
| Others              | 0 | 0 | 16  | 39  | 37  | 12  | 75    | 26  | 26  | 35    | 1  | 0 | 267   |
| Unknown             | 0 | 0 | 9   | 16  | 11  | 7   | 45    | 19  | 20  | 29    | 2  | 0 | 158   |
| Total               | 7 | 8 | 380 | 729 | 539 | 290 | 1,766 | 686 | 766 | 1,073 | 58 | 3 | 6,305 |

#### 6-5 Diseases of other digestive organs, by age, male

| Past history        | Age |     |     |       |     |     | Total |
|---------------------|-----|-----|-----|-------|-----|-----|-------|
|                     | <39 | <49 | <59 | <69   | <79 | >80 |       |
| None                | 76  | 275 | 622 | 957   | 542 | 162 | 2,634 |
| Gall stone ope(-)   | 0   | 5   | 16  | 20    | 19  | 9   | 69    |
| Gall stone ope(+)   | 0   | 5   | 18  | 33    | 28  | 5   | 89    |
| Pancreatitis        | 0   | 1   | 6   | 8     | 4   | 1   | 20    |
| Hepatitis           | 0   | 10  | 43  | 47    | 30  | 2   | 132   |
| Peptic ulcer ope(-) | 0   | 34  | 84  | 135   | 68  | 16  | 337   |
| Peptic ulcer ope(+) | 0   | 7   | 20  | 40    | 44  | 11  | 122   |
| Others              | 4   | 10  | 35  | 64    | 46  | 11  | 170   |
| Unknown             | 1   | 8   | 24  | 40    | 12  | 11  | 96    |
| Total               | 81  | 355 | 868 | 1,344 | 793 | 228 | 3,669 |

#### 6-6 Diseases of other digestive organs, by age, female

| Past history        | Age |     |     |     |     |     | Total |
|---------------------|-----|-----|-----|-----|-----|-----|-------|
|                     | <39 | <49 | <59 | <69 | <79 | >80 |       |
| None                | 75  | 205 | 484 | 639 | 487 | 159 | 2,049 |
| Gall stone ope(-)   | 0   | 1   | 13  | 27  | 22  | 5   | 68    |
| Gall stone ope(+)   | 2   | 1   | 11  | 30  | 28  | 17  | 89    |
| Pancreatitis        | 0   | 0   | 0   | 1   | 2   | 0   | 3     |
| Hepatitis           | 1   | 4   | 12  | 22  | 13  | 4   | 56    |
| Peptic ulcer ope(-) | 1   | 8   | 21  | 28  | 19  | 10  | 87    |
| Peptic ulcer ope(+) | 0   | 0   | 2   | 8   | 5   | 1   | 16    |
| Others              | 0   | 6   | 15  | 35  | 33  | 8   | 97    |
| Unknown             | 1   | 9   | 17  | 19  | 13  | 3   | 62    |
| Total               | 80  | 234 | 575 | 809 | 622 | 207 | 2,527 |

**7 Symptom (multi-answer)****adenocarcinoma****7-1 Site**

| Symptom              | I | V  | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P  | E | Total |
|----------------------|---|----|-----|-----|-----|-----|-------|-----|-----|-------|----|---|-------|
| None                 | 1 | 1  | 49  | 158 | 111 | 48  | 299   | 83  | 79  | 111   | 0  | 0 | 940   |
| Anal bleeding        | 1 | 1  | 67  | 115 | 97  | 79  | 795   | 388 | 450 | 677   | 37 | 1 | 2,708 |
| Mucous discharge     | 1 | 0  | 2   | 4   | 4   | 2   | 20    | 19  | 14  | 31    | 4  | 0 | 101   |
| Constipation         | 1 | 1  | 22  | 56  | 46  | 30  | 212   | 107 | 112 | 122   | 2  | 0 | 711   |
| Diarrhea             | 0 | 0  | 17  | 32  | 22  | 16  | 113   | 69  | 82  | 64    | 1  | 0 | 416   |
| Tenesmus             | 0 | 0  | 7   | 3   | 3   | 3   | 21    | 18  | 48  | 44    | 3  | 0 | 150   |
| Narrowed stool       | 0 | 0  | 6   | 8   | 8   | 14  | 89    | 53  | 53  | 83    | 2  | 0 | 316   |
| Anal tumor           | 0 | 0  | 0   | 0   | 0   | 0   | 4     | 1   | 1   | 10    | 3  | 3 | 22    |
| Anal pain            | 0 | 0  | 0   | 1   | 1   | 3   | 9     | 9   | 18  | 87    | 22 | 1 | 151   |
| Nausea, vomiting     | 0 | 0  | 12  | 18  | 14  | 14  | 33    | 9   | 5   | 4     | 0  | 0 | 109   |
| Ileus                | 0 | 0  | 25  | 36  | 32  | 19  | 66    | 15  | 12  | 2     | 0  | 0 | 207   |
| Abdominal distension | 0 | 0  | 21  | 40  | 37  | 26  | 63    | 29  | 21  | 19    | 0  | 0 | 256   |
| Abdominal pain       | 0 | 4  | 151 | 218 | 148 | 78  | 303   | 65  | 61  | 37    | 3  | 0 | 1,068 |
| Abdominal mass       | 1 | 32 | 25  | 18  | 3   | 24  | 0     | 1   | 4   | 0     | 0  | 0 | 108   |
| Anemia               | 0 | 45 | 107 | 58  | 7   | 50  | 14    | 14  | 15  | 0     | 0  | 0 | 310   |
| Weight loss          | 0 | 1  | 13  | 21  | 23  | 5   | 39    | 15  | 15  | 24    | 0  | 0 | 156   |
| Total                | 5 | 85 | 524 | 786 | 556 | 411 | 2,080 | 895 | 990 | 1,315 | 77 | 5 | 7,729 |

**7-2 Duration of symptom, by site**

| Site  | Duration of symptom |       |       |       |     |     |     |         | Total |
|-------|---------------------|-------|-------|-------|-----|-----|-----|---------|-------|
|       | None                | <1m   | <3m   | <6m   | <1y | <2y | >2y | Unknown |       |
| I     | 0                   | 2     | 4     | 0     | 0   | 0   | 0   | 0       | 6     |
| V     | 2                   | 1     | 4     | 1     | 0   | 0   | 0   | 0       | 8     |
| C     | 46                  | 103   | 112   | 62    | 20  | 5   | 7   | 18      | 373   |
| A     | 152                 | 167   | 209   | 96    | 38  | 16  | 5   | 33      | 716   |
| T     | 127                 | 124   | 152   | 66    | 28  | 6   | 7   | 19      | 529   |
| D     | 68                  | 70    | 86    | 31    | 9   | 5   | 3   | 15      | 287   |
| S     | 328                 | 416   | 467   | 268   | 110 | 36  | 46  | 66      | 1,737 |
| Rs    | 89                  | 140   | 191   | 132   | 66  | 19  | 18  | 17      | 672   |
| Ra    | 92                  | 129   | 229   | 155   | 82  | 20  | 15  | 31      | 753   |
| Rb    | 123                 | 194   | 322   | 189   | 128 | 34  | 29  | 38      | 1,057 |
| P     | 1                   | 4     | 12    | 16    | 6   | 8   | 6   | 2       | 55    |
| E     | 0                   | 0     | 0     | 0     | 3   | 0   | 0   | 0       | 3     |
| Total | 1,028               | 1,350 | 1,788 | 1,016 | 490 | 149 | 136 | 239     | 6,196 |

### 7-3 Duration of symptom, by symptom

| Symptom              | None  | <1m   | <3m   | <6m | <1y | <2y | >2y | Unknown | Total |
|----------------------|-------|-------|-------|-----|-----|-----|-----|---------|-------|
| None                 | 940   |       |       |     |     |     |     | 0       | 940   |
| Anal bleeding        | 615   | 887   | 543   | 281 | 87  | 82  | 83  | 130     | 2,708 |
| Mucous discharge     | 18    | 36    | 24    | 13  | 4   | 3   | 1   | 2       | 101   |
| Constipation         | 144   | 252   | 134   | 82  | 18  | 23  | 36  | 22      | 711   |
| Diarrhea             | 79    | 128   | 112   | 41  | 11  | 17  | 14  | 14      | 416   |
| Tenesmus             | 17    | 52    | 33    | 25  | 9   | 7   | 4   | 3       | 150   |
| Narrowed stool       | 58    | 102   | 84    | 44  | 10  | 8   | 7   | 3       | 316   |
| Anal tumor           | 5     | 4     | 1     | 4   | 5   | 2   | 0   | 1       | 22    |
| Anal pain            | 27    | 45    | 28    | 22  | 9   | 10  | 7   | 3       | 151   |
| Nausea, vomiting     | 55    | 27    | 11    | 8   | 1   | 1   | 3   | 3       | 109   |
| Ileus                | 105   | 46    | 22    | 13  | 5   | 2   | 8   | 6       | 207   |
| Abdominal distension | 64    | 85    | 58    | 17  | 2   | 7   | 7   | 16      | 256   |
| Abdominal pain       | 305   | 364   | 184   | 90  | 27  | 14  | 42  | 42      | 1,068 |
| Abdominal mass       | 30    | 39    | 20    | 8   | 1   | 1   | 4   | 5       | 108   |
| Anemia               | 69    | 113   | 51    | 32  | 11  | 7   | 12  | 15      | 310   |
| Weight loss          | 33    | 47    | 41    | 22  | 4   | 2   | 3   | 4       | 156   |
| Total                | 1,624 | 2,227 | 1,346 | 702 | 204 | 186 | 231 | 269     | 7,729 |

## 8 Serum carcinoembryonic antigen (CEA)

adenocarcinoma

### 8-1 Measurement

| Methods      | No. of patients |
|--------------|-----------------|
| Not examined | 359             |
| Z-gel        | 1,985           |
| Sandwitch    | 2,615           |
| CIS          | 1,078           |
| Others       | 159             |
| Total        | 6,196           |

### 8-2 Serum CEA value

| CEA value (ng/ml) | No. of patients |
|-------------------|-----------------|
| <2.5              | 2,419           |
| <5.0              | 1,200           |
| <10               | 737             |
| <30               | 573             |
| <50               | 150             |
| >50               | 357             |
| Unknown           | 242             |
| Total             | 5,678           |

(Z-gel, Sandwitch, CIS)

## 9 Multiple primary cancers

**adenocarcinoma**

### 9-1 Synchronous, by site

| Multiple primary cancers                        | I  | V  | C  | A | T  | D  | S  | Rs | Ra | Rb | P | E | Total |
|---|----|----|----|---|----|----|----|----|----|----|---|---|-------|
| Head and neck                                   |    |    | 1  |   |    |    | 3  | 2  |    | 2  |   |   | 8     |
| Chest wall                                      |    |    |    |   |    |    |    |    |    |    |   |   | 0     |
| Breast  |    |    | 2  | 1 |    | 1  | 2  |    | 1  | 4  | 2 |   | 7     |
| Lung & bronchus                                 |    |    |    |   |    |    |    | 1  |    |    |   |   | 7     |
| Mediastium                                      |    |    |    |   |    |    |    |    |    |    |   |   | 0     |
| Esophagus                                       |    |    | 2  |   |    |    | 4  | 3  | 1  |    |   |   | 10    |
| Stomach   | 7  | 19 | 16 |   | 11 | 31 | 13 | 14 | 19 | 3  |   |   | 133   |
| Small intestine                                 | 1  | 1  |    |   |    | 2  | 1  |    |    |    |   |   | 5     |
| Colon and rectum                                | 12 | 33 | 23 |   | 2  | 58 | 17 | 28 | 26 | 1  |   |   | 200   |
| Liver   | 3  | 2  | 2  |   | 1  | 11 | 4  |    | 1  | 8  |   |   | 32    |
| Biliary tract                                   |    |    |    |   |    |    |    |    |    | 1  | 1 |   | 2     |
| Pancreas  |    |    |    |   | 1  | 1  | 2  |    | 1  |    |   |   | 5     |
| Cervix uteri                                    |    |    |    |   |    |    |    | 1  | 1  | 1  |   |   | 3     |
| Corpus uteri                                    |    |    |    |   | 1  |    |    |    |    | 1  |   |   | 2     |
| Uterus NOS                                      | 1  | 1  |    |   |    | 1  |    |    |    |    |   |   | 3     |
| Adnexa  |    |    | 1  |   |    |    | 2  | 2  |    |    |   |   | 5     |
| Vagina  |    |    |    |   |    |    |    |    |    |    |   |   | 0     |
| Prostate  |    |    |    |   |    |    | 3  | 1  | 1  | 1  |   |   | 6     |
| Testis  |    |    |    |   |    |    |    |    |    |    |   |   | 0     |
| Bladder   |    |    |    |   |    |    | 1  |    |    | 2  |   |   | 3     |
| Kidney  |    |    | 2  |   | 1  |    | 1  | 1  |    | 1  |   |   | 6     |
| Skin  |    |    |    |   |    |    | 1  |    |    |    |   |   | 1     |
| Bone  |    |    |    |   |    |    |    |    |    |    |   |   | 0     |
| Soft tissue                                     |    |    |    |   |    |    | 1  | 1  |    |    |   |   | 2     |
| Hematopoietic and<br>reticuloendothelial system |    |    | 1  | 1 |    |    | 2  |    | 2  |    |   |   | 6     |
| Unknown site                                    |    |    |    |   |    |    |    |    |    |    | 1 |   | 0     |

## 9-2 Metachronous, by site

| Multiple primary cancers                        | I | V  | C  | A  | T  | D | S  | Rs | Ra | Rb | P | E | Total |
|---|---|----|----|----|----|---|----|----|----|----|---|---|-------|
| Head and neck                                   |   |    | 2  | 5  |    | 1 | 8  | 5  | 5  | 4  |   |   | 30    |
| Chest wall                                      |   |    |    |    |    |   |    |    |    | 1  |   |   | 1     |
| Breast  |   |    | 3  | 3  | 5  | 4 | 13 | 2  | 5  | 7  |   |   | 42    |
| Lung & bronchus                                 |   |    | 1  | 2  | 3  |   | 6  |    | 2  |    |   |   | 14    |
| Mediastinum                                     |   |    |    |    |    |   |    |    |    |    |   |   | 0     |
| Esophagus                                       |   |    |    |    |    | 2 | 2  | 1  | 1  | 1  |   |   | 6     |
| Stomach   |   |    | 6  | 16 | 14 | 5 | 27 | 1  | 1  | 1  |   |   | 71    |
| Small intestine                                 |   |    | 1  |    |    |   | 1  |    |    | 1  |   |   | 3     |
| Colon and rectum                                | 1 | 14 | 27 | 29 |    | 9 | 16 | 5  | 8  | 18 | 3 |   | 130   |
| Liver   |   |    |    |    |    | 1 | 2  | 1  |    | 1  |   |   | 5     |
| Biliary tract                                   |   |    |    |    |    | 1 |    |    |    |    |   |   | 1     |
| Pancreas  |   |    |    |    | 1  |   |    |    |    |    |   |   | 1     |
| Cervix uteri                                    |   |    | 2  | 2  | 1  |   |    | 1  |    |    | 5 |   | 11    |
| Corpus uteri                                    |   |    |    |    | 1  |   |    |    |    |    |   |   | 1     |
| Uterus NOS                                      |   |    | 1  | 7  | 4  | 1 | 2  | 1  | 4  | 3  |   |   | 23    |
| Adnexa  |   |    |    |    |    |   |    | 1  |    |    |   |   | 1     |
| Vagina  |   |    |    |    | 1  |   |    |    |    | 1  |   |   | 2     |
| Prostate  |   |    |    | 2  | 2  |   | 2  |    | 3  |    |   | 1 | 10    |
| Testis  |   |    |    |    |    |   |    |    |    |    |   |   | 0     |
| Bladder   |   |    |    | 2  | 1  | 1 | 4  | 1  | 2  |    |   |   | 11    |
| Kidney  |   |    | 1  | 1  | 2  | 1 |    |    |    | 1  |   |   | 6     |
| Skin  |   |    |    |    |    |   |    |    |    |    |   |   | 1     |
| Bone  |   |    |    |    |    |   |    |    |    |    |   |   | 0     |
| Soft tissue                                     |   |    |    |    |    | 1 |    | 3  | 1  |    |   |   | 0     |
| Hematopoietic and<br>reticuloendothelial system |   |    |    |    |    |   |    |    |    |    |   |   | 5     |
| Unknown site                                    |   |    |    |    |    |   |    |    |    |    |   |   | 0     |

**10 Multiple colorectal cancers**

adenocarcinoma

**10a Macroscopic****10a-1 Number of tumors**

| Number of tumors |       |     |    |    |   |   |   |    |         | Total |
|------------------|-------|-----|----|----|---|---|---|----|---------|-------|
|                  | 1     | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |       |
|                  | 5,747 | 361 | 43 | 19 | 4 | 5 | 2 | 6  | 9       | 6,196 |

**10a-2 Male, by age**

| Age   | Number of tumors |     |    |    |   |   |   |    |         |  | Total |
|-------|------------------|-----|----|----|---|---|---|----|---------|--|-------|
|       | 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |  |       |
| <39   | 73               | 7   | 0  | 0  | 0 | 0 | 0 | 1  | 0       |  | 81    |
| <49   | 339              | 10  | 0  | 2  | 0 | 2 | 0 | 2  | 0       |  | 355   |
| <59   | 800              | 60  | 3  | 3  | 1 | 0 | 0 | 0  | 1       |  | 868   |
| <69   | 1,219            | 93  | 20 | 9  | 0 | 0 | 0 | 1  | 2       |  | 1,344 |
| <79   | 719              | 60  | 8  | 0  | 1 | 2 | 2 | 0  | 1       |  | 793   |
| >80   | 209              | 16  | 3  | 0  | 0 | 0 | 0 | 0  | 0       |  | 228   |
| Total | 3,359            | 246 | 34 | 14 | 2 | 4 | 2 | 4  | 4       |  | 3,669 |

**10a-3 Female, by age**

| Age   | Number of tumors |     |   |   |   |   |   |    |         |  | Total |
|-------|------------------|-----|---|---|---|---|---|----|---------|--|-------|
|       | 1                | 2   | 3 | 4 | 5 | 6 | 7 | >8 | Unknown |  |       |
| <39   | 77               | 2   | 0 | 0 | 0 | 0 | 0 | 1  | 0       |  | 80    |
| <49   | 222              | 8   | 3 | 1 | 0 | 0 | 0 | 0  | 0       |  | 234   |
| <59   | 554              | 19  | 1 | 1 | 0 | 0 | 0 | 0  | 0       |  | 575   |
| <69   | 760              | 41  | 2 | 1 | 2 | 0 | 0 | 0  | 3       |  | 809   |
| <79   | 582              | 34  | 2 | 1 | 0 | 1 | 0 | 1  | 1       |  | 622   |
| >80   | 193              | 11  | 1 | 1 | 0 | 0 | 0 | 0  | 1       |  | 207   |
| Total | 2,388            | 115 | 9 | 5 | 2 | 1 | 0 | 2  | 5       |  | 2,527 |

**10a-4 Male and female, by site**

| Site  | Number of tumors |     |    |    |   |   |   |    |         |  | Total |
|-------|------------------|-----|----|----|---|---|---|----|---------|--|-------|
|       | 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |  |       |
| I     | 6                | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       |  | 6     |
| V     | 8                | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       |  | 8     |
| C     | 348              | 22  | 1  | 1  | 0 | 1 | 0 | 0  | 0       |  | 373   |
| A     | 660              | 44  | 4  | 5  | 0 | 1 | 0 | 1  | 1       |  | 716   |
| T     | 480              | 37  | 8  | 2  | 0 | 1 | 0 | 1  | 0       |  | 529   |
| D     | 260              | 21  | 3  | 2  | 0 | 0 | 0 | 0  | 1       |  | 287   |
| S     | 1,602            | 112 | 9  | 4  | 2 | 2 | 0 | 2  | 4       |  | 1,737 |
| Rs    | 635              | 28  | 4  | 2  | 2 | 0 | 0 | 0  | 1       |  | 672   |
| Ra    | 694              | 45  | 7  | 3  | 0 | 0 | 1 | 2  | 1       |  | 753   |
| Rb    | 998              | 50  | 7  | 0  | 0 | 0 | 1 | 0  | 1       |  | 1,057 |
| P     | 53               | 2   | 0  | 0  | 0 | 0 | 0 | 0  | 0       |  | 55    |
| E     | 3                | 0   | 0  | 0  | 0 | 0 | 0 | 0  | 0       |  | 3     |
| Total | 5,747            | 361 | 43 | 19 | 4 | 5 | 2 | 6  | 9       |  | 6,196 |

## 10b Histological

### 10b-1 Number of tumors

| Number of tumors |     |    |    |    |   |   |    |         |  | Total |
|------------------|-----|----|----|----|---|---|----|---------|--|-------|
| 1                | 2   | 3  | 4  | 5  | 6 | 7 | >8 | Unknown |  |       |
| 5,699            | 383 | 53 | 19 | 13 | 5 | 2 | 5  | 17      |  | 6,196 |

### 10b-2 Male, by age

| Age   | Number of tumors |     |    |    |   |   |   |    |         |  | Total |
|-------|------------------|-----|----|----|---|---|---|----|---------|--|-------|
|       | 1                | 2   | 3  | 4  | 5 | 6 | 7 | >8 | Unknown |  |       |
| <39   | 73               | 7   | 0  | 0  | 0 | 0 | 0 | 1  | 0       |  | 81    |
| <49   | 338              | 11  | 0  | 2  | 0 | 2 | 0 | 2  | 0       |  | 355   |
| <59   | 792              | 65  | 5  | 3  | 1 | 0 | 0 | 0  | 2       |  | 868   |
| <69   | 1,206            | 98  | 21 | 9  | 3 | 0 | 0 | 1  | 6       |  | 1,344 |
| <79   | 710              | 62  | 12 | 0  | 2 | 3 | 2 | 0  | 2       |  | 793   |
| >80   | 207              | 17  | 3  | 0  | 0 | 0 | 0 | 0  | 1       |  | 228   |
| Total | 3,326            | 260 | 41 | 14 | 6 | 5 | 2 | 4  | 11      |  | 3,669 |

### 10b-3 Female, by age

| Age   | Number of tumors |     |    |   |   |   |   |    |         |  | Total |
|-------|------------------|-----|----|---|---|---|---|----|---------|--|-------|
|       | 1                | 2   | 3  | 4 | 5 | 6 | 7 | >8 | Unknown |  |       |
| <39   | 76               | 2   | 0  | 0 | 1 | 0 | 0 | 1  | 0       |  | 80    |
| <49   | 221              | 9   | 3  | 1 | 0 | 0 | 0 | 0  | 0       |  | 234   |
| <59   | 549              | 21  | 2  | 1 | 2 | 0 | 0 | 0  | 0       |  | 575   |
| <69   | 756              | 44  | 3  | 1 | 2 | 0 | 0 | 0  | 3       |  | 809   |
| <79   | 578              | 37  | 2  | 1 | 2 | 0 | 0 | 0  | 2       |  | 622   |
| >80   | 193              | 10  | 2  | 1 | 0 | 0 | 0 | 0  | 1       |  | 207   |
| Total | 2,373            | 123 | 12 | 5 | 7 | 0 | 0 | 1  | 6       |  | 2,527 |

### 10b-4 Male and female, by site

| Site  | Number of tumors |     |    |    |    |   |   |    |         |  | Total |
|-------|------------------|-----|----|----|----|---|---|----|---------|--|-------|
|       | 1                | 2   | 3  | 4  | 5  | 6 | 7 | >8 | Unknown |  |       |
| I     | 6                | 0   | 0  | 0  | 0  | 0 | 0 | 0  | 0       |  | 6     |
| V     | 8                | 0   | 0  | 0  | 0  | 0 | 0 | 0  | 0       |  | 8     |
| C     | 342              | 23  | 5  | 1  | 1  | 0 | 0 | 0  | 1       |  | 373   |
| A     | 660              | 41  | 5  | 3  | 3  | 1 | 0 | 0  | 3       |  | 716   |
| T     | 473              | 41  | 7  | 4  | 1  | 1 | 0 | 1  | 1       |  | 529   |
| D     | 252              | 26  | 5  | 2  | 1  | 0 | 0 | 0  | 1       |  | 287   |
| S     | 1,588            | 120 | 13 | 5  | 4  | 2 | 0 | 2  | 3       |  | 1,737 |
| Rs    | 634              | 28  | 5  | 2  | 2  | 0 | 0 | 0  | 1       |  | 672   |
| Ra    | 687              | 50  | 8  | 2  | 0  | 0 | 1 | 2  | 3       |  | 753   |
| Rb    | 994              | 51  | 5  | 0  | 1  | 1 | 1 | 0  | 4       |  | 1,057 |
| P     | 52               | 3   | 0  | 0  | 0  | 0 | 0 | 0  | 0       |  | 55    |
| E     | 3                | 0   | 0  | 0  | 0  | 0 | 0 | 0  | 0       |  | 3     |
| Total | 5,699            | 383 | 53 | 19 | 13 | 5 | 2 | 5  | 17      |  | 6,196 |

## 11 Modality of principal treatment<sup>a)</sup>

| Modality                 | Adenocarcinoma |        | Other malignancies |        |
|--------------------------|----------------|--------|--------------------|--------|
|                          | Colon          | Rectum | Colon              | Rectum |
| No definitive treatment  | 8              | 9      | 1                  | 1      |
| Endoscopic polypectomy   | 322            | 112    | 3                  | 5      |
| Surgery                  | 3,319          | 2,413  | 26                 | 72     |
| Cryosurgery              | 0              | 0      | 0                  | 0      |
| Electric cautery therapy | 0              | 0      | 0                  | 0      |
| Radiation                | 0              | 4      | 0                  | 0      |
| Chemotherapy             | 6              | 2      | 0                  | 0      |
| Other modalities         | 0              | 0      | 0                  | 0      |
| Total                    | 3,655          | 2,540  | 30                 | 78     |

a): Modalities regarded as the most effective and beneficial treatment for cancer.

## 12 Additional or adjuvant treatment

**adenocarcinoma**

| Additional or adjuvant treatment | I | V | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P  | E | Total |
|----------------------------------|---|---|-----|-----|-----|-----|-------|-----|-----|-------|----|---|-------|
| None                             | 3 | 0 | 163 | 317 | 275 | 141 | 846   | 262 | 320 | 473   | 23 | 2 | 2,825 |
| Endoscopicsurgery                | 0 | 0 | 0   | 0   | 0   | 0   | 2     | 2   | 5   | 27    | 1  | 0 | 37    |
| Surgery                          | 0 | 0 | 0   | 0   | 0   | 0   | 1     | 1   | 0   | 3     | 0  | 0 | 5     |
| Cryosurgery                      | 0 | 0 | 0   | 1   | 0   | 1   | 5     | 5   | 8   | 25    | 8  | 0 | 53    |
| Electric cautery therapy         | 1 | 0 | 0   | 1   | 0   | 0   | 0     | 0   | 4   | 13    | 2  | 0 | 21    |
| Radiation                        | 0 | 0 | 2   | 3   | 4   | 0   | 11    | 5   | 3   | 5     | 0  | 0 | 33    |
| Chemotherapy                     | 2 | 8 | 186 | 346 | 225 | 127 | 773   | 341 | 371 | 446   | 20 | 1 | 2,846 |
| Others                           | 0 | 0 | 14  | 23  | 17  | 11  | 48    | 39  | 30  | 47    | 1  | 0 | 230   |
| Unknown                          | 0 | 0 | 8   | 25  | 8   | 7   | 51    | 17  | 12  | 18    | 0  | 0 | 146   |
| Total                            | 6 | 8 | 373 | 716 | 529 | 287 | 1,737 | 672 | 753 | 1,057 | 55 | 3 | 6,196 |

## 13 Previous surgical treatment

**adenocarcinoma**

|             |       |
|-------------|-------|
| None        | 5,753 |
| Enterostomy | 42    |
| Polypectomy | 207   |
| Others      | 35    |
| Unknown     | 159   |
| Total       | 6,196 |

## 14 Non-Surgical cases

**adenocarcinoma**

| Reasons for non-surgical treatment   |    |
|--------------------------------------|----|
| Unresectable disease                 | 6  |
| Physical condition impending surgery | 3  |
| Refusal                              | 4  |
| Other reasons                        | 3  |
| Total                                | 16 |

## 15 Gross appearance of the primary lesion

### 15-1 Adenocarcinoma

| Site           | Superficial | Protruding | Localized ulcerating | Infiltrated ulcerating | Diffuse infiltrating | Unclassified | Unknown | Total |
|----------------|-------------|------------|----------------------|------------------------|----------------------|--------------|---------|-------|
| I              | 0           | 0          | 2                    | 3                      | 0                    | 0            | 1       | 6     |
| V              | 1           | 0          | 2                    | 0                      | 1                    | 3            | 1       | 8     |
| C              | 45          | 55         | 195                  | 60                     | 5                    | 5            | 8       | 373   |
| A              | 119         | 78         | 424                  | 74                     | 1                    | 8            | 12      | 716   |
| T              | 124         | 33         | 292                  | 55                     | 9                    | 8            | 8       | 529   |
| D              | 70          | 27         | 156                  | 24                     | 2                    | 2            | 6       | 287   |
| S              | 470         | 144        | 921                  | 142                    | 17                   | 14           | 29      | 1,737 |
| Total          | 829         | 337        | 1,992                | 358                    | 35                   | 40           | 65      | 3,656 |
| Rs             | 107         | 59         | 425                  | 63                     | 3                    | 4            | 11      | 672   |
| Ra             | 136         | 66         | 441                  | 79                     | 9                    | 8            | 14      | 753   |
| Rb             | 266         | 76         | 571                  | 105                    | 6                    | 13           | 20      | 1,057 |
| P              | 8           | 5          | 18                   | 10                     | 1                    | 11           | 2       | 55    |
| E              | 0           | 0          | 1                    | 1                      | 0                    | 1            | 0       | 3     |
| Total          | 517         | 206        | 1,456                | 258                    | 19                   | 37           | 47      | 2,540 |
| Colon & Rectum | 1,346       | 543        | 3,448                | 616                    | 54                   | 77           | 112     | 6,196 |

### 15-2 Other malignancies

| Site           | Superficial | Protruding | Localized ulcerating | Infiltrated ulcerating | Diffuse infiltrating | Unclassified | Unknown | Total |
|----------------|-------------|------------|----------------------|------------------------|----------------------|--------------|---------|-------|
| I              | 0           | 0          | 0                    | 0                      | 0                    | 0            | 0       | 0     |
| V              | 0           | 0          | 0                    | 0                      | 0                    | 0            | 1       | 1     |
| C              | 2           | 2          | 1                    | 2                      | 1                    | 1            | 2       | 11    |
| A              | 0           | 0          | 2                    | 1                      | 0                    | 0            | 0       | 3     |
| T              | 1           | 0          | 3                    | 0                      | 0                    | 1            | 0       | 5     |
| D              | 0           | 0          | 0                    | 0                      | 0                    | 0            | 0       | 0     |
| S              | 8           | 0          | 1                    | 0                      | 0                    | 0            | 0       | 9     |
| Total          | 11          | 2          | 7                    | 3                      | 1                    | 2            | 3       | 29    |
| Rs             | 0           | 0          | 2                    | 0                      | 0                    | 0            | 0       | 2     |
| Ra             | 2           | 2          | 2                    | 1                      | 0                    | 3            | 1       | 11    |
| Rb             | 24          | 11         | 4                    | 5                      | 0                    | 4            | 2       | 50    |
| P              | 2           | 1          | 2                    | 1                      | 0                    | 4            | 1       | 11    |
| E              | 0           | 0          | 1                    | 1                      | 0                    | 1            | 1       | 4     |
| Total          | 28          | 14         | 11                   | 8                      | 0                    | 12           | 5       | 78    |
| Colon & Rectum | 39          | 16         | 18                   | 11                     | 1                    | 14           | 8       | 107   |

Macroscopic classification of the tumor based on The General Rules for Clinical and Pathological Studies on Cancer of the Colon, Rectum and Anus" by Japanese Society for Cancer of the Colon and Rectum (JSCCR).

Japanese Journal of Surgery 13: 557-573, 1983

**16 Gross appearance, modificatory subtypes**

adenocarcinoma

| Site  | None  | Strictured | Mucinous | Schirrous | Villous | Others | Unknown | Total |
|-------|-------|------------|----------|-----------|---------|--------|---------|-------|
| I     | 3     | 0          | 0        | 0         | 0       | 0      | 3       | 6     |
| V     | 2     | 1          | 0        | 0         | 0       | 0      | 5       | 8     |
| C     | 252   | 7          | 0        | 1         | 8       | 1      | 104     | 373   |
| A     | 469   | 24         | 2        | 1         | 4       | 0      | 216     | 716   |
| T     | 339   | 12         | 3        | 1         | 4       | 0      | 170     | 529   |
| D     | 183   | 8          | 1        | 0         | 2       | 0      | 93      | 287   |
| S     | 1,166 | 43         | 2        | 4         | 12      | 0      | 510     | 1,737 |
| Rs    | 427   | 17         | 2        | 1         | 13      | 0      | 212     | 672   |
| Ra    | 457   | 10         | 1        | 5         | 8       | 0      | 272     | 753   |
| Rb    | 696   | 19         | 7        | 2         | 24      | 2      | 307     | 1,057 |
| P     | 28    | 1          | 0        | 0         | 0       | 1      | 25      | 55    |
| E     | 2     | 0          | 0        | 0         | 0       | 0      | 1       | 3     |
| Total | 4,024 | 142        | 18       | 15        | 75      | 4      | 1,918   | 6,196 |

**17 Gross appearance, early cancer (superficial type)**

adenocarcinoma

| Site  | I <sub>p</sub> | I <sub>s</sub> | IIa | IIb | IIc | Others | Unknown | Total |
|-------|----------------|----------------|-----|-----|-----|--------|---------|-------|
| I     | 0              | 0              | 0   | 0   | 0   | 0      | 0       | 0     |
| V     | 0              | 0              | 1   | 0   | 0   | 0      | 0       | 1     |
| C     | 9              | 17             | 13  | 0   | 2   | 0      | 5       | 46    |
| A     | 35             | 38             | 25  | 0   | 5   | 1      | 10      | 114   |
| T     | 28             | 32             | 31  | 1   | 10  | 0      | 16      | 118   |
| D     | 27             | 19             | 15  | 0   | 4   | 0      | 3       | 68    |
| S     | 251            | 139            | 57  | 0   | 10  | 1      | 15      | 473   |
| Rs    | 33             | 47             | 15  | 0   | 5   | 1      | 6       | 107   |
| Ra    | 32             | 57             | 33  | 1   | 3   | 0      | 8       | 134   |
| Rb    | 54             | 125            | 75  | 0   | 8   | 0      | 20      | 282   |
| P     | 4              | 3              | 1   | 0   | 0   | 0      | 2       | 10    |
| E     | 0              | 0              | 0   | 0   | 0   | 0      | 0       | 0     |
| Total | 473            | 0              | 266 | 2   | 47  | 3      | 85      | 876   |

**18 Tumor site by circumferential division of the bowel wall**

adenocarcinoma

| Site  | Dorsal<br>(Posterior) | Ventral<br>(Anterior) | Medial<br>(Right) | Lateral<br>(Left) | Circular | Unknown | Total |
|-------|-----------------------|-----------------------|-------------------|-------------------|----------|---------|-------|
| I     | 1                     | 0                     | 1                 | 0                 | 1        | 3       | 6     |
| V     | 0                     | 0                     | 0                 | 0                 | 8        | 0       | 8     |
| C     | 62                    | 73                    | 19                | 27                | 150      | 42      | 373   |
| A     | 122                   | 121                   | 34                | 38                | 306      | 95      | 716   |
| T     | 98                    | 71                    | 22                | 17                | 235      | 86      | 529   |
| D     | 55                    | 38                    | 8                 | 13                | 123      | 50      | 287   |
| S     | 329                   | 327                   | 87                | 71                | 518      | 405     | 1,737 |
| Rs    | 129                   | 155                   | 36                | 32                | 235      | 85      | 672   |
| Ra    | 138                   | 201                   | 51                | 63                | 203      | 97      | 753   |
| Rb    | 227                   | 237                   | 126               | 143               | 188      | 136     | 1,057 |
| P     | 14                    | 9                     | 8                 | 7                 | 13       | 4       | 55    |
| E     | 0                     | 0                     | 1                 | 1                 | 1        | 0       | 3     |
| Total | 1,175                 | 1,232                 | 393               | 412               | 1,981    | 1,003   | 6,196 |

**19 Size of the tumor**

adenocarcinoma

**19-1 Circumferential occupancy, by site**

| Site  | <1/3  | <1/2 | <2/3 | Semicircular | Circular | Unknown | Total |
|-------|-------|------|------|--------------|----------|---------|-------|
| I     | 0     | 1    | 1    | 3            | 1        | 0       | 6     |
| V     | 0     | 0    | 0    | 0            | 8        | 0       | 8     |
| C     | 72    | 42   | 41   | 64           | 143      | 11      | 373   |
| A     | 162   | 72   | 76   | 107          | 280      | 19      | 716   |
| T     | 137   | 51   | 39   | 75           | 213      | 14      | 529   |
| D     | 73    | 25   | 24   | 43           | 110      | 12      | 287   |
| S     | 537   | 219  | 203  | 218          | 471      | 89      | 1,737 |
| Rs    | 140   | 99   | 88   | 113          | 209      | 23      | 672   |
| Ra    | 179   | 138  | 99   | 137          | 176      | 24      | 753   |
| Rb    | 339   | 186  | 174  | 155          | 161      | 42      | 1,057 |
| P     | 13    | 9    | 8    | 9            | 11       | 5       | 55    |
| E     | 1     | 0    | 0    | 1            | 1        | 0       | 3     |
| Total | 1,653 | 842  | 753  | 925          | 1,784    | 239     | 6,196 |

**19-2 Circumferential occupancy and maximum diameter**

| Diameter(cm) | <1/3  | <1/2 | <2/3 | Semicircular | Circular | Unknown | Total |
|--------------|-------|------|------|--------------|----------|---------|-------|
| <2           | 735   | 13   | 13   | 5            | 18       | 85      | 869   |
| <3           | 495   | 171  | 38   | 14           | 8        | 32      | 758   |
| <5           | 275   | 515  | 380  | 242          | 294      | 32      | 1,738 |
| <7           | 29    | 97   | 243  | 413          | 625      | 12      | 1,419 |
| >7           | 16    | 20   | 51   | 212          | 694      | 13      | 1,006 |
| Unknown      | 103   | 26   | 28   | 39           | 145      | 65      | 406   |
| Total        | 1,653 | 842  | 753  | 925          | 1,784    | 239     | 6,196 |

**20 Serosal invasion of the tumor****adenocarcinoma, surgical cases**

| Site  | S <sub>0</sub> | S <sub>1</sub> | S <sub>2</sub> | S <sub>3</sub> | Unknown | Total |
|-------|----------------|----------------|----------------|----------------|---------|-------|
| I     | 0              | 1              | 2              | 3              | 0       | 6     |
| V     | 3              | 1              | 0              | 4              | 0       | 8     |
| C     | 75             | 52             | 154            | 82             | 2       | 365   |
| A     | 157            | 115            | 292            | 103            | 2       | 669   |
| T     | 126            | 75             | 211            | 73             | 3       | 488   |
| D     | 62             | 44             | 109            | 40             | 4       | 259   |
| S     | 489            | 258            | 577            | 195            | 14      | 1,533 |
| Rs    | 171            | 106            | 284            | 76             | 3       | 640   |
| Ra    | 236            | 139            | 264            | 62             | 9       | 710   |
| Rb    | 601            | 133            | 155            | 90             | 37      | 1,016 |
| P     | 31             | 3              | 7              | 8              | 5       | 54    |
| E     | 1              | 0              | 1              | 0              | 0       | 2     |
| Total | 1,952          | 927            | 2,056          | 736            | 79      | 5,750 |

S<sub>0</sub>: No serosal invasionS<sub>1</sub>: Slight or questionable serosal invasionS<sub>2</sub>: Definite serosal invasionS<sub>3</sub>: Invasion to other organs or tissue through serosa

## 21 Histological type

### 21-1 Adenocarcinoma

| Site           | w/d   | m/d   | p/d | muc | sig | Adenoa<br>NOS | Total |
|----------------|-------|-------|-----|-----|-----|---------------|-------|
| I              | 4     | 1     | 0   | 1   | 0   | 0             | 6     |
| V              | 2     | 1     | 0   | 5   | 0   | 0             | 8     |
| C              | 192   | 122   | 25  | 17  | 4   | 13            | 373   |
| A              | 351   | 256   | 40  | 40  | 1   | 28            | 716   |
| T              | 255   | 191   | 32  | 27  | 1   | 23            | 529   |
| D              | 136   | 112   | 8   | 15  | 0   | 16            | 287   |
| S              | 986   | 602   | 30  | 22  | 1   | 96            | 1,737 |
| Total          | 1,926 | 1,285 | 135 | 127 | 7   | 176           | 3,656 |
| Rs             | 362   | 261   | 12  | 13  | 1   | 23            | 672   |
| Ra             | 392   | 294   | 24  | 18  | 0   | 25            | 753   |
| Rb             | 543   | 428   | 31  | 19  | 5   | 31            | 1,057 |
| P              | 16    | 22    | 4   | 9   | 2   | 2             | 55    |
| E              | 1     | 0     | 0   | 1   | 0   | 1             | 3     |
| Total          | 1,314 | 1,005 | 71  | 60  | 8   | 82            | 2,540 |
| Colon & Rectum | 3,240 | 2,290 | 206 | 187 | 15  | 258           | 6,196 |

w/d: well-differentiated adenocarcinoma, m/d: moderately differentiated adenocarcinoma,

p/d: poorly differentiated adenocarcinoma, muc: mucinous carcinoma, sig: signet ring cell carcinoma.

NOS: not otherwise specified Refer to the general rules of "JSCCR" for details of the classification.

### 21-2 Other malignancies

| Site           | Leiomyo-<br>Leiomyo-Malignant |    |    |          |    |          |          |         |          |        | Total |
|----------------|-------------------------------|----|----|----------|----|----------|----------|---------|----------|--------|-------|
|                | sq                            | as | ud | Basaloid | cd | Melanoma | blastoma | sarcoma | lymphoma | Others |       |
| I              | 0                             | 0  | 0  | 0        | 0  | 0        | 0        | 0       | 0        | 0      | 0     |
| V              | 0                             | 0  | 0  | 0        | 0  | 0        | 0        | 0       | 0        | 1      | 1     |
| C              | 0                             | 1  | 0  | 0        | 1  | 0        | 0        | 2       | 5        | 2      | 11    |
| A              | 0                             | 1  | 2  | 0        | 0  | 0        | 0        | 0       | 0        | 0      | 3     |
| T              | 0                             | 2  | 1  | 0        | 0  | 1        | 0        | 0       | 0        | 1      | 5     |
| D              | 0                             | 0  | 0  | 0        | 0  | 0        | 0        | 0       | 0        | 0      | 0     |
| S              | 2                             | 1  | 0  | 0        | 0  | 0        | 0        | 0       | 0        | 6      | 9     |
| Total          | 2                             | 5  | 3  | 0        | 1  | 1        | 0        | 2       | 5        | 10     | 29    |
| Rs             | 0                             | 2  | 0  | 0        | 0  | 0        | 0        | 0       | 0        | 0      | 2     |
| Ra             | 1                             | 1  | 2  | 0        | 1  | 0        | 0        | 0       | 2        | 4      | 11    |
| Rb             | 6                             | 2  | 5  | 0        | 26 | 3        | 0        | 3       | 1        | 4      | 50    |
| P              | 9                             | 0  | 0  | 0        | 1  | 0        | 0        | 0       | 0        | 1      | 11    |
| E              | 2                             | 0  | 0  | 0        | 0  | 0        | 0        | 0       | 0        | 2      | 4     |
| Total          | 18                            | 5  | 7  | 0        | 28 | 3        | 0        | 3       | 3        | 11     | 78    |
| Colon & Rectum | 20                            | 10 | 10 | 0        | 29 | 4        | 0        | 5       | 8        | 21     | 107   |

sq: squamous cell carcinoma, as: adeno-squamous carcinoma, ud: undifferentiated carcinoma, basaloid: basaloid cell carcinoma, cd: carcinoid

## 22 Metastasis

adenocarcinoma, surgical cases

### 22-1 Liver

| Site           | H0    | H1  | H2  | H3  | Unknown | Total |
|----------------|-------|-----|-----|-----|---------|-------|
| I              | 5     | 1   | 0   | 0   | 0       | 6     |
| V              | 8     | 0   | 0   | 0   | 0       | 8     |
| C              | 309   | 16  | 13  | 24  | 3       | 365   |
| A              | 575   | 37  | 14  | 42  | 1       | 669   |
| T              | 427   | 8   | 19  | 30  | 4       | 488   |
| D              | 228   | 7   | 4   | 16  | 4       | 259   |
| S              | 1,332 | 52  | 33  | 108 | 8       | 1,533 |
| Total          | 2,884 | 121 | 83  | 220 | 20      | 3,328 |
| Rs             | 553   | 24  | 24  | 34  | 5       | 640   |
| Ra             | 631   | 24  | 19  | 29  | 7       | 710   |
| Rb             | 916   | 19  | 14  | 23  | 44      | 1,016 |
| P              | 46    | 1   | 0   | 0   | 7       | 54    |
| E              | 2     | 0   | 0   | 0   | 0       | 2     |
| Total          | 2,148 | 68  | 57  | 86  | 63      | 2,422 |
| Colon & Rectum | 5,032 | 189 | 140 | 306 | 83      | 5,750 |

H0: No evidence of liver metastasis

H1: Metastasis in one hepatic lobe only

H2: A few scattered metastases in both lobes

H3: Numerous metastases in both lobes

### 22-2 Peritoneum

| Site           | P0    | P1  | P2  | P3  | Unknown | Total |
|----------------|-------|-----|-----|-----|---------|-------|
| I              | 5     | 1   | 0   | 0   | 0       | 6     |
| V              | 6     | 0   | 1   | 1   | 0       | 8     |
| C              | 308   | 18  | 12  | 23  | 4       | 365   |
| A              | 598   | 19  | 25  | 23  | 4       | 669   |
| T              | 437   | 11  | 18  | 17  | 5       | 488   |
| D              | 243   | 4   | 5   | 7   | 0       | 259   |
| S              | 1,437 | 34  | 25  | 31  | 6       | 1,533 |
| Total          | 3,034 | 87  | 86  | 102 | 19      | 3,328 |
| Rs             | 598   | 17  | 17  | 6   | 2       | 640   |
| Ra             | 676   | 17  | 5   | 4   | 8       | 710   |
| Rb             | 942   | 11  | 2   | 1   | 60      | 1,016 |
| P              | 45    | 0   | 0   | 0   | 9       | 54    |
| E              | 2     | 0   | 0   | 0   | 0       | 2     |
| Total          | 2,263 | 45  | 24  | 11  | 79      | 2,422 |
| Colon & Rectum | 5,297 | 132 | 110 | 113 | 98      | 5,750 |

P0: No evidence of peritoneal dissemination

P1: Slight disseminations in the peritoneum adjacent to the primary lesion (It seemed to be resectable)

P2: Scattered disseminations in the peritoneum remote from the primary lesion. Dissemination limited to the major omentum or to ovary is classified as P2

P3: Marked disseminations in the remote peritoneum

**22-3 Remote organs-1**

| Site           | M0    | M1  | Unknown | Total |
|----------------|-------|-----|---------|-------|
| I              | 6     | 0   | 0       | 6     |
| V              | 8     | 0   | 0       | 8     |
| C              | 339   | 16  | 10      | 365   |
| A              | 648   | 17  | 4       | 669   |
| T              | 461   | 19  | 8       | 488   |
| D              | 247   | 7   | 5       | 259   |
| S              | 1,460 | 47  | 26      | 1,533 |
| Total          | 3,169 | 106 | 53      | 3,328 |
| Rs             | 611   | 14  | 15      | 640   |
| Ra             | 681   | 18  | 11      | 710   |
| Rb             | 962   | 21  | 33      | 1,016 |
| P              | 47    | 3   | 4       | 54    |
| E              | 2     | 0   | 0       | 2     |
| Total          | 2,303 | 56  | 63      | 2,422 |
| Colon & Rectum | 5,472 | 162 | 116     | 5,750 |

M0: No evidence of metastasis in remote organ(s) but liver and peritoneum

M1: Evidence of metastases in the remote organ(s)

**22-4 Remote organs-2**

| Site  | None  | Lung | Bone | Ovary | Virchow | Brain | Adrenal | Skin | Others | Unknown | Total |
|-------|-------|------|------|-------|---------|-------|---------|------|--------|---------|-------|
| I     | 6     | 0    | 0    | 0     | 0       | 0     | 0       | 0    | 0      | 0       | 6     |
| V     | 8     | 0    | 0    | 0     | 0       | 0     | 0       | 0    | 0      | 0       | 8     |
| C     | 339   | 8    | 0    | 1     | 2       | 2     | 0       | 1    | 2      | 10      | 365   |
| A     | 648   | 11   | 3    | 0     | 1       | 0     | 0       | 0    | 2      | 4       | 669   |
| T     | 461   | 12   | 0    | 2     | 1       | 0     | 0       | 0    | 4      | 8       | 488   |
| D     | 247   | 4    | 1    | 1     | 0       | 0     | 0       | 0    | 1      | 5       | 259   |
| S     | 1,460 | 30   | 6    | 3     | 2       | 3     | 0       | 0    | 3      | 26      | 1,533 |
| Rs    | 611   | 12   | 0    | 1     | 0       | 0     | 0       | 0    | 1      | 15      | 640   |
| Ra    | 681   | 15   | 1    | 0     | 1       | 0     | 0       | 0    | 1      | 11      | 710   |
| Rb    | 962   | 18   | 1    | 0     | 1       | 0     | 0       | 0    | 1      | 33      | 1,016 |
| P     | 47    | 2    | 0    | 0     | 0       | 0     | 0       | 1    | 0      | 4       | 54    |
| E     | 2     | 0    | 0    | 0     | 0       | 0     | 0       | 0    | 0      | 0       | 2     |
| Total | 5,472 | 112  | 12   | 8     | 8       | 5     | 0       | 2    | 15     | 116     | 5,750 |

## 22-5 Lymph nodes, macroscopic

| Site           | N0    | N1    | N2  | N3  | N4  | Nx  | Total |
|----------------|-------|-------|-----|-----|-----|-----|-------|
| I              | 0     | 3     | 3   | 0   | 0   | 0   | 0     |
| V              | 4     | 2     | 0   | 1   | 1   | 0   | 7     |
| C              | 96    | 114   | 84  | 45  | 18  | 8   | 67    |
| A              | 189   | 228   | 163 | 50  | 28  | 11  | 198   |
| T              | 193   | 132   | 83  | 32  | 30  | 18  | 152   |
| D              | 101   | 93    | 38  | 6   | 12  | 9   | 113   |
| S              | 686   | 454   | 246 | 40  | 53  | 54  | 629   |
| Total          | 1,269 | 1,026 | 617 | 174 | 142 | 100 | 3,328 |
| Rs             | 262   | 209   | 95  | 26  | 35  | 13  | 593   |
| Ra             | 290   | 264   | 86  | 30  | 18  | 22  | 767   |
| Rb             | 497   | 247   | 139 | 23  | 26  | 84  | 1,061 |
| P              | 25    | 3     | 12  | 3   | 3   | 8   | 71    |
| E              | 1     | 1     | 0   | 0   | 0   | 0   | 3     |
| Total          | 1,075 | 724   | 332 | 82  | 82  | 127 | 2,422 |
| Colon & Rectum | 2,344 | 1,750 | 949 | 256 | 224 | 227 | 5,750 |

No: No macroscopic evidence of lymph node metastasis

N1: Macroscopic evidence of metastasis in group 1 lymph nodes

N2: Macroscopic evidence of metastasis in group 2 lymph nodes

N3: Macroscopic evidence of metastasis in group 3 lymph nodes

N4: Macroscopic evidence of metastasis in group 4 lymph nodes

Nx: Unknown or not assessed lymph node metastasis

## 22-6 Lymph nodes, histological

| Site           | n0    | n1    | n2  | n3  | n4  | nx  | Total |
|----------------|-------|-------|-----|-----|-----|-----|-------|
| I              | 2     | 3     | 1   | 0   | 0   | 0   | 6     |
| V              | 6     | 0     | 2   | 0   | 0   | 0   | 8     |
| C              | 171   | 85    | 55  | 29  | 7   | 18  | 365   |
| A              | 370   | 138   | 86  | 31  | 12  | 32  | 669   |
| T              | 285   | 79    | 51  | 25  | 12  | 36  | 488   |
| D              | 147   | 64    | 22  | 5   | 4   | 17  | 259   |
| S              | 918   | 300   | 166 | 27  | 22  | 100 | 1,533 |
| Total          | 1,899 | 669   | 383 | 117 | 57  | 203 | 3,328 |
| Rs             | 349   | 157   | 57  | 17  | 19  | 41  | 640   |
| Ra             | 353   | 187   | 93  | 17  | 13  | 47  | 710   |
| Rb             | 527   | 193   | 120 | 21  | 21  | 134 | 1,016 |
| P              | 25    | 6     | 6   | 4   | 3   | 10  | 54    |
| E              | 2     | 0     | 0   | 0   | 0   | 0   | 2     |
| Total          | 1,256 | 543   | 276 | 59  | 56  | 232 | 2,422 |
| Colon & Rectum | 3,155 | 1,212 | 659 | 176 | 113 | 435 | 5,750 |

n0: No histological evidence of lymph node metastasis

n1: Histological evidence of metastasis in group 1 lymph nodes

n2: Histological evidence of metastasis in group 2 lymph nodes

n3: Histological evidence of metastasis in group 3 lymph nodes

n4: Histological evidence of metastasis in group 4 lymph nodes

nx: Unknown or not assessed lymph node metastasis

## 23 Depth of invasion

### adenocarcinoma, surgical cases

#### 23-1 Macroscopic

| Site           | M   | SM  | PM  | SS, A1 | S, A2 | Si, Ai | Unknown | Total |
|----------------|-----|-----|-----|--------|-------|--------|---------|-------|
| I              | 0   | 0   | 0   | 1      | 1     | 4      | 0       | 6     |
| V              | 1   | 0   | 1   | 1      | 1     | 4      | 0       | 8     |
| C              | 21  | 30  | 16  | 78     | 124   | 84     | 12      | 365   |
| A              | 34  | 45  | 45  | 152    | 275   | 100    | 18      | 669   |
| T              | 35  | 53  | 38  | 94     | 181   | 76     | 11      | 488   |
| D              | 24  | 18  | 16  | 58     | 99    | 38     | 6       | 259   |
| S              | 90  | 217 | 136 | 325    | 528   | 184    | 53      | 1,533 |
| Total          | 205 | 363 | 252 | 709    | 1,209 | 490    | 100     | 3,328 |
| Rs             | 34  | 55  | 67  | 137    | 254   | 79     | 14      | 640   |
| Ra             | 33  | 65  | 82  | 184    | 264   | 62     | 20      | 710   |
| Rb             | 109 | 118 | 183 | 223    | 239   | 118    | 26      | 1,016 |
| P              | 2   | 6   | 10  | 8      | 9     | 14     | 5       | 54    |
| E              | 0   | 0   | 0   | 0      | 1     | 1      | 0       | 2     |
| Total          | 178 | 244 | 342 | 552    | 767   | 274    | 65      | 2,422 |
| Colon & Rectum | 383 | 607 | 594 | 1,261  | 1,976 | 764    | 165     | 5,750 |

M: Carcinoma is limited to within the mucosa

SM: Carcinoma is limited to within the mucosa and submucosa

PM: Carcinoma is limited to within the mucosa, submucosa and proper muscle

SS: Carcinoma extended from the mucosa beyond the proper muscle but is not exposed on the serosal surface

S: Carcinoma exposed on the serosal surface

Si: Carcinoma definitely infiltrating other organs

At the site without serosa

A1: Carcinoma extended beyond the proper muscle but does not penetrate deeper

A2: Carcinoma extended beyond the proper muscle infiltrating deeper but without infiltrating other organs

Ai: Carcinoma definitely infiltrating other organs

#### 23-2 Histological

| Site           | m   | sm  | pm  | ss, a1 | s, a2 | si, ai | Unknown | Total |
|----------------|-----|-----|-----|--------|-------|--------|---------|-------|
| I              | 0   | 0   | 1   | 0      | 4     | 1      | 0       | 6     |
| V              | 0   | 0   | 1   | 2      | 2     | 3      | 0       | 8     |
| C              | 27  | 20  | 36  | 131    | 106   | 38     | 7       | 365   |
| A              | 42  | 45  | 45  | 286    | 189   | 48     | 14      | 669   |
| T              | 41  | 47  | 34  | 174    | 141   | 40     | 11      | 488   |
| D              | 27  | 17  | 23  | 112    | 61    | 14     | 5       | 259   |
| S              | 99  | 222 | 171 | 581    | 336   | 101    | 23      | 1,533 |
| Total          | 236 | 351 | 311 | 1,286  | 839   | 245    | 60      | 3,328 |
| Rs             | 45  | 49  | 79  | 231    | 188   | 36     | 12      | 640   |
| Ra             | 36  | 77  | 98  | 241    | 213   | 27     | 18      | 710   |
| Rb             | 120 | 133 | 220 | 221    | 241   | 63     | 18      | 1,016 |
| P              | 1   | 8   | 10  | 7      | 16    | 8      | 4       | 54    |
| E              | 0   | 0   | 0   | 0      | 1     | 0      | 1       | 2     |
| Total          | 202 | 267 | 407 | 700    | 659   | 134    | 53      | 2,422 |
| Colon & Rectum | 438 | 618 | 718 | 1,986  | 1,498 | 379    | 113     | 5,750 |

Definition and classification of 'depth of invasion' are equally applicable to histological findings.

Small letters (i.e., m, sm, pm, ss(a1), s(a2), si(ai) represent histological findings.

**24 Surgical margin of the resected specimen**

adenocarcinoma, surgical cases

**24-1 Distance of proximal (oral side) margin, macroscopic**

| Site  | OW   |      |       |       |         | Total |
|-------|------|------|-------|-------|---------|-------|
|       | <3cm | <5cm | <10cm | >10cm | Unknown |       |
| I     | 0    | 0    | 0     | 6     | 0       | 6     |
| V     | 0    | 1    | 2     | 5     | 0       | 8     |
| C     | 10   | 20   | 109   | 195   | 31      | 365   |
| A     | 17   | 27   | 159   | 421   | 45      | 669   |
| T     | 19   | 50   | 109   | 271   | 39      | 488   |
| D     | 15   | 23   | 65    | 131   | 25      | 259   |
| S     | 60   | 125  | 533   | 727   | 88      | 1,533 |
| Rs    | 16   | 28   | 148   | 412   | 36      | 640   |
| Ra    | 16   | 15   | 91    | 532   | 56      | 710   |
| Rb    | 90   | 12   | 55    | 715   | 144     | 1,016 |
| P     | 6    | 0    | 1     | 37    | 10      | 54    |
| E     | 0    | 0    | 0     | 2     | 0       | 2     |
| Total | 249  | 301  | 1,272 | 3,454 | 474     | 5,750 |

**24-2 Distance of distal (anal side) margin, macroscopic, colon**

| Site  | AW   |       |       |         | Total |
|-------|------|-------|-------|---------|-------|
|       | <5cm | <10cm | >10cm | Unknown |       |
| I     | 4    | 1     | 1     | 0       | 6     |
| V     | 0    | 2     | 5     | 1       | 8     |
| C     | 31   | 59    | 243   | 32      | 365   |
| A     | 53   | 118   | 452   | 46      | 669   |
| T     | 77   | 171   | 201   | 39      | 488   |
| D     | 37   | 71    | 125   | 26      | 259   |
| S     | 382  | 634   | 433   | 84      | 1,533 |
| Total | 584  | 1,056 | 1,460 | 228     | 3,328 |

**24-3 Distance of distal (anal side) margin, macroscopic, rectum**

| Site  | AW   |      |      |      |         | Total |
|-------|------|------|------|------|---------|-------|
|       | <2cm | <3cm | <5cm | >5cm | Unknown |       |
| Rs    | 40   | 88   | 223  | 252  | 37      | 640   |
| Ra    | 97   | 166  | 271  | 122  | 54      | 710   |
| Rb    | 253  | 165  | 232  | 231  | 135     | 1,016 |
| P     | 9    | 12   | 7    | 10   | 16      | 54    |
| E     | 2    | 0    | 0    | 0    | 0       | 2     |
| Total | 401  | 431  | 733  | 615  | 242     | 2,422 |

**24-4 Proximal and distal margin, colon**

|         | AW   |       |       |         |       | Total |
|---------|------|-------|-------|---------|-------|-------|
|         | <5cm | <10cm | >10cm | Unknown |       |       |
| OW      | 194  | 99    | 71    | 2       | 366   |       |
| <10cm   | 204  | 403   | 364   | 5       | 976   |       |
| >10cm   | 181  | 547   | 1,019 | 8       | 1,755 |       |
| Unknown | 4    | 5     | 6     | 216     | 231   |       |
| Total   | 583  | 1,054 | 1,460 | 231     | 3,328 |       |

## 24-5 Proximal and distal margin, rectum

|    | <5cm    | AW   |      |      |      |         | Total |
|----|---------|------|------|------|------|---------|-------|
|    |         | <2cm | <3cm | <5cm | >5cm | Unknown |       |
| OW | <5cm    | 94   | 23   | 24   | 36   | 3       | 180   |
|    | <10cm   | 50   | 67   | 109  | 66   | 3       | 295   |
|    | >10cm   | 246  | 333  | 588  | 506  | 25      | 1,698 |
|    | Unknown | 8    | 8    | 12   | 7    | 214     | 249   |
|    | Total   | 398  | 431  | 733  | 615  | 245     | 2,422 |

## 24-6 Cancer infiltration at the margin of resected bowel

| Site  | ow    |    |         | aw    |    |         | ew    |     |         |
|-------|-------|----|---------|-------|----|---------|-------|-----|---------|
|       | -     | +  | Unknown | -     | +  | Unknown | -     | +   | Unknown |
| I     | 6     | 0  | 0       | 6     | 0  | 0       | 4     | 2   | 0       |
| V     | 8     | 0  | 0       | 8     | 0  | 0       | 6     | 1   | 1       |
| C     | 357   | 0  | 16      | 357   | 0  | 16      | 321   | 7   | 45      |
| A     | 661   | 2  | 53      | 661   | 1  | 54      | 612   | 22  | 82      |
| T     | 484   | 1  | 44      | 482   | 1  | 46      | 451   | 12  | 66      |
| D     | 259   | 0  | 28      | 258   | 0  | 29      | 243   | 6   | 38      |
| S     | 1,549 | 1  | 187     | 1,550 | 1  | 186     | 1,452 | 36  | 249     |
| Rs    | 633   | 0  | 39      | 631   | 1  | 40      | 592   | 11  | 69      |
| Ra    | 703   | 1  | 49      | 702   | 1  | 50      | 657   | 26  | 70      |
| Rb    | 983   | 6  | 68      | 976   | 12 | 69      | 928   | 42  | 87      |
| P     | 48    | 0  | 7       | 48    | 0  | 7       | 43    | 5   | 7       |
| E     | 2     | 0  | 1       | 2     | 0  | 1       | 2     | 0   | 1       |
| Total | 5,693 | 11 | 492     | 5,681 | 17 | 498     | 5,311 | 170 | 715     |

OW: Distance between proximal (oral) edge of the tumor and surgical margin of the bowel

AW: Distance between distal (anal) edge of the tumor and surgical margin of the bowel

ow(+): The cancer cells are seen within 5 mm of the oral margin

ow(-): No cancer cells within the 5 mm

aw(+): The cancer cells are seen within 5 mm of the anal margin

aw(-): No cancer cells within the 5 mm

ew(+): The cancer is exposed at the external surgical surface

ew(-): No exposure of cancer cells

**25 Lymphatic and venous vessel invasion****adenocarcinoma, surgical cases****25-1 Site**

| Site  | ly    |       |         | v     |       |         |
|-------|-------|-------|---------|-------|-------|---------|
|       | -     | +     | Unknown | -     | +     | Unknown |
| I     | 0     | 6     | 0       | 3     | 3     | 0       |
| V     | 2     | 4     | 2       | 5     | 1     | 2       |
| C     | 91    | 256   | 18      | 170   | 177   | 18      |
| A     | 203   | 439   | 27      | 318   | 324   | 27      |
| T     | 153   | 311   | 24      | 254   | 208   | 26      |
| D     | 77    | 167   | 15      | 139   | 105   | 15      |
| S     | 487   | 966   | 80      | 794   | 657   | 82      |
| Rs    | 199   | 413   | 28      | 314   | 299   | 27      |
| Ra    | 197   | 475   | 38      | 306   | 365   | 39      |
| Rb    | 349   | 599   | 68      | 517   | 430   | 69      |
| P     | 14    | 33    | 7       | 26    | 21    | 7       |
| E     | 2     | 0     | 0       | 2     | 0     | 0       |
| Total | 1,774 | 3,669 | 307     | 2,848 | 2,590 | 312     |

**25-2 Lymph node metastasis, colon**

| v       | n0  |     |         | n+  |       |         |
|---------|-----|-----|---------|-----|-------|---------|
|         | ly  |     |         | ly  |       |         |
|         | -   | +   | Unknown | -   | +     | Unknown |
| -       | 761 | 440 | 3       | 79  | 331   | 6       |
| +       | 105 | 505 | 7       | 37  | 738   | 1       |
| Unknown | 5   | 6   | 67      | 0   | 9     | 25      |
| Total   | 871 | 951 | 77      | 116 | 1,078 | 32      |

**25-3 Lymph node metastasis, rectum**

| v       | n0  |     |         | n+ |     |         |
|---------|-----|-----|---------|----|-----|---------|
|         | ly  |     |         | ly |     |         |
|         | -   | +   | Unknown | -  | +   | Unknown |
| -       | 506 | 256 | 0       | 62 | 227 | 5       |
| +       | 74  | 381 | 0       | 32 | 587 | 0       |
| Unknown | 1   | 0   | 38      | 0  | 4   | 17      |
| Total   | 581 | 637 | 38      | 94 | 818 | 22      |

## 25-4 Liver metastasis

### 25-4-1 Negative venous invasion[v(–)]

| ly      | H0    | H1 | H1d | H1s | H1x | H2 | H3 |
|---------|-------|----|-----|-----|-----|----|----|
| –       | 1,465 | 4  | 3   | 0   | 4   | 9  | 31 |
| +       | 223   | 4  | 4   | 1   | 7   | 8  | 4  |
| Unknown | 6     | 0  | 1   | 0   | 0   | 0  | 0  |
| Total   | 1,694 | 8  | 8   | 1   | 11  | 17 | 35 |

### 25-4-2 Positive venous invasion[v(+)]

| ly      | H0    | H1  | H1d | H1s | H1x | H2  | H3 |
|---------|-------|-----|-----|-----|-----|-----|----|
| –       | 1,212 | 32  | 7   | 1   | 17  | 43  | 6  |
| +       | 1,882 | 93  | 26  | 3   | 101 | 212 | 13 |
| Unknown | 19    | 0   | 0   | 0   | 1   | 0   | 1  |
| Total   | 3,113 | 125 | 33  | 4   | 119 | 255 | 20 |

### 25-4-3 Unknown venous invasion

| ly      | H0  | H1 | H1d | H1s | H1x | H2 | H3 |
|---------|-----|----|-----|-----|-----|----|----|
| –       | 12  | 1  | 0   | 0   | 0   | 0  | 1  |
| +       | 9   | 0  | 0   | 0   | 0   | 0  | 0  |
| Unknown | 204 | 6  | 2   | 1   | 10  | 34 | 27 |
| Total   | 225 | 7  | 2   | 1   | 10  | 34 | 28 |

ly: Lymphatic vessel invasion v: Venous vessel invasion

**26 Histological classification and Dukes' stage      adenocarcinoma, surgical cases**

**26-1 Colon (excluding: I, V)**

|         | w/d   | m/d   | p/d | muc | sig | NOS | Total |
|---------|-------|-------|-----|-----|-----|-----|-------|
| Dukes A | 567   | 147   | 7   | 3   | 0   | 31  | 724   |
| Dukes B | 499   | 410   | 29  | 42  | 1   | 16  | 981   |
| Dukes C | 356   | 372   | 48  | 32  | 2   | 16  | 810   |
| Dukes D | 163   | 234   | 33  | 30  | 2   | 6   | 462   |
| Unknown | 106   | 109   | 16  | 13  | 2   | 22  | 246   |
| Total   | 1,691 | 1,272 | 133 | 120 | 7   | 91  | 3,223 |

**26-2 Rectum (excluding: P, E)**

|         | w/d   | m/d | p/d | muc | sig | NOS | Total |
|---------|-------|-----|-----|-----|-----|-----|-------|
| Dukes A | 408   | 176 | 5   | 1   | 0   | 13  | 590   |
| Dukes B | 300   | 242 | 6   | 6   | 0   | 5   | 554   |
| Dukes C | 290   | 358 | 36  | 28  | 4   | 5   | 716   |
| Dukes D | 80    | 115 | 11  | 10  | 0   | 1   | 216   |
| Unknown | 144   | 84  | 9   | 3   | 2   | 24  | 242   |
| Total   | 1,222 | 975 | 67  | 48  | 6   | 48  | 2,318 |

**27 Accompanied lesions in the resected specimen      adenocarcinoma, surgical cases**

**27-1 By site of carcinoma (multi-answer)**

| Accompanied lesion | I | V  | C   | A   | T   | D   | S     | Rs  | Ra  | Rb    | P  | E | Total |
|--------------------|---|----|-----|-----|-----|-----|-------|-----|-----|-------|----|---|-------|
| None               | 4 | 8  | 279 | 468 | 338 | 181 | 1,120 | 462 | 518 | 758   | 37 | 2 | 4,175 |
| Adenoma            | 1 | 0  | 56  | 151 | 101 | 56  | 306   | 109 | 140 | 179   | 5  | 0 | 1,104 |
| Adenomatosis       | 0 | 0  | 3   | 6   | 9   | 8   | 13    | 8   | 6   | 11    | 0  | 0 | 64    |
| Hyperplastic polyp | 0 | 1  | 11  | 13  | 12  | 5   | 47    | 24  | 20  | 30    | 2  | 0 | 165   |
| Ulcerative colitis | 0 | 0  | 0   | 0   | 0   | 0   | 0     | 1   | 2   | 2     | 0  | 0 | 5     |
| Diverticulosis     | 0 | 0  | 2   | 8   | 1   | 5   | 9     | 4   | 5   | 3     | 0  | 0 | 37    |
| Anal fistula       | 0 | 0  | 0   | 0   | 1   | 0   | 1     | 2   | 1   | 5     | 5  | 0 | 15    |
| Radiation colitis  | 0 | 0  | 0   | 1   | 0   | 1   | 0     | 0   | 0   | 2     | 0  | 0 | 4     |
| Crohn's disease    | 0 | 0  | 0   | 0   | 0   | 1   | 0     | 0   | 0   | 0     | 0  | 0 | 1     |
| Others             | 2 | 1  | 8   | 18  | 19  | 3   | 27    | 15  | 11  | 16    | 1  | 0 | 121   |
| Unknown            | 0 | 0  | 8   | 10  | 8   | 5   | 19    | 15  | 11  | 14    | 2  | 0 | 92    |
| Total              | 7 | 10 | 367 | 675 | 489 | 265 | 1,542 | 640 | 714 | 1,020 | 52 | 2 | 5,783 |

**27-2 By number of carcinomas (multi-answer)**

| Accompanied lesion | Number of carcinomas |     |    |    |    |   |   |    |         | Total |
|--------------------|----------------------|-----|----|----|----|---|---|----|---------|-------|
|                    | 1                    | 2   | 3  | 4  | 5  | 6 | 7 | >8 | Unknown |       |
| None               | 3,965                | 174 | 13 | 5  | 10 | 1 | 0 | 0  | 7       | 4,175 |
| Adenoma            | 940                  | 122 | 28 | 8  | 1  | 2 | 2 | 1  | 0       | 1,104 |
| Adenomatosis       | 38                   | 11  | 5  | 5  | 1  | 1 | 0 | 3  | 0       | 64    |
| Hyperplastic polyp | 151                  | 10  | 2  | 1  | 0  | 0 | 0 | 1  | 0       | 165   |
| Ulcerative colitis | 4                    | 1   | 0  | 0  | 0  | 0 | 0 | 0  | 0       | 5     |
| Diverticulosis     | 32                   | 3   | 2  | 0  | 0  | 0 | 0 | 0  | 0       | 37    |
| Anal fistula       | 12                   | 3   | 0  | 0  | 0  | 0 | 0 | 0  | 0       | 15    |
| Radiation colitis  | 4                    | 0   | 0  | 0  | 0  | 0 | 0 | 0  | 0       | 4     |
| Crohn's disease    | 0                    | 1   | 0  | 0  | 0  | 0 | 0 | 0  | 0       | 1     |
| Others             | 106                  | 13  | 2  | 0  | 0  | 0 | 0 | 0  | 0       | 121   |
| Unknown            | 81                   | 4   | 1  | 0  | 1  | 0 | 0 | 0  | 5       | 92    |
| Total              | 5,333                | 342 | 53 | 19 | 13 | 4 | 2 | 5  | 12      | 5,783 |

**28 Grades of operative procedures****adenocarcinoma, surgical cases**

| Site  | R0  | R1  | R2    | R3    | R4  | Rx | Total |
|-------|-----|-----|-------|-------|-----|----|-------|
| I     | 0   | 0   | 1     | 5     | 0   | 0  | 6     |
| V     | 0   | 3   | 1     | 4     | 0   | 0  | 8     |
| C     | 8   | 48  | 125   | 169   | 9   | 6  | 365   |
| A     | 18  | 69  | 234   | 324   | 14  | 10 | 669   |
| T     | 35  | 101 | 159   | 181   | 7   | 5  | 488   |
| D     | 19  | 50  | 101   | 83    | 3   | 3  | 259   |
| S     | 90  | 302 | 484   | 608   | 35  | 14 | 1,533 |
| Rs    | 28  | 97  | 241   | 246   | 21  | 7  | 640   |
| Ra    | 30  | 122 | 266   | 256   | 27  | 9  | 710   |
| Rb    | 168 | 176 | 282   | 336   | 40  | 14 | 1,016 |
| P     | 6   | 6   | 15    | 16    | 6   | 5  | 54    |
| E     | 0   | 1   | 1     | 0     | 0   | 0  | 2     |
| Total | 402 | 975 | 1,910 | 2,228 | 162 | 73 | 5,750 |

R0: Incomplete dissection of Group 1 lymph nodes

R1: Complete dissection of Group 1 lymph nodes

R2: Complete dissection of Group 1 and 2 lymph nodes

R3: Complete dissection of Group 1, 2 and 3 lymph nodes

Rx: Assessment of grade of lymph nodes dissection are not met

**29 Evaluation of operative procedure**

adenocarcinoma

**29-1 Macroscopic, male**

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 1                  | 0        | 0                      | 3        | 0            | 0       | 4     |
| V              | 4                  | 0        | 1                      | 1        | 0            | 0       | 6     |
| C              | 90                 | 18       | 3                      | 32       | 3            | 4       | 150   |
| A              | 237                | 28       | 15                     | 57       | 2            | 2       | 341   |
| T              | 179                | 29       | 8                      | 43       | 6            | 4       | 269   |
| D              | 114                | 15       | 5                      | 25       | 2            | 1       | 162   |
| S              | 649                | 63       | 40                     | 148      | 11           | 8       | 919   |
| Total          | 1,274              | 153      | 72                     | 309      | 24           | 19      | 1,851 |
| Rs             | 283                | 33       | 21                     | 45       | 10           | 3       | 395   |
| Ra             | 316                | 39       | 29                     | 55       | 14           | 2       | 455   |
| Rb             | 441                | 58       | 21                     | 63       | 10           | 11      | 604   |
| P              | 23                 | 2        | 0                      | 5        | 3            | 1       | 34    |
| E              | 1                  | 0        | 0                      | 0        | 0            | 0       | 1     |
| Total          | 1,064              | 132      | 71                     | 168      | 37           | 17      | 1,489 |
| Colon & Rectum | 2,338              | 285      | 143                    | 477      | 61           | 36      | 3,340 |

**29-2 Macroscopic, female**

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 1                  | 0        | 0                      | 1        | 0            | 0       | 2     |
| V              | 1                  | 1        | 0                      | 0        | 0            | 0       | 2     |
| C              | 123                | 25       | 9                      | 53       | 2            | 3       | 215   |
| A              | 207                | 32       | 17                     | 62       | 7            | 3       | 328   |
| T              | 136                | 27       | 10                     | 42       | 2            | 2       | 219   |
| D              | 66                 | 13       | 6                      | 7        | 3            | 2       | 97    |
| S              | 442                | 48       | 30                     | 81       | 5            | 8       | 614   |
| Total          | 976                | 146      | 72                     | 246      | 19           | 18      | 1,477 |
| Rs             | 174                | 21       | 14                     | 34       | 1            | 1       | 245   |
| Ra             | 191                | 20       | 8                      | 31       | 3            | 2       | 255   |
| Rb             | 301                | 43       | 14                     | 39       | 6            | 9       | 412   |
| P              | 10                 | 5        | 1                      | 1        | 1            | 2       | 20    |
| E              | 0                  | 0        | 0                      | 1        | 0            | 0       | 1     |
| Total          | 676                | 89       | 37                     | 106      | 11           | 14      | 933   |
| Colon & Rectum | 1,652              | 235      | 109                    | 352      | 30           | 32      | 2,410 |

**29-3 Histological, male**

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 1                  | 2        | 0                      | 1        | 0            | 0       | 4     |
| V              | 3                  | 0        | 1                      | 1        | 0            | 1       | 6     |
| C              | 94                 | 13       | 4                      | 30       | 3            | 6       | 150   |
| A              | 253                | 14       | 12                     | 57       | 2            | 3       | 341   |
| T              | 193                | 17       | 8                      | 42       | 6            | 3       | 269   |
| D              | 117                | 8        | 7                      | 25       | 2            | 3       | 162   |
| S              | 672                | 46       | 36                     | 143      | 11           | 11      | 919   |
| Total          | 1,333              | 100      | 68                     | 299      | 24           | 27      | 1,851 |
| Rs             | 293                | 14       | 23                     | 51       | 10           | 4       | 395   |
| Ra             | 325                | 33       | 25                     | 55       | 13           | 4       | 455   |
| Rb             | 439                | 51       | 19                     | 68       | 10           | 17      | 604   |
| P              | 22                 | 1        | 0                      | 7        | 3            | 1       | 34    |
| E              | 1                  | 0        | 0                      | 0        | 0            | 0       | 1     |
| Total          | 1,080              | 99       | 67                     | 181      | 36           | 26      | 1,489 |
| Colon & Rectum | 2,413              | 199      | 135                    | 480      | 60           | 53      | 3,340 |

## 29-4 Histological, female

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 1                  | 0        | 0                      | 1        | 0            | 0       | 2     |
| V              | 2                  | 0        | 0                      | 0        | 0            | 0       | 2     |
| C              | 134                | 16       | 11                     | 50       | 1            | 3       | 215   |
| A              | 217                | 23       | 15                     | 63       | 7            | 3       | 328   |
| T              | 145                | 17       | 9                      | 44       | 2            | 2       | 219   |
| D              | 71                 | 10       | 6                      | 7        | 3            | 0       | 97    |
| S              | 460                | 39       | 25                     | 78       | 5            | 7       | 614   |
| Total          | 1,030              | 105      | 66                     | 243      | 18           | 15      | 1,477 |
| Rs             | 178                | 16       | 14                     | 35       | 1            | 1       | 245   |
| Ra             | 191                | 20       | 9                      | 30       | 3            | 2       | 255   |
| Rb             | 302                | 36       | 17                     | 43       | 6            | 8       | 412   |
| P              | 10                 | 3        | 2                      | 3        | 1            | 1       | 20    |
| E              | 1                  | 0        | 0                      | 0        | 0            | 0       | 1     |
| Total          | 682                | 75       | 42                     | 111      | 11           | 12      | 933   |
| Colon & Rectum | 1,712              | 180      | 108                    | 354      | 29           | 27      | 2,410 |

## 29-5 Endoscopic polypectomy cases, histological

|                | Curative resection |          | Non-curative resection |          | Not resected | Unknown | Total |
|----------------|--------------------|----------|------------------------|----------|--------------|---------|-------|
|                | absolute           | relative | relative               | absolute |              |         |       |
| I              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| V              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| C              | 4                  | 0        | 0                      | 0        | 0            | 3       | 7     |
| A              | 23                 | 2        | 0                      | 3        | 0            | 18      | 46    |
| T              | 27                 | 2        | 0                      | 0        | 0            | 12      | 41    |
| D              | 15                 | 1        | 0                      | 1        | 0            | 10      | 27    |
| S              | 113                | 14       | 0                      | 0        | 0            | 74      | 201   |
| Total          | 182                | 19       | 0                      | 4        | 0            | 117     | 322   |
| Rs             | 19                 | 2        | 0                      | 0        | 0            | 10      | 31    |
| Ra             | 25                 | 5        | 0                      | 0        | 0            | 11      | 41    |
| Rb             | 20                 | 2        | 1                      | 0        | 0            | 16      | 39    |
| P              | 0                  | 0        | 0                      | 0        | 0            | 1       | 1     |
| E              | 0                  | 0        | 0                      | 0        | 0            | 0       | 0     |
| Total          | 64                 | 9        | 1                      | 0        | 0            | 38      | 112   |
| Colon & Rectum | 246                | 28       | 1                      | 4        | 0            | 155     | 434   |

Minimum requirements for 'curative resection' are as follows

1. No metastasis in the liver, peritoneum or extra-abdominal organs
2. No cancerous infiltration in the surgical margin of the resected specimen

When the minimum requirements for curative resection are not met, the operation is classified as 'non-curative resection'. 'Absolute' and 'relative' categories are determined by the extent of lymph node dissection and assessment of the lymph node metastasis.

Refer to the general rules of "JSCCR" on terminology and classification used in this report.

**30 Operative method****adenocarcinoma, surgical cases**

|   |             |
|---|-------------|
| Non resection                           |             |
| Laparotomy only                         | 11          |
| Enterostomy                             |             |
| ileum                                   | 5           |
| right colon                             | 3           |
| transverse colon                        | 18          |
| left colon                              | 44          |
| unknown                                 | 0           |
| Intestinal by-pass                      | 16          |
| Others                                  | 1           |
| Polypectomy                             |             |
| trans-abdominal                         | 14          |
| trans-anal                              | 55          |
| trans-sacral                            | 10          |
| trans-sphincteric                       | 3           |
| Tumorectomy                             |             |
| trans-abdominal                         | 9           |
| trans-anal                              | 57          |
| trans-sacral                            | 27          |
| trans-sphincteric                       | 6           |
| Appendectomy                            | 1           |
| Ileocecal resection                     | 127         |
| Ascending colectomy                     | 40          |
| Right colectomy                         | 1011        |
| Transversectomy                         | 241         |
| Descending colectomy                    | 103         |
| Left colectomy                          | 197         |
| Sigmaoectomy                            | 1285        |
| Subtotal colectomy                      | 12          |
| Total colectomy                         | 17          |
| Total resection of the colon and rectum | 10          |
| Sphincter-preserving operation          |             |
| high anterior resection                 | 393         |
| low anterior resection                  | 1209        |
| posterior resection                     | 1           |
| invagination method                     | 4           |
| pull-through procedure                  | 2           |
| abdominosacral resection                | 7           |
| Hartmann's                              | 133         |
| Amputation of the rectum                |             |
| abdominoperineal                        | 577         |
| abdominosacral                          | 13          |
| sacroabdominal                          | 5           |
| Total pelvic exenteration               | 36          |
| Others                                  | 43          |
| Unknown                                 | 4           |
| <hr/> Total                             | <hr/> 5,750 |

**31 Combined resection of other organs****adenocarcinoma, surgical cases**

| Combined resection | Colon | Rectum | Total |
|--------------------|-------|--------|-------|
| None               | 2,981 | 2,087  | 5,068 |
| Abdominal wall     | 105   | 4      | 109   |
| Pelvic wall        | 5     | 10     | 15    |
| Uterus             | 19    | 54     | 73    |
| Adnexa             | 41    | 39     | 80    |
| Vagina             | 2     | 50     | 52    |
| Seminal vesicle    | 4     | 30     | 34    |
| Prostate           | 6     | 33     | 39    |
| Bladder            | 60    | 62     | 122   |
| Ureter             | 10    | 13     | 23    |
| Stomach            | 30    | 5      | 35    |
| Duodenum           | 25    | 0      | 25    |
| Small intestine    | 72    | 11     | 83    |
| Colon              | 30    | 8      | 38    |
| Rectum             | 5     | 2      | 7     |
| Liver              | 100   | 60     | 160   |
| Omentum            | 47    | 1      | 48    |
| Remote organs      | 5     | 1      | 6     |
| Others             | 61    | 28     | 89    |
| Unknown            | 48    | 42     | 90    |
| Total              | 3,656 | 2,540  | 6,196 |

## 32 Operative mortality surgical cases

### 32-1 Site

|                | Adenocarcinoma    |                  |     | Other malignancies |                  |     |
|----------------|-------------------|------------------|-----|--------------------|------------------|-----|
|                | No. of Operations | Operative deaths | %   | No. of Operations  | Operative deaths | %   |
| I              | 6                 | 0                |     | 0                  | 0                |     |
| V              | 8                 | 0                |     | 1                  | 0                |     |
| C              | 365               | 9                | 2.5 | 11                 | 1                | 9.1 |
| A              | 669               | 6                | 0.9 | 3                  | 0                |     |
| T              | 488               | 10               | 2.0 | 5                  | 0                |     |
| D              | 259               | 5                | 1.9 | 0                  | 0                |     |
| S              | 1,533             | 12               | 0.8 | 6                  | 0                |     |
| Total          | 3,328             | 42               | 1.3 | 26                 | 1                | 3.8 |
| Rs             | 640               | 5                | 0.8 | 2                  | 0                |     |
| Ra             | 710               | 4                | 0.6 | 9                  | 0                |     |
| Rb             | 1,016             | 6                | 0.6 | 46                 | 0                |     |
| P              | 54                | 1                | 1.9 | 11                 | 0                |     |
| E              | 2                 | 0                |     | 4                  | 0                |     |
| Total          | 2,422             | 16               | 0.7 | 72                 | 0                |     |
| Colon & Rectum | 5,750             | 58               | 1.0 | 98                 | 1                | 1.0 |

### 32-2 Grades of operative procedures, adenocarcinoma

|        | Curative resection         |          | Non-curative resection |          | Not resected |       | Unknown | Total  |
|--------|----------------------------|----------|------------------------|----------|--------------|-------|---------|--------|
|        | absolute                   | relative | relative               | absolute | resected     |       |         |        |
| Colon  | No. of operations          | 2,363    | 205                    | 134      | 542          | 42    | 42      | 3,328  |
|        | No. of operative deaths(%) | 11 0.5   | 2 1.0                  | 2 1.5    | 22 4.1       | 3 7.1 | 2 4.8   | 42 1.3 |
| Rectum | No. of operations          | 1,762    | 174                    | 109      | 292          | 47    | 38      | 2,422  |
|        | No. of operative deaths(%) | 8 0.5    | 0 0.0                  | 1 0.9    | 5 1.7        | 2 4.3 | 0 0.0   | 16 0.7 |

### 32-3 Grades of operative procedures, other malignancies

|        | Curative resection         |          | Non-curative resection |          | Not resected |   | Unknown | Total |
|--------|----------------------------|----------|------------------------|----------|--------------|---|---------|-------|
|        | absolute                   | relative | relative               | absolute | resected     |   |         |       |
| Colon  | No. of operations          | 13       | 5                      | 1        | 5            | 2 | 0       | 26    |
|        | No. of operative deaths(%) | 0        | 0                      | 0        | 0            | 1 | 0       | 1 3.8 |
| Rectum | No. of operations          | 38       | 7                      | 4        | 13           | 3 | 7       | 72    |
|        | No. of operative deaths(%) | 0        | 0                      | 0        | 0            | 0 | 0       | 0 0.0 |

## 32-4 Operative procedures

|   | No. of cases | No. of deaths | Operative mortality<br>% |
|---|--------------|---------------|--------------------------|
| Non resection                           |              |               |                          |
| Laparotomy only                         | 11           | 1             | 9.1                      |
| Enterostomy                             |              |               |                          |
| ileum                                   | 5            | 0             |                          |
| right colon                             | 3            | 0             |                          |
| transverse colon                        | 18           | 3             | 16.7                     |
| left colon                              | 44           | 1             | 2.3                      |
| unknown                                 | 0            | 0             |                          |
| Intestinal by-pass                      | 16           | 1             | 6.3                      |
| Others                                  | 1            | 0             |                          |
| Polypectomy                             |              |               |                          |
| trans-abdominal                         | 14           | 0             |                          |
| trans-anal                              | 55           | 0             |                          |
| trans-sacral                            | 10           | 0             |                          |
| trans-sphincteric                       | 3            | 0             |                          |
| Tumorectomy                             |              |               |                          |
| trans-abdominal                         | 9            | 0             |                          |
| trans-anal                              | 57           | 1             | 1.8                      |
| trans-sacral                            | 27           | 0             |                          |
| trans-sphincteric                       | 6            | 0             |                          |
| Appendectomy                            | 1            | 0             |                          |
| Ileocecal resection                     | 127          | 3             | 2.4                      |
| Ascending colectomy                     | 40           | 1             | 2.5                      |
| Right colectomy                         | 1011         | 13            | 1.3                      |
| Transversectomy                         | 241          | 7             | 2.9                      |
| Descending colectomy                    | 103          | 0             |                          |
| Left colectomy                          | 197          | 4             | 2.0                      |
| Sigmoideectomy                          | 1285         | 8             | 0.6                      |
| Sub total colectomy                     | 12           | 0             |                          |
| Total colectomy                         | 17           | 0             |                          |
| Total resection of the colon and rectum | 10           | 0             |                          |
| Sphincter-preserving operation          |              |               |                          |
| high anterior resection                 | 393          | 0             |                          |
| low anterior resection                  | 1209         | 5             | 0.4                      |
| posterior resection                     | 1            | 0             |                          |
| invagination method                     | 4            | 0             |                          |
| pull-through procedure                  | 2            | 0             |                          |
| abdominosacral resection                | 7            | 0             |                          |
| Hartmann's                              | 133          | 4             | 3.0                      |
| Amputation of the rectum                |              |               |                          |
| abdominoperineal                        | 577          | 6             | 1.0                      |
| abdominosacral                          | 13           | 0             |                          |
| sacroabdominal                          | 5            | 0             |                          |
| total pelvic exenteration               | 36           | 0             |                          |
| Others                                  | 43           | 0             |                          |
| Unknown                                 | 4            | 0             |                          |
| Total                                   | 5,750        | 58            | 1.0                      |

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**大腸癌研究会**

事務局：近畿大学医学部 第1外科内

〒589 大阪府大阪狭山市大野東377-2

TEL 0723(66)0221

FAX 0723(67)7771

全国登録委員会：栃木県立がんセンター

〒320 栃木県宇都宮市陽南4-9-13

TEL 0286(58)5151

FAX 0286(58)5669

**印 刷**

ヤマゼン印刷株式会社

宇都宮市鶴田町1359-1

TEL 0286(48)1111

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