
3rd Edition

The Japanese Society for Esophageal Diseases
The Registration Committee for Esophageal Cancer

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Preface

The 3rd edition of the Comprehensive Registry of Esophageal Cancer contains the total results for the 2 years from 1998 to 1999. Data were collected using a new meta-analysis type collection method based on various databases (see Appendix). A total 6,131 patients were registered, 3,109 patients from 189 institutions in 1998, 3,022 patients from 191 institutions in 1999. All patients were divided into 4 groups according to treatment methods (endoscopic treatment, chemotherapy and/or radiotherapy, palliative operation, esophagectomy). The clinicopathological findings and cancer staging were made according to the criteria of the 9th edition of the Guidelines of the Japanese Society for Esophageal Diseases and the 5th edition of the TNM classification (UICC). The results were analyzed by year. Epidemiological analysis of all patients and clinical findings of the patient groups according to year are shown in Chapter I. The treatment procedures and the results of endoscopic treatment in Chapter II, chemotherapy and/or radiotherapy in Chapter III, palliative operation in Chapter IV, and esophagectomy in Chapter V. Finally, the long-term results of esophagectomy and extended lymphadenectomy in the comprehensive registry of cases in Japan between 1988 and 1997 was added as a supplement. In the period covered by this edition, extended lymphadenectomy was performed safely in esophagectomy. In addition to radical esophagectomy, less invasive surgery (VATS and/or HALS) was introduced in some institutions. It can be said that in this period we are beginning to see increased individualization of treatment based on each separate case. In addition to the recent results of surgical treatment, we showed the results of endoscopic treatment for superficial cancer, as well as esophageal stents for advanced cancer and chemoradiotherapy. It is our hope that the up to date data of this book will be of value to doctors who are treating patients with esophageal cancer.
Comprehensive Registry of Esophageal Cancer in Japan (1998)
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## 2. Patient Background

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<th>EMR*/Stenting</th>
<th>Chemotherapy/Radiotherapy</th>
<th>Palliative operation</th>
<th>Esophagectomy</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>~29</td>
<td>2 (0.06%)</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30~39</td>
<td>9 (0.29%)</td>
<td>6</td>
<td>3</td>
<td>0</td>
<td>11</td>
<td>32</td>
<td>7</td>
<td>119</td>
<td>8</td>
</tr>
<tr>
<td>40~49</td>
<td>177 (5.7%)</td>
<td>147</td>
<td>30</td>
<td>0</td>
<td>47</td>
<td>174</td>
<td>30</td>
<td>560</td>
<td>30</td>
</tr>
<tr>
<td>50~59</td>
<td>1160 (37.3%)</td>
<td>1036</td>
<td>124</td>
<td>0</td>
<td>72</td>
<td>282</td>
<td>41</td>
<td>722</td>
<td>43</td>
</tr>
<tr>
<td>60~69</td>
<td>753 (24.2%)</td>
<td>646</td>
<td>105</td>
<td>2</td>
<td>77</td>
<td>217</td>
<td>13</td>
<td>422</td>
<td>24</td>
</tr>
<tr>
<td>70~79</td>
<td>138 (4.4%)</td>
<td>107</td>
<td>31</td>
<td>0</td>
<td>19</td>
<td>66</td>
<td>2</td>
<td>43</td>
<td>8</td>
</tr>
<tr>
<td>80~89</td>
<td>7 (0.23%)</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>22 (0.71%)</td>
<td>20</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>3109 (100%)</td>
<td>2722</td>
<td>385</td>
<td>2</td>
<td>231</td>
<td>779</td>
<td>98</td>
<td>1883</td>
<td>118</td>
</tr>
</tbody>
</table>

*EMR: endoscopic mucosal resection
Table 2) Area of patient's residence and occupation

<table>
<thead>
<tr>
<th>Area</th>
<th>No. of cases (%)</th>
<th>Area</th>
<th>No. of cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td><strong>3109 (100%)</strong></td>
<td>Miyazaki</td>
<td>25 (0.8%)</td>
</tr>
<tr>
<td>Aichi</td>
<td>105 (3.4%)</td>
<td>Nagano</td>
<td>38 (1.2%)</td>
</tr>
<tr>
<td>Akita</td>
<td>63 (2.0%)</td>
<td>Nagasaki</td>
<td>25 (0.8%)</td>
</tr>
<tr>
<td>Aomori</td>
<td>25 (0.8%)</td>
<td>Nara</td>
<td>17 (0.5%)</td>
</tr>
<tr>
<td>Chiba</td>
<td>187 (6.0%)</td>
<td>Niigata</td>
<td>51 (1.6%)</td>
</tr>
<tr>
<td>Ehime</td>
<td>32 (1.0%)</td>
<td>Oita</td>
<td>9 (0.3%)</td>
</tr>
<tr>
<td>Fukui</td>
<td>12 (0.4%)</td>
<td>Okayama</td>
<td>32 (1.0%)</td>
</tr>
<tr>
<td>Fukuoka</td>
<td>179 (5.8%)</td>
<td>Okinawa</td>
<td>39 (1.3%)</td>
</tr>
<tr>
<td>Fukushima</td>
<td>50 (1.6%)</td>
<td>Osaka</td>
<td>208 (6.7%)</td>
</tr>
<tr>
<td>Gifu</td>
<td>29 (0.9%)</td>
<td>Saga</td>
<td>38 (1.2%)</td>
</tr>
<tr>
<td>Gunma</td>
<td>53 (1.7%)</td>
<td>Saitama</td>
<td>106 (3.4%)</td>
</tr>
<tr>
<td>Hiroshima</td>
<td>50 (1.6%)</td>
<td>Shiga</td>
<td>24 (0.8%)</td>
</tr>
<tr>
<td>Hokkaido</td>
<td>240 (7.7%)</td>
<td>Shimane</td>
<td>7 (0.2%)</td>
</tr>
<tr>
<td>Hyogo</td>
<td>152 (4.9%)</td>
<td>Shizuoka</td>
<td>41 (1.3%)</td>
</tr>
<tr>
<td>Ibaraki</td>
<td>46 (1.6%)</td>
<td>Tochigi</td>
<td>45 (1.4%)</td>
</tr>
<tr>
<td>Ishikawa</td>
<td>22 (0.7%)</td>
<td>Tokushima</td>
<td>4 (0.1%)</td>
</tr>
<tr>
<td>Iwate</td>
<td>55 (1.8%)</td>
<td>Tokyo</td>
<td>453 (14.6%)</td>
</tr>
<tr>
<td>Kagawa</td>
<td>6 (0.2%)</td>
<td>Tottori</td>
<td>6 (0.2%)</td>
</tr>
<tr>
<td>Kagoshima</td>
<td>64 (2.1%)</td>
<td>Toyama</td>
<td>23 (0.7%)</td>
</tr>
<tr>
<td>Kanagawa</td>
<td>226 (7.3%)</td>
<td>Wakayama</td>
<td>14 (0.5%)</td>
</tr>
<tr>
<td>Kochi</td>
<td>19 (0.6%)</td>
<td>Yamagata</td>
<td>25 (0.8%)</td>
</tr>
<tr>
<td>Kumamoto</td>
<td>11 (0.4%)</td>
<td>Yamaguchi</td>
<td>35 (1.1%)</td>
</tr>
<tr>
<td>Kyoto</td>
<td>38 (1.2%)</td>
<td>Yamanashi</td>
<td>14 (0.5%)</td>
</tr>
<tr>
<td>Mie</td>
<td>16 (0.5%)</td>
<td>Others</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Miyagi</td>
<td>81 (2.6%)</td>
<td>Unknown</td>
<td>69 (2.2%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>396 (12.7%)</td>
</tr>
<tr>
<td>Professional</td>
<td>356 (11.5%)</td>
</tr>
<tr>
<td>Management</td>
<td>257 (8.3%)</td>
</tr>
<tr>
<td>Office worker</td>
<td>502 (16.1%)</td>
</tr>
<tr>
<td>Sales worker</td>
<td>166 (5.3%)</td>
</tr>
<tr>
<td>Farm/Forestry/Marine product</td>
<td>192 (6.2%)</td>
</tr>
<tr>
<td>Mining and Quarrying</td>
<td>16 (0.5%)</td>
</tr>
<tr>
<td>Transport and communication</td>
<td>95 (3.1%)</td>
</tr>
<tr>
<td>Industrial technician</td>
<td>207 (6.7%)</td>
</tr>
<tr>
<td>General worker/Service industry</td>
<td>162 (5.2%)</td>
</tr>
<tr>
<td>Others</td>
<td>66 (2.1%)</td>
</tr>
<tr>
<td>Unclassified</td>
<td>10 (0.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>684 (22.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3109 (100%)</strong></td>
</tr>
</tbody>
</table>
### Table 3) Familial history of carcinoma

<table>
<thead>
<tr>
<th>Familial history</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1645 (52.9%)</td>
</tr>
<tr>
<td>Yes</td>
<td>924 (29.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>540 (17.4%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3109 (100%)</strong></td>
</tr>
</tbody>
</table>

### Table 4) Tumors of familial history of carcinoma

<table>
<thead>
<tr>
<th>Diseases</th>
<th>No. of cases (%)</th>
<th>Diseases</th>
<th>No. of cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malig. lymphoma</td>
<td>9 (0.8%)</td>
<td>Duodenal ca.</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Leukemya</td>
<td>13 (1.0%)</td>
<td>Gallbladder ca.</td>
<td>9 (0.7%)</td>
</tr>
<tr>
<td>Brain tumor</td>
<td>12 (1.0%)</td>
<td>Pancreas ca.</td>
<td>47 (3.8%)</td>
</tr>
<tr>
<td>Mandibular ca.</td>
<td>2 (0.2%)</td>
<td>Colon ca.</td>
<td>75 (6.0%)</td>
</tr>
<tr>
<td>Thyroid ca.</td>
<td>6 (0.5%)</td>
<td>Rectal ca.</td>
<td>53 (4.3%)</td>
</tr>
<tr>
<td>Breast ca.</td>
<td>69 (5.6%)</td>
<td>Uterus ca.</td>
<td>74 (6.0%)</td>
</tr>
<tr>
<td>Lung ca.</td>
<td>149 (12.0%)</td>
<td>Ovarian ca.</td>
<td>9 (0.7%)</td>
</tr>
<tr>
<td>Mediastinal tumor</td>
<td>3 (0.2%)</td>
<td>Renal ca.</td>
<td>8 (0.6%)</td>
</tr>
<tr>
<td>Maxilla ca.</td>
<td>7 (0.6%)</td>
<td>Bladder ca.</td>
<td>16 (1.3%)</td>
</tr>
<tr>
<td>Tongue ca.</td>
<td>7 (0.6%)</td>
<td>Prostate ca.</td>
<td>12 (1.0%)</td>
</tr>
<tr>
<td>Oral ca.</td>
<td>6 (0.5%)</td>
<td>Myeloma</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Pharyngeal ca.</td>
<td>11 (0.9%)</td>
<td>Osteosarcoma</td>
<td>2 (0.2%)</td>
</tr>
<tr>
<td>Laryngeal ca.</td>
<td>30 (2.4%)</td>
<td>Skin ca.</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>Esophgeal ca.</td>
<td>98 (7.9%)</td>
<td>Others</td>
<td>8 (0.6%)</td>
</tr>
<tr>
<td>Stomach ca.</td>
<td>345 (27.8%)</td>
<td>Unknown</td>
<td>45 (3.6%)</td>
</tr>
<tr>
<td>Hepatoma</td>
<td>97 (7.8%)</td>
<td>Total cases</td>
<td>1240 (100%)</td>
</tr>
<tr>
<td>Cholangioma</td>
<td>11 (0.9%)</td>
<td>No. of patients</td>
<td>924</td>
</tr>
<tr>
<td>Jejunal ca.</td>
<td>2 (0.2%)</td>
<td></td>
<td></td>
</tr>
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</table>
Table 5) Chance and basis of diagnosis according to clinical T-category

<table>
<thead>
<tr>
<th>Chances of diagnosis</th>
<th>Superficial cancer (cTis,cT1)</th>
<th>Advanced cancer (cT2,cT3,cT4)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief complains</td>
<td>291 (35.0%)</td>
<td>1756 (85.2%)</td>
<td>2047 (70.9%)</td>
</tr>
<tr>
<td>Detection survey / dock</td>
<td>276 (33.3%)</td>
<td>131 (6.4%)</td>
<td>407 (14.1%)</td>
</tr>
<tr>
<td>Examination for other disease</td>
<td>240 (29.0%)</td>
<td>95 (4.6%)</td>
<td>355 (11.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>22 (2.7%)</td>
<td>78 (3.8%)</td>
<td>100 (3.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>829 (100%)</td>
<td>2060 (100%)</td>
<td>2889* (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Detection methods</th>
<th>Superficial cancer (cTis,cT1)</th>
<th>Advanced cancer (cT2,cT3,cT4)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esohagography</td>
<td>93 (11.2%)</td>
<td>599 (29.1%)</td>
<td>692 (24.0%)</td>
</tr>
<tr>
<td>Esohagoscopy</td>
<td>705 (85.0%)</td>
<td>1317 (63.9%)</td>
<td>2022 (70.0%)</td>
</tr>
<tr>
<td>CT-scan</td>
<td>2 (0.2%)</td>
<td>28 (1.4%)</td>
<td>30 (1.0%)</td>
</tr>
<tr>
<td>US</td>
<td>0 (0.0%)</td>
<td>3 (0.1%)</td>
<td>3 (0.1%)</td>
</tr>
<tr>
<td>Biopsy</td>
<td>7 (0.8%)</td>
<td>22 (1.1%)</td>
<td>29 (1.0%)</td>
</tr>
<tr>
<td>Others</td>
<td>1 (0.1%)</td>
<td>1 (0.05%)</td>
<td>2 (0.07%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>21 (2.5%)</td>
<td>90 (4.4%)</td>
<td>111 (3.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>829 (100%)</td>
<td>2060 (100%)</td>
<td>2889* (100%)</td>
</tr>
</tbody>
</table>

*: excluding 220 cTX, cT0, cT unknown cases
<table>
<thead>
<tr>
<th>Symptom</th>
<th>cTis, cT1</th>
<th>cT2,cT3,cT4</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases (%)</td>
<td>Cases (%)</td>
<td>(%)</td>
</tr>
<tr>
<td>None</td>
<td>472 (56.9%)</td>
<td>165 (8.0%)</td>
<td>637 (22.0%)</td>
</tr>
<tr>
<td>Chest pain</td>
<td>51 (6.2%)</td>
<td>123 (6.0%)</td>
<td>174 (6.0%)</td>
</tr>
<tr>
<td>Sense of stricture</td>
<td>69 (8.3%)</td>
<td>719 (34.9%)</td>
<td>788 (27.3%)</td>
</tr>
<tr>
<td>Unusual sensation</td>
<td>60 (7.2%)</td>
<td>79 (3.8%)</td>
<td>139 (4.8%)</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>33 (4.0%)</td>
<td>581 (28.1%)</td>
<td>613 (21.2%)</td>
</tr>
<tr>
<td>Nausea / Vomiting</td>
<td>14 (1.7%)</td>
<td>68 (3.3%)</td>
<td>82 (2.8%)</td>
</tr>
<tr>
<td>Appetite loss</td>
<td>20 (2.4%)</td>
<td>41 (2.0%)</td>
<td>61 (2.1%)</td>
</tr>
<tr>
<td>Weight loss</td>
<td>11 (1.3%)</td>
<td>52 (2.5%)</td>
<td>63 (2.2%)</td>
</tr>
<tr>
<td>Swollen of lymph node</td>
<td>7 (0.8%)</td>
<td>19 (0.9%)</td>
<td>26 (0.9%)</td>
</tr>
<tr>
<td>Hoarseness</td>
<td>4 (0.5%)</td>
<td>51 (2.5%)</td>
<td>55 (1.9%)</td>
</tr>
<tr>
<td>Others</td>
<td>58 (7.0%)</td>
<td>105 (5.1%)</td>
<td>163 (5.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>30 (3.6%)</td>
<td>58 (2.8%)</td>
<td>88 (3.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>829 (100%)</strong></td>
<td><strong>2060 (100%)</strong></td>
<td><em><em>2889</em> (100%)</em>*</td>
</tr>
</tbody>
</table>

*; excluding 220 cTX, cT0, cT unkown cases
Table 7) Double / multiple primary cancers

<table>
<thead>
<tr>
<th></th>
<th>Endoscopical treatment (EMR/Stenting)</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
</tr>
<tr>
<td>None</td>
<td>141 (61.0%)</td>
<td>614 (78.8%)</td>
<td>73 (11.2%)</td>
</tr>
<tr>
<td>Double</td>
<td>32 (13.9%)</td>
<td>66 (8.5%)</td>
<td>11 (11.2%)</td>
</tr>
<tr>
<td>Metachronous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before E-Ca</td>
<td>38 (16.5%)</td>
<td>67 (8.6%)</td>
<td>11 (11.2%)</td>
</tr>
<tr>
<td>After E-Ca</td>
<td>3 (1.3%)</td>
<td>9 (1.2%)</td>
<td>0</td>
</tr>
<tr>
<td>Multiple</td>
<td>8 (3.5%)</td>
<td>12 (1.5%)</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>9 (3.9%)</td>
<td>11 (1.2%)</td>
<td>3 (3.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>231 (100 %)</td>
<td>779 (100 %)</td>
<td>98 (100 %)</td>
</tr>
<tr>
<td>Organs</td>
<td>Synchronous</td>
<td>Metachronous</td>
<td>Total</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------</td>
<td>--------------</td>
<td>--------</td>
</tr>
<tr>
<td>Larynx/Maxilla</td>
<td>21 (5.4%)</td>
<td>21 (7.0%)</td>
<td>42 (6.2%)</td>
</tr>
<tr>
<td>Pharynx</td>
<td>66 (17.0%)</td>
<td>26 (8.7%)</td>
<td>92 (13.4%)</td>
</tr>
<tr>
<td>Oral cavity/Gum/Tongue</td>
<td>6 (1.5%)</td>
<td>13 (4.3%)</td>
<td>19 (2.8%)</td>
</tr>
<tr>
<td>Stomach</td>
<td>167 (43.0%)</td>
<td>83 (27.7%)</td>
<td>250 (36.3%)</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>44 (11.3%)</td>
<td>39 (13.0%)</td>
<td>83 (12.1%)</td>
</tr>
<tr>
<td>Liver</td>
<td>11 (2.8%)</td>
<td>8 (2.7%)</td>
<td>19 (2.8%)</td>
</tr>
<tr>
<td>Choledochus/Gallbladder</td>
<td>4 (1.0%)</td>
<td>1 (0.3%)</td>
<td>5 (0.7%)</td>
</tr>
<tr>
<td>Pancreas</td>
<td>3 (0.8%)</td>
<td>1 (0.3%)</td>
<td>4 (0.6%)</td>
</tr>
<tr>
<td>Lung/Trachea/Bronchus</td>
<td>19 (4.9%)</td>
<td>26 (8.7%)</td>
<td>45 (6.5%)</td>
</tr>
<tr>
<td>Remnant esophagus</td>
<td>1 (0.3%)</td>
<td>6 (2.0%)</td>
<td>7 (1.0%)</td>
</tr>
<tr>
<td>Uterus/Ovarium</td>
<td>2 (0.5%)</td>
<td>5 (1.7%)</td>
<td>7 (1.0%)</td>
</tr>
<tr>
<td>Breast</td>
<td>4 (1.0%)</td>
<td>8 (2.7%)</td>
<td>12 (1.7%)</td>
</tr>
<tr>
<td>Prostate</td>
<td>3 (0.7%)</td>
<td>6 (2.0%)</td>
<td>9 (1.3%)</td>
</tr>
<tr>
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</tr>
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</tr>
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</tr>
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### Table 9) Double primary cancer - Organs (in endoscopically treated cases)

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<th>Synchronous</th>
<th>Before E-Ca</th>
<th>After E-Ca</th>
<th>Before E-Ca</th>
<th>After E-Ca</th>
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<tbody>
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<tr>
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<tr>
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<tr>
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</tr>
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<tr>
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</tr>
<tr>
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<tr>
<td>Remnant esophagus</td>
<td>3 (2.6%)</td>
<td></td>
<td></td>
<td>1 (2.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uterus/Ovarium</td>
<td>4 (3.4%)</td>
<td></td>
<td></td>
<td>1 (2.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>7 (6.0%)</td>
<td></td>
<td></td>
<td>2 (4.2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td>1 (0.6%)</td>
<td>1 (0.9%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinary bladder</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leukemia</td>
<td>1 (0.9%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>2 (1.2%)</td>
<td>2 (1.7%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroid</td>
<td>3 (1.8%)</td>
<td>1 (0.9%)</td>
<td></td>
<td>2 (4.2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bone</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney</td>
<td>3 (1.8%)</td>
<td>1 (0.9%)</td>
<td>1 (4.5%)</td>
<td>1 (2.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>6 (3.5%)</td>
<td>8 (6.9%)</td>
<td></td>
<td>4 (8.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>3 (2.6%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesions</td>
<td>170 (100%)</td>
<td>116 (100%)</td>
<td>23 (100%)</td>
<td>48 (100%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cases</td>
<td>153</td>
<td>113</td>
<td>22</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Endoscopic treatment</td>
<td>Chemotherapy and/or radiotherapy</td>
<td>Surgery</td>
<td>Total (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------</td>
<td>---------------------------------</td>
<td>------------------------</td>
<td>-----------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not detected</td>
<td>3 (1.3%)</td>
<td></td>
<td></td>
<td>6 (0.2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharynx</td>
<td></td>
<td></td>
<td>3 (0.2%)</td>
<td>24 (0.8%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervical esophagus</td>
<td></td>
<td></td>
<td>6 (6.1%)</td>
<td>144 (4.8%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper thoracic eso.</td>
<td>23 (10.0%)</td>
<td>152 (19.5%)</td>
<td>16 (16.3%)</td>
<td>381 (12.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle thoracic eso.</td>
<td>150 (64.9%)</td>
<td>387 (49.7%)</td>
<td>49 (50.0%)</td>
<td>1556 (52.0%)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Lower thoracic eso.</td>
<td>42 (18.2%)</td>
<td>142 (18.2%)</td>
<td>22 (22.4%)</td>
<td>710 (23.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdominal esophagus</td>
<td>3 (1.3%)</td>
<td>18 (2.3%)</td>
<td>2 (2.0%)</td>
<td>122 (4.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EG-Junction (E=G)</td>
<td>1 (0.4%)</td>
<td></td>
<td>16 (0.9%)</td>
<td>17 (0.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardia (G)</td>
<td></td>
<td></td>
<td>2 (0.1%)</td>
<td>2 (0.07%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>9 (3.9%)</td>
<td>9 (1.2%)</td>
<td>1 (1.0%)</td>
<td>29 (1.0%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>231 (100%)</td>
<td>779 (100%)</td>
<td>98 (100%)</td>
<td>2991 (100%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13) Location of tumor
Table 14) Longitudinal tumor length on esophagography

<table>
<thead>
<tr>
<th>Length</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>not examined</td>
<td>94 (40.7%)</td>
<td>52 (6.7%)</td>
<td>4 (4.1%)</td>
<td>43 (2.3%)</td>
</tr>
<tr>
<td>~1cm</td>
<td>6 (2.6%)</td>
<td>6 (0.8%)</td>
<td>2 (2.0%)</td>
<td>24 (1.3%)</td>
</tr>
<tr>
<td>~2cm</td>
<td>25 (10.8%)</td>
<td>19 (2.4%)</td>
<td>7 (7.1%)</td>
<td>90 (4.8%)</td>
</tr>
<tr>
<td>~3cm</td>
<td>19 (8.2%)</td>
<td>43 (5.5%)</td>
<td>5 (5.1%)</td>
<td>174 (9.2%)</td>
</tr>
<tr>
<td>~4cm</td>
<td>13 (5.6%)</td>
<td>51 (6.5%)</td>
<td>8 (8.2%)</td>
<td>232 (12.3%)</td>
</tr>
<tr>
<td>~5cm</td>
<td>7 (3.0%)</td>
<td>74 (9.5%)</td>
<td>7 (7.1%)</td>
<td>249 (13.2%)</td>
</tr>
<tr>
<td>~6cm</td>
<td>7 (3.0%)</td>
<td>102 (13.1%)</td>
<td>17 (17.3%)</td>
<td>269 (14.3%)</td>
</tr>
<tr>
<td>~7cm</td>
<td>1 (0.4%)</td>
<td>53 (6.8%)</td>
<td>7 (7.1%)</td>
<td>210 (11.2%)</td>
</tr>
<tr>
<td>~8cm</td>
<td>2 (0.9%)</td>
<td>80 (10.3%)</td>
<td>8 (8.2%)</td>
<td>190 (10.1%)</td>
</tr>
<tr>
<td>~9cm</td>
<td>2 (0.9%)</td>
<td>77 (9.9%)</td>
<td>6 (6.1%)</td>
<td>91 (4.8%)</td>
</tr>
<tr>
<td>~10cm</td>
<td>0</td>
<td>30 (3.9%)</td>
<td>2 (2.0%)</td>
<td>59 (3.1%)</td>
</tr>
<tr>
<td>~11cm</td>
<td>5 (2.2%)</td>
<td>46 (5.9%)</td>
<td>4 (4.1%)</td>
<td>52 (2.8%)</td>
</tr>
<tr>
<td>~12cm</td>
<td>2 (0.9%)</td>
<td>16 (2.1%)</td>
<td>1 (1.0%)</td>
<td>21 (1.1%)</td>
</tr>
<tr>
<td>~13cm</td>
<td>1 (0.4%)</td>
<td>17 (2.2%)</td>
<td>3 (3.1%)</td>
<td>10 (0.5%)</td>
</tr>
<tr>
<td>~14cm</td>
<td>0</td>
<td>9 (1.2%)</td>
<td>1 (1.0%)</td>
<td>6 (0.3%)</td>
</tr>
<tr>
<td>~15cm</td>
<td>0</td>
<td>6 (0.8%)</td>
<td>0</td>
<td>2 (0.1%)</td>
</tr>
<tr>
<td>~16cm</td>
<td>0</td>
<td>3 (0.4%)</td>
<td>2 (2.0%)</td>
<td>4 (0.2%)</td>
</tr>
<tr>
<td>~17cm</td>
<td>0</td>
<td>1 (0.1%)</td>
<td>0</td>
<td>2 (0.1%)</td>
</tr>
<tr>
<td>17.1cm~Unknown</td>
<td>47 (20.3%)</td>
<td>85 (10.9%)</td>
<td>14 (14.3%)</td>
<td>153 (8.1%)</td>
</tr>
</tbody>
</table>

Total | 231 (100%) | 779 (100%) | 98 (100%) | 1883 (100%) | 2991 (100%) |
<table>
<thead>
<tr>
<th>Type</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>Not examined</td>
<td>2 (0.9%)</td>
<td>1 (1.3%)</td>
<td>4 (4.1%)</td>
<td>6 (0.3%)</td>
</tr>
<tr>
<td>0-I</td>
<td>7 (3.0%)</td>
<td>23 (3.0%)</td>
<td>3 (3.1%)</td>
<td>107 (5.7%)</td>
</tr>
<tr>
<td>0-IIa</td>
<td>13 (5.6%)</td>
<td>19 (2.4%)</td>
<td>6 (6.1%)</td>
<td>100 (5.3%)</td>
</tr>
<tr>
<td>0-IIb</td>
<td>40 (17.3%)</td>
<td>9 (1.2%)</td>
<td>0</td>
<td>42 (2.2%)</td>
</tr>
<tr>
<td>0-IIc</td>
<td>141 (61.0%)</td>
<td>71 (9.1%)</td>
<td>8 (8.2%)</td>
<td>226 (12.0%)</td>
</tr>
<tr>
<td>0-III</td>
<td>0</td>
<td>1 (0.1%)</td>
<td>0</td>
<td>24 (1.3%)</td>
</tr>
<tr>
<td>0-V</td>
<td>0</td>
<td>0</td>
<td>1 (0.05%)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1 (0.4%)</td>
<td>48 (6.2%)</td>
<td>10 (10.2%)</td>
<td>162 (8.6%)</td>
</tr>
<tr>
<td>2</td>
<td>6 (2.6%)</td>
<td>226 (29.0%)</td>
<td>27 (27.6%)</td>
<td>587 (31.2%)</td>
</tr>
<tr>
<td>3</td>
<td>10 (4.3%)</td>
<td>251 (32.2%)</td>
<td>25 (25.5%)</td>
<td>489 (26.0%)</td>
</tr>
<tr>
<td>4</td>
<td>1 (0.4%)</td>
<td>29 (3.7%)</td>
<td>4 (4.1%)</td>
<td>36 (1.9%)</td>
</tr>
<tr>
<td>5</td>
<td>1 (0.4%)</td>
<td>22 (2.8%)</td>
<td>2 (2.0%)</td>
<td>32 (1.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>9 (3.9%)</td>
<td>79 (10.1%)</td>
<td>9 (9.2%)</td>
<td>71 (3.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>231 (100%)</td>
<td>779 (100%)</td>
<td>98 (100%)</td>
<td>1883 (100%)</td>
</tr>
</tbody>
</table>

0-I : superficial and protruding type  
0-IIa: superficial and slight elevated type  
0-IIb: superficial and flat type  
0-IIc: superficial and slightly depressed  
0-III: superficial and distinctly depressed  
1: protruding type  
2: ulcerative and localized type  
3: ulcerative and infiltrating type  
4: diffusely infiltrating type  
5: miscellaneous type
### Table 16) Histologic types of biopsy

<table>
<thead>
<tr>
<th>Histologic types</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery Palliative operation</th>
<th>Surgical Esophagectomy</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not examined</td>
<td>22 (9.5%)</td>
<td>5 (0.6%)</td>
<td>5 (5.1%)</td>
<td>16 (0.9%)</td>
<td>48 (1.6%)</td>
</tr>
<tr>
<td>SCC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well diff.</td>
<td>117 (50.6%)</td>
<td>328 (42.1%)</td>
<td>49 (50.0%)</td>
<td>711 (40.9%)</td>
<td>1265 (423%)</td>
</tr>
<tr>
<td>Moderately diff.</td>
<td>22 (9.5%)</td>
<td>51 (6.5%)</td>
<td>4 (4.1%)</td>
<td>221 (11.7%)</td>
<td>298 (10.0%)</td>
</tr>
<tr>
<td>Poorly diff.</td>
<td>36 (15.6%)</td>
<td>226 (29.0%)</td>
<td>25 (25.5%)</td>
<td>547 (29.0%)</td>
<td>834 (27.9%)</td>
</tr>
<tr>
<td></td>
<td>7 (3.0%)</td>
<td>105 (13.5%)</td>
<td>6 (6.1%)</td>
<td>235 (12.5%)</td>
<td>353 (11.8%)</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>0</td>
<td>6 (0.8%)</td>
<td>2 (2.0%)</td>
<td>39 (2.1%)</td>
<td>47 (1.6%)</td>
</tr>
<tr>
<td>Undifferentiated</td>
<td>0</td>
<td>9 (1.2%)</td>
<td>0</td>
<td>16 (0.8%)</td>
<td>25 (0.8%)</td>
</tr>
<tr>
<td>So-called carcinosarcoma</td>
<td>0</td>
<td>2 (0.3%)</td>
<td>0</td>
<td>4 (0.2%)</td>
<td>6 (0.3%)</td>
</tr>
<tr>
<td>Malignant melanoma</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1 (0.05%)</td>
<td>1 (0.03%)</td>
</tr>
<tr>
<td>Others</td>
<td>1 (0.4%)</td>
<td>8 (1.0%)</td>
<td>0</td>
<td>17 (0.9%)</td>
<td>26 (0.9%)</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>2 (0.9%)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2 (0.07%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>24 (10.4%)</td>
<td>39 (5.0%)</td>
<td>7 (7.0%)</td>
<td>16 (0.9%)</td>
<td>86 (2.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>231 (100%)</td>
<td>779 (100%)</td>
<td>98 (100%)</td>
<td>1883 (100%)</td>
<td>2991 (100%)</td>
</tr>
</tbody>
</table>
Table 17) Depth of tumor invasion  cT (Clinical TNM-classification)

<table>
<thead>
<tr>
<th>cT</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>cTx</td>
<td>0</td>
<td>10 (1.3%)</td>
<td>1 ( 1.0%)</td>
<td>6 (0.3%)</td>
</tr>
<tr>
<td>cT0</td>
<td>3 (1.3%)</td>
<td>3 (0.4%)</td>
<td>0</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>cTis</td>
<td>62 (26.8%)</td>
<td>4 (0.5%)</td>
<td>3 ( 3.1%)</td>
<td>16 (0.9%)</td>
</tr>
<tr>
<td>cT1</td>
<td>37 (16.0%)</td>
<td>44 (5.6%)</td>
<td>9 ( 9.2%)</td>
<td>165 (8.8%)</td>
</tr>
<tr>
<td>cT1a</td>
<td>70 (30.3%)</td>
<td>17 (2.2%)</td>
<td>1 ( 1.0%)</td>
<td>61 (3.2%)</td>
</tr>
<tr>
<td>cT1b</td>
<td>15 (6.5%)</td>
<td>55 (7.1%)</td>
<td>11 (11.2%)</td>
<td>253 (13.4%)</td>
</tr>
<tr>
<td>cT2</td>
<td>0</td>
<td>89 (11.4%)</td>
<td>9 ( 9.2%)</td>
<td>331 (17.6%)</td>
</tr>
<tr>
<td>cT3</td>
<td>11 (4.8%)</td>
<td>269 (34.5%)</td>
<td>31 (31.6%)</td>
<td>821 (43.6%)</td>
</tr>
<tr>
<td>cT4</td>
<td>8 (3.5%)</td>
<td>262 (33.6%)</td>
<td>26 (26.5%)</td>
<td>167 (8.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>25 (10.8%)</td>
<td>26 (3.3%)</td>
<td>7 ( 7.1%)</td>
<td>58 (3.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>231 (100%)</td>
<td>779 (100%)</td>
<td>98 (100%)</td>
<td>1883 (100%)</td>
</tr>
</tbody>
</table>
### Table 18) Lymph node metastasis, cN; and Organ metastasis, cM (Clinical TNM-classification)

<table>
<thead>
<tr>
<th>cN</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cNx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cN0</td>
<td>190 (82.3%)</td>
<td>252 (26.0%)</td>
<td>903 (48.0%)</td>
<td>1092 (43.6%)</td>
</tr>
<tr>
<td>cN1</td>
<td>10 (4.3%)</td>
<td>460 (64.0%)</td>
<td>883 (46.9%)</td>
<td>1232 (49.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>26 (11.3%)</td>
<td>30 (4.8%)</td>
<td>64 (3.4%)</td>
<td>88 (3.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>231 (100%)</td>
<td>779 (100%)</td>
<td>1883 (100%)</td>
<td>2502 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>cM</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cMx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cM0</td>
<td>201 (87.0%)</td>
<td>485 (62.3%)</td>
<td>1638 (87.0%)</td>
<td>2057 (82.2%)</td>
</tr>
<tr>
<td>cM1</td>
<td>2 (0.9%)</td>
<td>50 (6.4%)</td>
<td>36 (1.9%)</td>
<td>147 (5.9%)</td>
</tr>
<tr>
<td>cM1a</td>
<td>2 (0.9%)</td>
<td>49 (6.3%)</td>
<td>46 (2.4%)</td>
<td>59 (2.4%)</td>
</tr>
<tr>
<td>cM1b</td>
<td>2 (0.9%)</td>
<td>146 (18.7%)</td>
<td>99 (5.3%)</td>
<td>154 (6.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>22 (9.5%)</td>
<td>22 (2.8%)</td>
<td>57 (3.0%)</td>
<td>61 (2.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>231 (100%)</td>
<td>779 (100%)</td>
<td>1883 (100%)</td>
<td>2502 (100%)</td>
</tr>
</tbody>
</table>
### Table 19) Metastatic Organs of cM1 (Clinical TNM classification)

<table>
<thead>
<tr>
<th>Metastatic organs</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>PUL</td>
<td>0</td>
<td>60 (20.0%)</td>
<td>1 (4.0%)</td>
<td>9 (4.7%)</td>
</tr>
<tr>
<td>OSS</td>
<td>2 (33.3%)</td>
<td>14 (4.7%)</td>
<td>0</td>
<td>3 (1.6%)</td>
</tr>
<tr>
<td>HEP</td>
<td>1 (16.7%)</td>
<td>55 (18.3%)</td>
<td>4 (16.0%)</td>
<td>18 (9.5%)</td>
</tr>
<tr>
<td>BRA</td>
<td>0</td>
<td>5 (1.7%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LYM</td>
<td>2 (33.3%)</td>
<td>138 (46.0%)</td>
<td>18 (72.0%)</td>
<td>125 (65.8%)</td>
</tr>
<tr>
<td>MAR</td>
<td>0</td>
<td>1 (0.3%)</td>
<td>0</td>
<td>1 (0.5%)</td>
</tr>
<tr>
<td>PLE</td>
<td>0</td>
<td>3 (1.0%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PER</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2 (1.1%)</td>
</tr>
<tr>
<td>SKI</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTH</td>
<td>0</td>
<td>8 (2.7%)</td>
<td>0</td>
<td>3 (1.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>1 (16.7%)</td>
<td>16 (5.3%)</td>
<td>2 (8.0%)</td>
<td>29 (15.3%)</td>
</tr>
<tr>
<td>Lesions</td>
<td>6 (100%)</td>
<td>300 (100%)</td>
<td>25 (100%)</td>
<td>190 (100%)</td>
</tr>
<tr>
<td>One organ</td>
<td>5 (83.3%)</td>
<td>187 (76.3%)</td>
<td>19 (55.0%)</td>
<td>143 (79.0%)</td>
</tr>
<tr>
<td>Two organs</td>
<td>0</td>
<td>32 (13.1%)</td>
<td>2 (20.0%)</td>
<td>9 (5.0%)</td>
</tr>
<tr>
<td>Three organs</td>
<td>0</td>
<td>8 (3.3%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Four organs~</td>
<td>0</td>
<td>2 (0.8%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>1 (16.7%)</td>
<td>16 (6.5%)</td>
<td>2 (20.0%)</td>
<td>29 (16.0%)</td>
</tr>
<tr>
<td>Total cases</td>
<td>6 (100%)</td>
<td>245 (100%)</td>
<td>23 (100%)</td>
<td>181 (100%)</td>
</tr>
<tr>
<td>cStage</td>
<td>Endoscopic treatment</td>
<td>Chemotherapy and/or radiotherapy</td>
<td>Surgery</td>
<td>Total (%)</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------</td>
<td>----------------------------------</td>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliativeoperation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>0</td>
<td>62 (26.8%)</td>
<td>5 (0.6%)</td>
<td>3 (3.1%)</td>
<td>19 (1.0%)</td>
</tr>
<tr>
<td>I</td>
<td>121 (52.4%)</td>
<td>91 (11.7%)</td>
<td>10 (10.2%)</td>
<td>381 (20.2%)</td>
</tr>
<tr>
<td>IIA</td>
<td>3 (1.3%)</td>
<td>92 (11.8%)</td>
<td>7 (7.1%)</td>
<td>435 (23.1%)</td>
</tr>
<tr>
<td>IIB</td>
<td>0 (0.4%)</td>
<td>29 (3.7%)</td>
<td>9 (9.2%)</td>
<td>192 (10.2%)</td>
</tr>
<tr>
<td>III</td>
<td>8 (3.4%)</td>
<td>240 (30.8%)</td>
<td>36 (36.7%)</td>
<td>570 (30.3%)</td>
</tr>
<tr>
<td>IV</td>
<td>1 (0.4%)</td>
<td>43 (5.5%)</td>
<td>1 (1.0%)</td>
<td>34 (1.8%)</td>
</tr>
<tr>
<td>VIA</td>
<td>1 (0.9%)</td>
<td>45 (5.8%)</td>
<td>5 (5.1%)</td>
<td>46 (2.4%)</td>
</tr>
<tr>
<td>IVB</td>
<td>2 (0.9%)</td>
<td>141 (18.1%)</td>
<td>15 (15.3%)</td>
<td>99 (5.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>33 (14.3%)</td>
<td>93 (11.9%)</td>
<td>12 (12.2%)</td>
<td>107 (5.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>231 (100%)</td>
<td>779 (100%)</td>
<td>98 (100%)</td>
<td>1883 (100%)</td>
</tr>
</tbody>
</table>
II. Clinical Results of Patients treated with Endoscopically in 1998
Table 21) Treatment details in patients with endoscopic treatment

<table>
<thead>
<tr>
<th>Treatment details</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoscopic treatment only</td>
<td>221</td>
<td>(95.2%)</td>
</tr>
<tr>
<td>Endoscopic treatment + Radiotherapy</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Endoscopic treatment + Chemotherapy</td>
<td>11</td>
<td>(4.8%)</td>
</tr>
<tr>
<td>Endoscopic treatment + Hyperthermia</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Endoscopic treatment + Chemoradiotherapy</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>231</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment details</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMR</td>
<td>207</td>
<td>(89.6%)</td>
</tr>
<tr>
<td>EMR+PDT</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>EMR+YAG laser</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>EMR+MCT</td>
<td>3</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>EMR+Other treatment</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Esophageal stenting</td>
<td>15</td>
<td>(6.5%)</td>
</tr>
<tr>
<td>Esophageal stenting + tracheal stenting</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>231</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

EMR: endoscopic mucosal resection
PDT: photodynamic therapy
MCT: microwave coaguration therapy
Table 22) Endoscopic mucosal resection (EMR)

<table>
<thead>
<tr>
<th>Method of EMR</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One piece resection</td>
<td>118</td>
<td>(50.7%)</td>
</tr>
<tr>
<td>Piecemeal resection</td>
<td>93</td>
<td>(43.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>(5.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>213</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radicality of EMR</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete resection</td>
<td>164</td>
<td>(77.0%)</td>
</tr>
<tr>
<td>Non-complete resection</td>
<td>24</td>
<td>(11.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>25</td>
<td>(11.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>213</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

No. of lesions treated by EMR

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>118</td>
<td>(55.4%)</td>
</tr>
<tr>
<td>2</td>
<td>39</td>
<td>(18.3%)</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td>(6.6%)</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>(3.3%)</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>(1.4%)</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>(2.8%)</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>10 and/or over</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>18</td>
<td>(8.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>213</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Complications of EMR

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>172</td>
<td>(80.8%)</td>
</tr>
<tr>
<td>Perforation</td>
<td>1</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>Bleeding</td>
<td>3</td>
<td>(1.4%)</td>
</tr>
<tr>
<td>Mediastinitis</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Stenosis</td>
<td>8</td>
<td>(3.8%)</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>27</td>
<td>(12.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>213</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
### Table 23) Prognosis of patients underwent endoscopic mucosal resection (EMR)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>173</td>
<td>(81.2%)</td>
</tr>
<tr>
<td>Dead</td>
<td>19</td>
<td>(8.9%)</td>
</tr>
<tr>
<td>Lost of follow up</td>
<td>14</td>
<td>(6.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>7</td>
<td>(3.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>213</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of recurrence</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>156</td>
<td>(73.2%)</td>
</tr>
<tr>
<td>Lymph node</td>
<td>1</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>Lung</td>
<td>3</td>
<td>(1.4%)</td>
</tr>
<tr>
<td>Liver</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Bone</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Brain</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>6</td>
<td>(2.8%)</td>
</tr>
<tr>
<td>Dissemination</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Stump</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>46</td>
<td>(21.6%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>213</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Causes of Death</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death due to esophageal cancer</td>
<td>10</td>
<td>(11.8%)</td>
</tr>
<tr>
<td>Death due to other cancer</td>
<td>2</td>
<td>(41.2%)</td>
</tr>
</tbody>
</table>
| Death due to other disease (rec+)
|                                   | 0     |       |
| Death due to other disease (rec-)
|                                   | 5     | (35.3%) |
| Death due to other disease (rec?)
|                                   | 0     | (5.9%) |
| Death related to treatment within 30 days
|                                   | 0     |       |
| Death related to treatment after 30 days
|                                   | 1     |       |
| Unknown                           | 1     | (5.9%) |
| **Total**                         | 19    | (100%) |

rec : recurrence
Table 24) Histologic findings of EMR specimen (tumor size, histologic type, and depth of tumor invasion)

<table>
<thead>
<tr>
<th>Size of lesion</th>
<th>Cases   (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 9mm</td>
<td>15 (7.0%)</td>
</tr>
<tr>
<td>10~19mm</td>
<td>39 (18.3%)</td>
</tr>
<tr>
<td>20~29mm</td>
<td>14 (6.6%)</td>
</tr>
<tr>
<td>30~39mm</td>
<td>7 (3.3%)</td>
</tr>
<tr>
<td>40~49mm</td>
<td>4 (1.9%)</td>
</tr>
<tr>
<td>50~59mm</td>
<td>3 (1.4%)</td>
</tr>
<tr>
<td>60~69mm</td>
<td>3 (1.4%)</td>
</tr>
<tr>
<td>70mm~</td>
<td>2 (0.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>126 (59.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>213 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pathological depth of tumor invasion (pT)</th>
<th>Cases   (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pT0</td>
<td>2 (0.9%)</td>
</tr>
<tr>
<td>pTis</td>
<td>77 (36.2%)</td>
</tr>
<tr>
<td>pT1a(lpm)</td>
<td>54 (25.4%)</td>
</tr>
<tr>
<td>pT1a(mm)</td>
<td>23 (10.8%)</td>
</tr>
<tr>
<td>pt1b</td>
<td>19 (8.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>38 (17.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>213 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Histologic type of EMR specimen</th>
<th>Cases   (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Squamous cell ca (SCC)</td>
<td>92 (43.2%)</td>
</tr>
<tr>
<td>Well diff. SCC</td>
<td>18 (8.5%)</td>
</tr>
<tr>
<td>Moderately diff. SCC</td>
<td>52 (24.4%)</td>
</tr>
<tr>
<td>Poorly diff. SCC</td>
<td>7 (3.3%)</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>0</td>
</tr>
<tr>
<td>Barrett's carcinoma</td>
<td>0</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>5 (2.3%)</td>
</tr>
<tr>
<td>Others</td>
<td>2 (0.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>37 (17.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>213 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-classification of histological depth of invasion in superficial cancer</th>
<th>Cases   (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>m1(ep)</td>
<td>77 (36.2%)</td>
</tr>
<tr>
<td>m2(lpm)</td>
<td>54 (25.4%)</td>
</tr>
<tr>
<td>m3(mm)</td>
<td>23 (10.8%)</td>
</tr>
<tr>
<td>sm1</td>
<td>10 (4.7%)</td>
</tr>
<tr>
<td>sm2</td>
<td>5 (2.3%)</td>
</tr>
<tr>
<td>sm3</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>44 (20.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>213 (100%)</td>
</tr>
</tbody>
</table>

ep: epithelium
lpm: lamina propria mucosa
mm: muscularis mucosa
Table 25) Histologic findings of EMR specimen (intraepithelial spread, vessel invasion, multiple cancer, and multiple lesion)

<table>
<thead>
<tr>
<th>Intraepithelial spread (ie)</th>
<th>Cases (%)</th>
<th>Lympatic vessel invasion (ly)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>39 (18.3%)</td>
<td>(-)</td>
<td>106 (49.8%)</td>
</tr>
<tr>
<td>(+)</td>
<td>9 (4.2%)</td>
<td>(+)</td>
<td>5 (2.3%)</td>
</tr>
<tr>
<td>(+++) superficial spread</td>
<td>1 (0.5%)</td>
<td>Unknown</td>
<td>102 (47.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>164 (77.0%)</td>
<td>Total</td>
<td>213 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood vessel invasion (v)</th>
<th>Cases (%)</th>
<th>Multiple primary cancer</th>
<th>Cases (%)</th>
<th>No. of multiple primary lesions</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>107 (50.2%)</td>
<td>(-)</td>
<td>41 (19.2%)</td>
<td>2</td>
<td>6 (25.0%)</td>
</tr>
<tr>
<td>(+)</td>
<td>3 (1.4%)</td>
<td>(+)</td>
<td>5 (2.3%)</td>
<td>3</td>
<td>2 (50.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>103 (48.4%)</td>
<td>Unknown</td>
<td>167 (78.4%)</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>213 (100%)</td>
<td>Total</td>
<td>213 (100%)</td>
<td>Total</td>
<td>8 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple malignant lesions</th>
<th>Cases (%)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>38 (17.8%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(+)</td>
<td>8 (3.8%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>167 (78.4%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>213 (100%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 1) Survival of patients treated with endoscopy (April 2002)

Overall Survival

Logrank test  p=0.0173

EMR  (n=178)
Others (n=5)

Months after treatment

Overall Survival:
- EMR: 95.8%
- Others: 90.0%
- EMR vs. Others: Logrank test p=0.0173
Figure 2) Survival of patients treated with EMR

(April. 2002)

Overall Survival

Logrank test  p=0.7569
Figure 3) Survival of patients according to type of EMR

(April. 2002)

Overall Survival

Logrank test  $p=0.7783$

- one piece (n=91)
- piecemeal (n=77)
III. Clinical Results in Patients treated with Chemotherapy and/or Radiotherapy in 1998
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiotherapy alone</td>
<td>264</td>
<td>(33.9%)</td>
</tr>
<tr>
<td>Chemoradiotherapy</td>
<td>460</td>
<td>(59.1%)</td>
</tr>
<tr>
<td>Chemotherapy alone</td>
<td>55</td>
<td>(7.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>779</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Endo-irradiation</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>514</td>
<td>(68.2%)</td>
</tr>
<tr>
<td>(+)</td>
<td>70</td>
<td>(17.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>140</td>
<td>(14.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>724</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radiotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curative radiation</td>
<td>417</td>
<td>(40.5%)</td>
</tr>
<tr>
<td>Palliative radiation</td>
<td>183</td>
<td>(26.1%)</td>
</tr>
<tr>
<td>Others</td>
<td>56</td>
<td>(10.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>68</td>
<td>(22.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>724</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doses of irradiation (Gy)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>18</td>
<td>(2.5%)</td>
</tr>
<tr>
<td>~ 19</td>
<td>66</td>
<td>(9.1%)</td>
</tr>
<tr>
<td>20 ~ 39</td>
<td>126</td>
<td>(17.4%)</td>
</tr>
<tr>
<td>40 ~ 59</td>
<td>412</td>
<td>(56.9%)</td>
</tr>
<tr>
<td>60 ~ 79</td>
<td>2</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>80 ~ 99</td>
<td>4</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>100 ~</td>
<td>96</td>
<td>(13.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td>(100%)</td>
</tr>
<tr>
<td>Total</td>
<td>724</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Table 26) Radiotherapy and/or chemotherapy (non surgically treated cases)
Table 27) Effectiveness of radiotherapy and/or chemotherapy (non surgically treated cases)

<table>
<thead>
<tr>
<th>Chemotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>0</td>
</tr>
<tr>
<td>(+)</td>
<td>515 (98.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>8 (1.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>515 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response to chemoradiotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>82 (17.8%)</td>
</tr>
<tr>
<td>PR</td>
<td>185 (40.2%)</td>
</tr>
<tr>
<td>NC</td>
<td>78 (17.0%)</td>
</tr>
<tr>
<td>PD</td>
<td>38 (8.3%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>18 (3.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>59 (12.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>460 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response to radiotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>56 (21.2%)</td>
</tr>
<tr>
<td>PR</td>
<td>62 (23.5%)</td>
</tr>
<tr>
<td>NC</td>
<td>26 (9.8%)</td>
</tr>
<tr>
<td>PD</td>
<td>9 (3.4%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>25 (9.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>86 (32.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>264 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response to chemotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>3 (5.5%)</td>
</tr>
<tr>
<td>PR</td>
<td>23 (41.8%)</td>
</tr>
<tr>
<td>NC</td>
<td>9 (16.4%)</td>
</tr>
<tr>
<td>PD</td>
<td>11 (20.0%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>1 (1.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>8 (14.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>55 (100%)</td>
</tr>
</tbody>
</table>
Figure 4) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy

(April. 2002)

Overall Survival

- Radiotherapy (n=239)
- Chemoradiotherapy (n=437)
- Chemotherapy (n=46)

Logrank test  p=0.0131
Figure 5) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage I-IIA)

- cTNM Stage 0, I, and IIA Cases -

(April. 2002)

Overall Survival

Logrank test  p=0.0583

Months after Treatment

Radiotherapy (n=99)
Chemoradiotherapy (n=84)
Chemotherapy (n=2)
Figure 6) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage IIB-IVB)

-cTNM Stage IIB, III, IVA, IVB Cases -

Overall Survival

Logrank test  p=0.1844

Radiotherapy (n=106)
Chemoradiotherapy (n=311)
Chemotherapy (n=41)
IV. Clinical Results in Patients treated by Palliative Operation in 1998
Table 28) Palliative operation cases without esophagectomy

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cases   (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>26 (26.5%)</td>
</tr>
<tr>
<td>Surgery + radiotherapy</td>
<td>18 (18.4%)</td>
</tr>
<tr>
<td>Surgery + radiotherapy +</td>
<td>2 (2.0%)</td>
</tr>
<tr>
<td>endoscopic treatment</td>
<td></td>
</tr>
<tr>
<td>Surgery + chemoradiotherapy</td>
<td>42 (42.9%)</td>
</tr>
<tr>
<td>Surgery + chemotherapy</td>
<td>9 (9.2%)</td>
</tr>
<tr>
<td>Surgery + endoscopic treatment</td>
<td>1 (1.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>98 (100%)</td>
</tr>
</tbody>
</table>

Surgical treatment

<table>
<thead>
<tr>
<th>Surgical treatment</th>
<th>Cases   (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probe thoraco / laparotomy</td>
<td>51 (52.0%)</td>
</tr>
<tr>
<td>Bypass-operation</td>
<td>14 (14.3%)</td>
</tr>
<tr>
<td>Gastrostomy / Jejunostomy</td>
<td>6 (6.1%)</td>
</tr>
<tr>
<td>Lymph adenectomy</td>
<td>16 (16.3%)</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>11 (11.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>98 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total doses (Gy)</th>
<th>Cases   (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>36 (36.7%)</td>
</tr>
<tr>
<td>2 - 19</td>
<td>2 (2.0%)</td>
</tr>
<tr>
<td>20 - 39</td>
<td>6 (6.1%)</td>
</tr>
<tr>
<td>40 - 59</td>
<td>24 (24.5%)</td>
</tr>
<tr>
<td>60 - 79</td>
<td>21 (21.4%)</td>
</tr>
<tr>
<td>80 - 99</td>
<td>2 (2.0%)</td>
</tr>
<tr>
<td>100 -</td>
<td>0</td>
</tr>
<tr>
<td><strong>Unknown</strong></td>
<td>7 (7.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>98 (100%)</td>
</tr>
</tbody>
</table>
Table 29) Effectiveness of treatments (Palliative operation cases without esophagectomy)

<table>
<thead>
<tr>
<th>Chemotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>45 (45.9%)</td>
</tr>
<tr>
<td>(+)</td>
<td>53 (54.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>98 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surg + chemoradiotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>8 (18.2%)</td>
</tr>
<tr>
<td>PR</td>
<td>11 (25.0%)</td>
</tr>
<tr>
<td>NC</td>
<td>14 (31.8%)</td>
</tr>
<tr>
<td>PD</td>
<td>3 (6.8%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>4 (9.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>4 (9.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>44 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surg + radiotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>2 (11.1%)</td>
</tr>
<tr>
<td>PR</td>
<td>4 (22.2%)</td>
</tr>
<tr>
<td>NC</td>
<td>3 (16.7%)</td>
</tr>
<tr>
<td>PD</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>2 (11.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>6 (33.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>18 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surg + chemotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>0</td>
</tr>
<tr>
<td>PR</td>
<td>2 (22.2%)</td>
</tr>
<tr>
<td>NC</td>
<td>2 (22.2%)</td>
</tr>
<tr>
<td>PD</td>
<td>1 (11.1%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>1 (11.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>3 (33.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>9 (100%)</td>
</tr>
</tbody>
</table>
Figure 7) Cumulative survival curves of patients treated by palliative surgery (cTNM) (April. 2002)

Logrank test p<0.0001

Overall Survival

Months after Surgery

- cTNM Stage 0 (n=3)
- cTNM Stage I (n=9)
- cTNM Stage IIA (n=6)
- cTNM Stage IIB (n=8)
- cTNM Stage III (n=30)
- cTNM Stage IV (n=18)
V. Clinical Results in Patients treated with Esophagectomy in 1998
### Table 30) Cases of esophagectomy (treatment, surgical procedure, and location of the tumor)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esophagectomy</td>
<td>652</td>
<td>(34.6%)</td>
</tr>
<tr>
<td>Esophagectomy + radiotherapy*</td>
<td>591</td>
<td>(31.4%)</td>
</tr>
<tr>
<td>Esophagectomy + chemoradiotherapy**</td>
<td>351</td>
<td>(18.6%)</td>
</tr>
<tr>
<td>Esophagectomy + chemotherapy***</td>
<td>277</td>
<td>(14.7%)</td>
</tr>
<tr>
<td>Esophagectomy + other treatment</td>
<td>12</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

* : + endoscopic treatment (3 cases), + other treatment (1 case)
** : + hyperthermia (9 cases), + endoscopic treatment (10 cases)
***: + hyperthermia (1 cases), + endoscopic treatment (9 cases)

<table>
<thead>
<tr>
<th>Surgical procedures</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esophagectomy without reconstruction</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>Esophagectomy + reconstruction (2-stage operation)</td>
<td>40</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>Esophagectomy with reconstruction</td>
<td>1832</td>
<td>(97.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>10</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharynx</td>
<td>20</td>
<td>(1.1%)</td>
</tr>
<tr>
<td>Cervical esophagus</td>
<td>70</td>
<td>(3.7%)</td>
</tr>
<tr>
<td>Upper thoracic esophagus</td>
<td>195</td>
<td>(10.4%)</td>
</tr>
<tr>
<td>Middle thoracic esophagus</td>
<td>956</td>
<td>(50.8%)</td>
</tr>
<tr>
<td>Lower thoracic esophagus</td>
<td>506</td>
<td>(26.9%)</td>
</tr>
<tr>
<td>Abdominal esophagus</td>
<td>107</td>
<td>(5.7%)</td>
</tr>
<tr>
<td>EG Junction</td>
<td>15</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>Cardia</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>10</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
Table 31) Cases of esophagectomy (surgical approach and region of lymphadenectomy)

<table>
<thead>
<tr>
<th>Approach</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical approach</td>
<td>59</td>
<td>(3.1%)</td>
</tr>
<tr>
<td>Right thoracotomy</td>
<td>1495</td>
<td>(79.4%)</td>
</tr>
<tr>
<td>Left thoracotomy</td>
<td>31</td>
<td>(1.6%)</td>
</tr>
<tr>
<td>Left thoracoabdominal approach</td>
<td>50</td>
<td>(2.7%)</td>
</tr>
<tr>
<td>Laparotomy</td>
<td>28</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>Transhiatal (without blunt dissection)</td>
<td>15</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>Transhiatal (with blunt dissection)</td>
<td>115</td>
<td>(6.1%)</td>
</tr>
<tr>
<td>Sternotomy</td>
<td>16</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>Others</td>
<td>20</td>
<td>(2.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>54</td>
<td>(1.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region of lymphadenectomy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>40</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>C</td>
<td>37</td>
<td>(2.0%)</td>
</tr>
<tr>
<td>C+UM</td>
<td>20</td>
<td>(1.1%)</td>
</tr>
<tr>
<td>C+UM+MLM</td>
<td>22</td>
<td>(1.2%)</td>
</tr>
<tr>
<td>C+UM+MLM+A</td>
<td>636</td>
<td>(33.8%)</td>
</tr>
<tr>
<td>C+UM+A</td>
<td>5</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>C+MLM</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>C+MLM+A</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>C+A</td>
<td>12</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>UM</td>
<td>5</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>UM+MLM</td>
<td>28</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>UM+MLM+A</td>
<td>650</td>
<td>(34.5%)</td>
</tr>
<tr>
<td>MLM+A</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>MLM</td>
<td>10</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>MLM+A</td>
<td>198</td>
<td>(10.5%)</td>
</tr>
<tr>
<td>A</td>
<td>77</td>
<td>(4.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>138</td>
<td>(7.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM: middle-lower mediastinal nodes
A: abdominal nodes
Table 32) Cases of esophagectomy (esophageal reconstruction)

<table>
<thead>
<tr>
<th>Reconstruction route</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1 (0.05%)</td>
</tr>
<tr>
<td>Antethoracic</td>
<td>199 (10.6%)</td>
</tr>
<tr>
<td>Retrosternal</td>
<td>718 (38.1%)</td>
</tr>
<tr>
<td>Posterior mediastinal</td>
<td>473 (25.1%)</td>
</tr>
<tr>
<td>High intrathoracic*</td>
<td>228 (12.1%)</td>
</tr>
<tr>
<td>Low intrathoracic**</td>
<td>95 (5.0%)</td>
</tr>
<tr>
<td>Transhiatal</td>
<td>28 (1.5%)</td>
</tr>
<tr>
<td>Cervical</td>
<td>31 (1.6%)</td>
</tr>
<tr>
<td>Others</td>
<td>2 (5.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>108 (0.1%)</td>
</tr>
<tr>
<td>** Total **</td>
<td>** 1883 (100%) **</td>
</tr>
</tbody>
</table>

* with upper mediastinal anastomosis
** with middle/lower mediastinal anastomosis

Organs for esophageal replacement

<table>
<thead>
<tr>
<th>Organs for esophageal replacement</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1 (0.05%)</td>
</tr>
<tr>
<td>Whole stomach*</td>
<td>85 (4.5%)</td>
</tr>
<tr>
<td>Gastric tube**</td>
<td>1421 (75.4%)</td>
</tr>
<tr>
<td>Jejunum***</td>
<td>81 (4.3%)</td>
</tr>
<tr>
<td>Free junum****</td>
<td>27 (1.4%)</td>
</tr>
<tr>
<td>Colon*****</td>
<td>109 (5.8%)</td>
</tr>
<tr>
<td>Free colon</td>
<td>4 (0.2%)</td>
</tr>
<tr>
<td>Skin graft</td>
<td>0</td>
</tr>
<tr>
<td>Others</td>
<td>35 (1.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>120 (6.4%)</td>
</tr>
</tbody>
</table>
| Total                             | ** 1883 (100%) **

* : Free jejunum+Whole stomach (1 case)
** : Gastric tube+Jejunum (4 cases), Free jejunum+Gastric tube (3 cases)
    Colon+Gastric tube+Free jejunum (1 case), Skin roll+Gastric Tube (1case)
***: Jejunum+Colon (1 case)
****: Free jejunum+Colon (1 case)
******: Colon+Skin roll (1 case)
### Table 33) Cases of intrathoracic esophagectomy (location of the tumor and reconstruction route)

<table>
<thead>
<tr>
<th>Location</th>
<th>Upper thoracic</th>
<th>Middle thoracic</th>
<th>Lower thoracic</th>
<th>Total thoracic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases (%)</td>
<td>Cases (%)</td>
<td>Cases (%)</td>
<td>Cases (%)</td>
</tr>
<tr>
<td>(-)</td>
<td>0 (164%)</td>
<td>0 (10.0%)</td>
<td>0 (9.7%)</td>
<td>0 (10.7%)</td>
</tr>
<tr>
<td>Antethoracic</td>
<td>32 (33.3%)</td>
<td>96 (38.9%)</td>
<td>49 (37.9%)</td>
<td>177 (38.0%)</td>
</tr>
<tr>
<td>Retrosternal</td>
<td>65 (22.6%)</td>
<td>251 (26.3%)</td>
<td>130 (25.7%)</td>
<td>425 (25.6%)</td>
</tr>
<tr>
<td>Posterior mediastinal</td>
<td>44 (12.3%)</td>
<td>112 (11.7%)</td>
<td>67 (13.2%)</td>
<td>203 (12.3%)</td>
</tr>
<tr>
<td>High intrathoracic*</td>
<td>24 (4.1%)</td>
<td>46 (4.8%)</td>
<td>23 (4.5%)</td>
<td>77 (4.6%)</td>
</tr>
<tr>
<td>Low intrathoracic**</td>
<td>8 (0.5%)</td>
<td>13 (1.4%)</td>
<td>9 (1.8%)</td>
<td>23 (1.4%)</td>
</tr>
<tr>
<td>Transhiatal</td>
<td>1 (3.1%)</td>
<td>13 (1.4%)</td>
<td>6 (1.2%)</td>
<td>25 (1.5%)</td>
</tr>
<tr>
<td>Cervical</td>
<td>0 (7.7%)</td>
<td>629 (37.9%)</td>
<td>1657 (25.6%)</td>
<td>1986 (100%)</td>
</tr>
<tr>
<td>Others</td>
<td>15 (1.2%)</td>
<td>52 (5.4%)</td>
<td>25 (1.2%)</td>
<td>96 (5.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>195 (100%)</td>
<td>956 (100%)</td>
<td>506 (100%)</td>
<td>1657 (100%)</td>
</tr>
<tr>
<td>Location</td>
<td>Pharynx</td>
<td>Cervical esophagus</td>
<td>Abdominal esophagus</td>
<td>EGJ/Cardia</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------</td>
<td>--------------------</td>
<td>---------------------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>Cases</td>
<td>(%)</td>
<td>Cases</td>
<td>(%)</td>
</tr>
<tr>
<td>(-)</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>Antethoracic</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>(18.6%)</td>
</tr>
<tr>
<td>Retrosternal</td>
<td>8</td>
<td>(40.0%)</td>
<td>26</td>
<td>(37.1%)</td>
</tr>
<tr>
<td>Posterior mediastinal</td>
<td>4</td>
<td>(20.0%)</td>
<td>15</td>
<td>(21.4%)</td>
</tr>
<tr>
<td>High intrathoracic*</td>
<td>2</td>
<td>(10.0%)</td>
<td>6</td>
<td>(8.6%)</td>
</tr>
<tr>
<td>Low intrathoracic**</td>
<td>3</td>
<td>(15.0%)</td>
<td>4</td>
<td>(5.7%)</td>
</tr>
<tr>
<td>Transhiatal</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>(2.9%)</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>(2.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20</td>
<td>(100%)</td>
<td>70</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

* E=G:15cases, G:4 cases

Table 34) Cases of esophagectomy for external lesion of the thorax (location of the tumor and reconstruction route)
### Table 35: Cases of intrathoracic esophagectomy (location of the tumor and lymph node dissection)

<table>
<thead>
<tr>
<th>Location</th>
<th>Upper thoracic</th>
<th>Middle thoracic</th>
<th>Lower thoracic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region of lymphadenectomy</td>
<td>Cases  (%)</td>
<td>Cases  (%)</td>
<td>Cases  (%)</td>
<td>Cases  (%)</td>
</tr>
<tr>
<td>(- )</td>
<td>5 (2.6%)</td>
<td>20 (2.1%)</td>
<td>10 (2.0%)</td>
<td>35 (2.1%)</td>
</tr>
<tr>
<td>C</td>
<td>6 (3.1%)</td>
<td>16 (1.7%)</td>
<td>7 (1.4%)</td>
<td>29 (1.8%)</td>
</tr>
<tr>
<td>C+UM</td>
<td>1 (0.5%)</td>
<td>11 (1.2%)</td>
<td>7 (1.4%)</td>
<td>19 (1.1%)</td>
</tr>
<tr>
<td>C+UM+MLM</td>
<td>3 (1.5%)</td>
<td>12 (1.3%)</td>
<td>4 (0.8%)</td>
<td>19 (1.1%)</td>
</tr>
<tr>
<td>C+UM+MLM+MLM+A</td>
<td>67 (34.4%)</td>
<td>327 (34.2%)</td>
<td>168 (33.2%)</td>
<td>562 (33.9%)</td>
</tr>
<tr>
<td>C+UM+MLM+A</td>
<td>1 (0.5%)</td>
<td>2 (0.2%)</td>
<td>2 (0.4%)</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>C+MLM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C+MLM+MLM+A</td>
<td>0</td>
<td>1 (0.1%)</td>
<td>2 (0.4%)</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>C+A</td>
<td>3 (1.5%)</td>
<td>4 (0.4%)</td>
<td>5 (1.0%)</td>
<td>12 (0.7%)</td>
</tr>
<tr>
<td>UM</td>
<td>0</td>
<td>1 (0.1%)</td>
<td>3 (0.6%)</td>
<td>4 (0.2%)</td>
</tr>
<tr>
<td>UM+MLM</td>
<td>1 (0.5%)</td>
<td>18 (1.9%)</td>
<td>7 (1.4%)</td>
<td>26 (1.6%)</td>
</tr>
<tr>
<td>UM+MLM+MLM+A</td>
<td>67 (34.4%)</td>
<td>334 (34.9%)</td>
<td>172 (34.0%)</td>
<td>573 (34.6%)</td>
</tr>
<tr>
<td>UM+MLM+A</td>
<td>0</td>
<td>1 (0.1%)</td>
<td>0</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>MLM</td>
<td>1 (0.5%)</td>
<td>6 (0.6%)</td>
<td>2 (0.4%)</td>
<td>9 (0.5%)</td>
</tr>
<tr>
<td>MLM+A</td>
<td>22 (11.3%)</td>
<td>87 (9.1%)</td>
<td>59 (11.7%)</td>
<td>168 (10.1%)</td>
</tr>
<tr>
<td>A</td>
<td>5 (2.6%)</td>
<td>48 (5.0%)</td>
<td>19 (3.8%)</td>
<td>72 (4.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>13 (6.7%)</td>
<td>68 (7.1%)</td>
<td>39 (7.7%)</td>
<td>120 (7.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>195 (100%)</td>
<td>956 (100%)</td>
<td>506 (100%)</td>
<td>1657 (100%)</td>
</tr>
</tbody>
</table>

C: bilateral cervical nodes  
UM: upper mediastinal nodes  
MLM: middle-lower mediastinal nodes  
A: abdominal nodes
Table 36) Cases of esophagectomy for external lesion of the thorax (location of the tumor and lymph node dissection)

<table>
<thead>
<tr>
<th>Region of lymphadenectomy</th>
<th>Location</th>
<th>Pharynx Cases (%)</th>
<th>Cervical esophagus Cases (%)</th>
<th>Abdominal esophagus Cases (%)</th>
<th>EGJ/Cardia Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-)</td>
<td>0 (20.0%)</td>
<td>2 (2.9%)</td>
<td>3 (2.8%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>4 (20.0%)</td>
<td>2 (2.9%)</td>
<td>1 (0.9%)</td>
<td>1 (5.3%)</td>
</tr>
<tr>
<td></td>
<td>C+UM</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>1 (0.9%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>C+UM+MLM</td>
<td>0 (0.0%)</td>
<td>3 (4.3%)</td>
<td>0 (0.0%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>C+UM+MLM+A</td>
<td>5 (25.0%)</td>
<td>28 (40.0%)</td>
<td>36 (33.6%)</td>
<td>5 (26.3%)</td>
</tr>
<tr>
<td></td>
<td>C+UM+A</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>C+MLM</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>C+A</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>1 (0.9%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>UM</td>
<td>1 (5.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>UM+MLM</td>
<td>7 (35.0%)</td>
<td>22 (31.4%)</td>
<td>38 (35.5%)</td>
<td>8 (42.1%)</td>
</tr>
<tr>
<td></td>
<td>UM+A</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>MLM</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>1 (0.9%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>MLM+A</td>
<td>3 (15.0%)</td>
<td>11 (15.7%)</td>
<td>13 (12.2%)</td>
<td>3 (15.8%)</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>5 (4.7%)</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Unknown</td>
<td>0 (0.0%)</td>
<td>2 (2.9%)</td>
<td>6 (5.6%)</td>
<td>2 (10.5%)</td>
</tr>
</tbody>
</table>

Total 20 (100%) 70 (100%) 107 (100%) 19 (100%)

*E=G:15 cases, G:4 cases
### Table 37) Cases of esophagectomy (vascular anastomosis and endoscopic surgery)

<table>
<thead>
<tr>
<th>Vascular anastomosis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1680</td>
<td>(89.2%)</td>
</tr>
<tr>
<td>(+)</td>
<td>94</td>
<td>(5.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>109</td>
<td>(5.8%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Endoscopic surgery</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(- )</td>
<td>1690</td>
<td>(89.8%)</td>
</tr>
<tr>
<td>Thoracoscopy</td>
<td>45</td>
<td>(2.4%)</td>
</tr>
<tr>
<td>Thoracoscopy assist</td>
<td>58</td>
<td>(3.1%)</td>
</tr>
<tr>
<td>Mediastinoscopy assist</td>
<td>7</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Laparoscopy assist</td>
<td>16</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>Thoracoscopy &amp; Laparoscopy assist</td>
<td>2</td>
<td>(0.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>65</td>
<td>(3.5%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
Table 38) Cases of esophagectomy (operative findings of cT and combined resected organs)

<table>
<thead>
<tr>
<th>Macroscopic T-category (cT)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T0</td>
<td>44</td>
<td>(2.3%)</td>
</tr>
<tr>
<td>T1</td>
<td>412</td>
<td>(21.9%)</td>
</tr>
<tr>
<td>T2</td>
<td>352</td>
<td>(18.7%)</td>
</tr>
<tr>
<td>T3</td>
<td>766</td>
<td>(40.7%)</td>
</tr>
<tr>
<td>T4</td>
<td>227</td>
<td>(12.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>82</td>
<td>(4.4%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>cT4 by lymphatic metastasis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(- )</td>
<td>1663</td>
<td>(88.3%)</td>
</tr>
<tr>
<td>N1(T4)</td>
<td>40</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>N2(T4)</td>
<td>81</td>
<td>(4.3%)</td>
</tr>
<tr>
<td>N3(T4)</td>
<td>29</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>N4(T4)</td>
<td>18</td>
<td>(1.0%)</td>
</tr>
<tr>
<td>Nx(T4)</td>
<td>3</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>49</td>
<td>(2.6%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organs*</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(- )</td>
<td>198</td>
<td>(46.3%)</td>
</tr>
<tr>
<td>Larynx</td>
<td>25</td>
<td>(5.8%)</td>
</tr>
<tr>
<td>Trachea</td>
<td>13</td>
<td>(3.0%)</td>
</tr>
<tr>
<td>Aorta</td>
<td>1</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>Lung</td>
<td>21</td>
<td>(4.9%)</td>
</tr>
<tr>
<td>Pericardium</td>
<td>11</td>
<td>(2.6%)</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>21</td>
<td>(4.9%)</td>
</tr>
<tr>
<td>Stomach</td>
<td>20</td>
<td>(4.6%)</td>
</tr>
<tr>
<td>Pancreas+spleen</td>
<td>8</td>
<td>(1.9%)</td>
</tr>
<tr>
<td>Thoracic duct</td>
<td>35</td>
<td>(8.2%)</td>
</tr>
<tr>
<td>Recurrent nerve</td>
<td>15</td>
<td>(3.5%)</td>
</tr>
<tr>
<td>Recurrent nerve (main trunk)</td>
<td>2</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>Others</td>
<td>45</td>
<td>(10.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>13</td>
<td>(3.0%)</td>
</tr>
<tr>
<td><strong>Total of resected organs</strong></td>
<td><strong>428</strong></td>
<td><strong>(100%)</strong></td>
</tr>
<tr>
<td><strong>Total of cT4 cases</strong></td>
<td><strong>364</strong></td>
<td></td>
</tr>
</tbody>
</table>

*: Organs resected in addition to the esophagus
Table 39) Cases of esophagectomy (operative findings of the tumor feature and size)

<table>
<thead>
<tr>
<th>Macroscopic type</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-Ip</td>
<td>35</td>
<td>(1.9%)</td>
</tr>
<tr>
<td>0-Ipl</td>
<td>89</td>
<td>(4.7%)</td>
</tr>
<tr>
<td>0-Isep</td>
<td>29</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>0-IIa</td>
<td>105</td>
<td>(5.6%)</td>
</tr>
<tr>
<td>0-IIb</td>
<td>52</td>
<td>(2.8%)</td>
</tr>
<tr>
<td>0-IIc</td>
<td>215</td>
<td>(11.4%)</td>
</tr>
<tr>
<td>0-III</td>
<td>22</td>
<td>(1.2%)</td>
</tr>
<tr>
<td>0-V</td>
<td>12</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>1p</td>
<td>32</td>
<td>(1.7%)</td>
</tr>
<tr>
<td>1c</td>
<td>19</td>
<td>(1.0%)</td>
</tr>
<tr>
<td>1pl</td>
<td>65</td>
<td>(3.5%)</td>
</tr>
<tr>
<td>1sep</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>2</td>
<td>524</td>
<td>(27.8%)</td>
</tr>
<tr>
<td>3</td>
<td>498</td>
<td>(26.4%)</td>
</tr>
<tr>
<td>4s</td>
<td>34</td>
<td>(1.8%)</td>
</tr>
<tr>
<td>4ns</td>
<td>7</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>5c</td>
<td>12</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>5s</td>
<td>7</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>5u</td>
<td>71</td>
<td>(3.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>54</td>
<td>(2.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size of Tumor (mm)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 9</td>
<td>25</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>10 - 19</td>
<td>143</td>
<td>(7.6%)</td>
</tr>
<tr>
<td>20 - 29</td>
<td>232</td>
<td>(12.3%)</td>
</tr>
<tr>
<td>30 - 39</td>
<td>279</td>
<td>(14.8%)</td>
</tr>
<tr>
<td>40 - 49</td>
<td>270</td>
<td>(14.3%)</td>
</tr>
<tr>
<td>50 - 59</td>
<td>293</td>
<td>(15.6%)</td>
</tr>
<tr>
<td>60 - 69</td>
<td>205</td>
<td>(10.9%)</td>
</tr>
<tr>
<td>70 - 79</td>
<td>124</td>
<td>(6.6%)</td>
</tr>
<tr>
<td>80 - 89</td>
<td>91</td>
<td>(4.8%)</td>
</tr>
<tr>
<td>90 - 99</td>
<td>38</td>
<td>(2.0%)</td>
</tr>
<tr>
<td>100 - 109</td>
<td>24</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>110 - 119</td>
<td>17</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>120 - 129</td>
<td>13</td>
<td>(0.7%)</td>
</tr>
<tr>
<td>130 - 139</td>
<td>6</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>140 - 149</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>150 -</td>
<td>10</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>109</td>
<td>(5.8%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>
Table 40) Histologic types of resected specimen and multiple primary cancer

<table>
<thead>
<tr>
<th>Histologic types</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not examined</td>
<td>0</td>
</tr>
<tr>
<td>SCC</td>
<td>128 (6.8%)</td>
</tr>
<tr>
<td>Well diff.</td>
<td>433 (23.0%)</td>
</tr>
<tr>
<td>Moderately diff.</td>
<td>773 (41.1%)</td>
</tr>
<tr>
<td>Poorly diff.</td>
<td>368 (19.5%)</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>29 (1.5%)</td>
</tr>
<tr>
<td>Barrett's adenocarcinoma</td>
<td>9 (0.5%)</td>
</tr>
<tr>
<td>Adenosquamous cell carcinoma</td>
<td>9 (0.5%)</td>
</tr>
<tr>
<td>Epidermoid carcinoma</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>Adenoid cystic carcinoma</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>Basoloid carcinoma</td>
<td>22 (1.2%)</td>
</tr>
<tr>
<td>Undiff. carcinoma (small cell)</td>
<td>12 (0.6%)</td>
</tr>
<tr>
<td>Undiff. carcinoma</td>
<td>7 (0.4%)</td>
</tr>
<tr>
<td>Sarcoma</td>
<td>2 (0.1%)</td>
</tr>
<tr>
<td>So-called carcinosarcoma</td>
<td>13 (0.7%)</td>
</tr>
<tr>
<td>Pseudosarcoma</td>
<td>0</td>
</tr>
<tr>
<td>True carcinosarcoma</td>
<td>2 (0.1%)</td>
</tr>
<tr>
<td>Malignant melanoma</td>
<td>1 (0.05%)</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>2 (0.1%)</td>
</tr>
<tr>
<td>Other</td>
<td>17 (0.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>56 (3.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>1883 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple primary cancer</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(- )</td>
<td>1587 (84.3%)</td>
</tr>
<tr>
<td>(+)</td>
<td>242 (12.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>54 (2.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>1883 (100%)</td>
</tr>
</tbody>
</table>
### Table 41) Pathological findings of resected specimen (residual cancer, intraepithelial spread, and infiltrative growth pattern)

#### Residual cancer cells at the transected stump

<table>
<thead>
<tr>
<th>Proximal (p)/Distal (d)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>p / d (-)</td>
<td>1802</td>
<td>(95.7%)</td>
</tr>
<tr>
<td>p / d (+)</td>
<td>39</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>42</td>
<td>(2.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

#### Intraepithelial spread (ie)

<table>
<thead>
<tr>
<th>ie</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ie(-)</td>
<td>1094</td>
<td>(58.1%)</td>
</tr>
<tr>
<td>ie(+)</td>
<td>628</td>
<td>(33.4%)</td>
</tr>
<tr>
<td>ie(++)superficial</td>
<td>48</td>
<td>(2.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>113</td>
<td>(6.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

#### Residual cancer cell in the cut surface of the esophageal wall (ew) of the resected specimen

<table>
<thead>
<tr>
<th>ew</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ew(-)</td>
<td>1720</td>
<td>(91.3%)</td>
</tr>
<tr>
<td>ew(+)</td>
<td>126</td>
<td>(6.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>37</td>
<td>(2.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

#### Infiltrative growth pattern (inf)

<table>
<thead>
<tr>
<th>inf</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>inf (-)</td>
<td>285</td>
<td>(15.1%)</td>
</tr>
<tr>
<td>inf (+)</td>
<td>1012</td>
<td>(53.7%)</td>
</tr>
<tr>
<td>inf (+)superficial</td>
<td>203</td>
<td>(10.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>383</td>
<td>(20.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
<tr>
<td>Lympatic vessel invasion (ly)</td>
<td>Cases (%)</td>
<td>Blood vessel invasion (v)</td>
</tr>
<tr>
<td>------------------------------</td>
<td>-----------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>ly0</td>
<td>577 (30.6%)</td>
<td>v0</td>
</tr>
<tr>
<td>ly(+)</td>
<td>87 (4.6%)</td>
<td>v(+)</td>
</tr>
<tr>
<td>ly1</td>
<td>554 (29.4%)</td>
<td>v1</td>
</tr>
<tr>
<td>ly2-3</td>
<td>591 (31.4%)</td>
<td>v2-3</td>
</tr>
<tr>
<td>Unknown</td>
<td>74 (3.9%)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Total</td>
<td>1883 (100%)</td>
<td>Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skip metastasis in the esophageal wall (im-e)</th>
<th>Cases (%)</th>
<th>Skip metastasis in the stomach wall (im-st)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>im-e (-)</td>
<td>1640 (87.1%)</td>
<td>im-st (-)</td>
<td>1750 (92.9%)</td>
</tr>
<tr>
<td>im-e (+)</td>
<td>179 (9.5%)</td>
<td>im-st (+)</td>
<td>57 (3.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>64 (3.4%)</td>
<td>Unknown</td>
<td>76 (4.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>1883 (100%)</td>
<td>Total</td>
<td>1883 (100%)</td>
</tr>
</tbody>
</table>
Table 43) Pathological findings of resected specimen (pT)

<table>
<thead>
<tr>
<th>pT-category</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not examined</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>pT0</td>
<td>17</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>pTis</td>
<td>40</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>pT1a</td>
<td>126</td>
<td>(6.7%)</td>
</tr>
<tr>
<td>pT1b</td>
<td>414</td>
<td>(22.0%)</td>
</tr>
<tr>
<td>pT2</td>
<td>233</td>
<td>(12.4%)</td>
</tr>
<tr>
<td>pT3</td>
<td>807</td>
<td>(42.9%)</td>
</tr>
<tr>
<td>pT4</td>
<td>169</td>
<td>(9.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>73</td>
<td>(3.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Subclassification of superficial carcinoma

<table>
<thead>
<tr>
<th>Subclassification</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>m1 (pTis)*</td>
<td>36</td>
<td>(6.2%)</td>
</tr>
<tr>
<td>m2 (pT1a)**</td>
<td>22</td>
<td>(3.8%)</td>
</tr>
<tr>
<td>m3 (pT1a)***</td>
<td>101</td>
<td>(17.4%)</td>
</tr>
<tr>
<td>sm1 (pT1b)</td>
<td>61</td>
<td>(10.5%)</td>
</tr>
<tr>
<td>sm2 (pT1b)</td>
<td>117</td>
<td>(20.2%)</td>
</tr>
<tr>
<td>sm3 (pT1b)</td>
<td>152</td>
<td>(26.2%)</td>
</tr>
<tr>
<td>Unknown (pT1b)</td>
<td>91</td>
<td>(15.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>580</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

* ep = epithel  
** lpm = lamina proplia mucosa  
*** mm = muscularis mucosa
### Table 44: Pathological findings of resected specimen (pN)

<table>
<thead>
<tr>
<th>Lymph node metastasis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n(-)</td>
<td>728</td>
<td>(38.7%)</td>
</tr>
<tr>
<td>n1+</td>
<td>179</td>
<td>(9.5%)</td>
</tr>
<tr>
<td>n2(+)</td>
<td>553</td>
<td>(29.4%)</td>
</tr>
<tr>
<td>n3(+)</td>
<td>209</td>
<td>(11.1%)</td>
</tr>
<tr>
<td>n4(+)</td>
<td>144</td>
<td>(7.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>70</td>
<td>(3.7%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of lymph node metastasis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>728</td>
<td>(38.7%)</td>
</tr>
<tr>
<td>1~3</td>
<td>603</td>
<td>(32.0%)</td>
</tr>
<tr>
<td>4~7</td>
<td>249</td>
<td>(13.2%)</td>
</tr>
<tr>
<td>8~</td>
<td>177</td>
<td>(9.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>126</td>
<td>(6.7%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>
### Grade of lymph node metastasis (corrected using number of metastasis)

<table>
<thead>
<tr>
<th>Grade of metastasis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>gN0</td>
<td>728</td>
<td>(38.7%)</td>
</tr>
<tr>
<td>gN1(n1a)</td>
<td>157</td>
<td>(8.3%)</td>
</tr>
<tr>
<td>gN2(n1b)</td>
<td>13</td>
<td>(0.7%)</td>
</tr>
<tr>
<td>gN2(n2a)</td>
<td>335</td>
<td>(17.8%)</td>
</tr>
<tr>
<td>gN3(n1c)</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>gN3(n2b)</td>
<td>146</td>
<td>(7.8%)</td>
</tr>
<tr>
<td>gN3(n3a)</td>
<td>71</td>
<td>(3.8%)</td>
</tr>
<tr>
<td>gN4(n2c)</td>
<td>44</td>
<td>(2.3%)</td>
</tr>
<tr>
<td>gN4(n3b)</td>
<td>59</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>gN4(n3c)</td>
<td>64</td>
<td>(3.4%)</td>
</tr>
<tr>
<td>gN4(n4a)</td>
<td>24</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>gN4(n4b)</td>
<td>42</td>
<td>(2.2%)</td>
</tr>
<tr>
<td>gN4(n4c)</td>
<td>65</td>
<td>(3.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>134</td>
<td>(7.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Number of lymph node metastasis
- a : 1~3
- b : 4~7
- c : 8~

### Fields of lymph node metastasis

<table>
<thead>
<tr>
<th>Field of metastasis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n(-)</td>
<td>728</td>
<td>(38.7%)</td>
</tr>
<tr>
<td>C</td>
<td>58</td>
<td>(3.1%)</td>
</tr>
<tr>
<td>A+C</td>
<td>74</td>
<td>(3.9%)</td>
</tr>
<tr>
<td>A+B+C</td>
<td>96</td>
<td>(5.1%)</td>
</tr>
<tr>
<td>B+C</td>
<td>11</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>A</td>
<td>247</td>
<td>(13.1%)</td>
</tr>
<tr>
<td>A+B</td>
<td>274</td>
<td>(14.6%)</td>
</tr>
<tr>
<td>B</td>
<td>269</td>
<td>(14.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>126</td>
<td>(6.7%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

A: mediastinal lymph nodes
B: abdominal lymph nodes
C: cervical lymph nodes
Fig. 8) N-category in Japanese Classification (JSED 1998 ~)

- **Tumor location**
- Cervical esophagus
- Upper thorac. esophagus
- Middle thorac. esophagus
- Lower thorac. esophagus
- Abdominal esophagus

- pN1
- pN2
- pN3
- pN4
Fig. 9) Grade of metastasis (gN) corrected by number of metastatic node (JSED 1998 ~)

<table>
<thead>
<tr>
<th>pN-category of JSED</th>
<th>Number of lymph node metastasis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td>pN0</td>
<td>gN0</td>
</tr>
<tr>
<td>pN1</td>
<td>gN1</td>
</tr>
<tr>
<td>pN2</td>
<td>gN2</td>
</tr>
<tr>
<td>pN3</td>
<td>gN3</td>
</tr>
<tr>
<td>pN4</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 10) Pathological Stage of JSED (1998 ~)

<table>
<thead>
<tr>
<th>Tis</th>
<th>0</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IVa</th>
<th>IVb</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1a</td>
<td></td>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T1b</td>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 46) Pathological findings of resected specimen (distant metastasis, stage, grade of dissection, and curability)

#### Distant metastasis (pM)

<table>
<thead>
<tr>
<th>Distant metastasis (pM)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pM0</td>
<td>1753</td>
<td>(93.1%)</td>
</tr>
<tr>
<td>pM1</td>
<td>52</td>
<td>(2.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>78</td>
<td>(4.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

#### Grade of dissection (D)

<table>
<thead>
<tr>
<th>Grade of dissection (D)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0</td>
<td>156</td>
<td>(8.3%)</td>
</tr>
<tr>
<td>DI</td>
<td>212</td>
<td>(11.3%)</td>
</tr>
<tr>
<td>DII</td>
<td>667</td>
<td>(35.4%)</td>
</tr>
<tr>
<td>DIII</td>
<td>757</td>
<td>(40.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>91</td>
<td>(4.8%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

#### Pathological stage

<table>
<thead>
<tr>
<th>Pathological stage</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>132</td>
<td>(7.0%)</td>
</tr>
<tr>
<td>I</td>
<td>215</td>
<td>(11.4%)</td>
</tr>
<tr>
<td>II</td>
<td>453</td>
<td>(24.1%)</td>
</tr>
<tr>
<td>III</td>
<td>459</td>
<td>(24.4%)</td>
</tr>
<tr>
<td>IVa</td>
<td>326</td>
<td>(17.3%)</td>
</tr>
<tr>
<td>IVb</td>
<td>42</td>
<td>(2.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>256</td>
<td>(13.6%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

#### Curability

<table>
<thead>
<tr>
<th>Curability</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely curative (a)</td>
<td>1048</td>
<td>(55.7%)</td>
</tr>
<tr>
<td>Relatively curative (b)</td>
<td>556</td>
<td>(29.5%)</td>
</tr>
<tr>
<td>Absolutely non-curative (c)</td>
<td>208</td>
<td>(11.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>71</td>
<td>(3.8%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
<tr>
<td>Residual tumor (R)</td>
<td>Cases</td>
<td>(%)</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>R0</td>
<td>1529</td>
<td>(81.2%)</td>
</tr>
<tr>
<td>R1</td>
<td>125</td>
<td>(6.6%)</td>
</tr>
<tr>
<td>R2</td>
<td>134</td>
<td>(7.1%)</td>
</tr>
<tr>
<td>Rx</td>
<td>95</td>
<td>(5.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary multiple cancers</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(+)</td>
<td>242</td>
<td>(12.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>54</td>
<td>(2.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple malignant lesions</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1496</td>
<td>(79.4%)</td>
</tr>
<tr>
<td>(+)</td>
<td>258</td>
<td>(13.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>129</td>
<td>(6.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of malignant lesions</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1496</td>
<td>(79.4%)</td>
</tr>
<tr>
<td>1</td>
<td>47</td>
<td>(2.5%)</td>
</tr>
<tr>
<td>2</td>
<td>139</td>
<td>(7.4%)</td>
</tr>
<tr>
<td>3</td>
<td>42</td>
<td>(2.2%)</td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>5 ~</td>
<td>7</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>145</td>
<td>(7.7%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
Table 48) Adjuvant therapy for cases of esophagectomy

<table>
<thead>
<tr>
<th>Radiotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>941</td>
<td>(50.0%)</td>
</tr>
<tr>
<td>Preoperative</td>
<td>343</td>
<td>(18.2%)</td>
</tr>
<tr>
<td>Pre+intraoperative (IOR)</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>Pre+postoperative</td>
<td>17</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>IOR</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>IOR+postoperative</td>
<td>22</td>
<td>(1.2%)</td>
</tr>
<tr>
<td>Postoperative</td>
<td>406</td>
<td>(21.6%)</td>
</tr>
<tr>
<td>Time to recurrence</td>
<td>147</td>
<td>(7.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>(0.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1262</td>
<td>(67.0%)</td>
</tr>
<tr>
<td>Preoperative</td>
<td>271</td>
<td>(14.4%)</td>
</tr>
<tr>
<td>Pre+intraoperative (IOR)</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>Pre+IOR+postoperative</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>Pre+postoperative</td>
<td>39</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>Intraoperative (IOR)</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>IOR+postoperative</td>
<td>1</td>
<td>(0.05%)</td>
</tr>
<tr>
<td>Postoperative</td>
<td>244</td>
<td>(13.0%)</td>
</tr>
<tr>
<td>Time to recurrence</td>
<td>39</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>24</td>
<td>(1.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doses of irradiation (Gy)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>941</td>
<td>(68.0%)</td>
</tr>
<tr>
<td>1 ~ 19</td>
<td>4</td>
<td>(1.7%)</td>
</tr>
<tr>
<td>20 ~ 39</td>
<td>78</td>
<td>(5.6%)</td>
</tr>
<tr>
<td>40 ~ 59</td>
<td>195</td>
<td>(13.8%)</td>
</tr>
<tr>
<td>60 ~ 79</td>
<td>78</td>
<td>(6.8%)</td>
</tr>
<tr>
<td>80 ~ 99</td>
<td>6</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>100~</td>
<td>3</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>578</td>
<td>(3.4%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of chemotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1262</td>
<td>(67.0%)</td>
</tr>
<tr>
<td>Chemotherapy alone</td>
<td>282</td>
<td>(47.2%)</td>
</tr>
<tr>
<td>Concurrent chemoradiotherapy</td>
<td>132</td>
<td>(22.1%)</td>
</tr>
<tr>
<td>Sequential chemoradiotherapy</td>
<td>146</td>
<td>(24.5%)</td>
</tr>
<tr>
<td>Others</td>
<td>8</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>29</td>
<td>(4.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
### Table 49) Outcome of cases with esophagectomy

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>1040 (55.2%)</td>
</tr>
<tr>
<td>Dead</td>
<td>686 (36.4%)</td>
</tr>
<tr>
<td>Lost of information</td>
<td>62 (3.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>95 (5.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1883 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initial recurrence lesion of death cases</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>105 (11.0%)</td>
</tr>
<tr>
<td>Lymph node</td>
<td>250 (26.2%)</td>
</tr>
<tr>
<td>Lung</td>
<td>102 (10.7%)</td>
</tr>
<tr>
<td>Liver</td>
<td>107 (11.2%)</td>
</tr>
<tr>
<td>Bone</td>
<td>69 (7.2%)</td>
</tr>
<tr>
<td>Brain</td>
<td>9 (0.8%)</td>
</tr>
<tr>
<td>Primary lesion</td>
<td>104 (10.9%)</td>
</tr>
<tr>
<td>Dissemination</td>
<td>62 (6.5%)</td>
</tr>
<tr>
<td>Anastomotic region</td>
<td>7 (0.7%)</td>
</tr>
<tr>
<td>Others</td>
<td>37 (3.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>104 (10.9%)</td>
</tr>
<tr>
<td><strong>Total of recurrence lesion</strong></td>
<td>955 (100%)</td>
</tr>
<tr>
<td><strong>Total death cases</strong></td>
<td>686</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Courses of death</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death due to recurrence</td>
<td>499 (72.7%)</td>
</tr>
<tr>
<td>Death due to other cancer</td>
<td>8 (1.2%)</td>
</tr>
<tr>
<td>Death due to other diseases(rec+)</td>
<td>10 (1.5%)</td>
</tr>
<tr>
<td>Death due to other diseases(rec-)</td>
<td>39 (5.7%)</td>
</tr>
<tr>
<td>Death due to other diseases(rec?)</td>
<td>5 (0.7%)</td>
</tr>
<tr>
<td>Operative death*</td>
<td>30 (4.4%)</td>
</tr>
<tr>
<td>Postoperative hospital death**</td>
<td>53 (7.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>42 (6.1%)</td>
</tr>
</tbody>
</table>

* Death within 30 days  
** Death over 30 days
Figure 11) Overall survival curves of patients treated by esophagectomy (1998) (April 2002)

Overall Survival

n=1657
Figure 12) Survival of patients treated by esophagectomy in relation to depth of tumor invasion (pT)

(April. 2002)

Overall Survival

Logrank test  p<0.0001

- pTis (n=37)
- pT1a (n=115)
- pT1b (n=375)
- pT2 (n=195)
- pT3 (n=708)
- pT4 (n=153)
Figure 13) Survival of patients treated by esophagectomy in relation to lymph node metastasis (pN)

Logrank test p<0.0001

(April. 2002)

- pN0 (n=648)
- pN1 (n=161)
- pN2 (n=487)
- pN3 (n=192)
- pN4 (n=120)
Figure 14) Survival of patients treated by esophagectomy in relation to pathological stage (April. 2002)

Overall Survival

Logrank test  p<0.0001

<table>
<thead>
<tr>
<th>pStage</th>
<th>(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pSt.0</td>
<td>122</td>
</tr>
<tr>
<td>pSt.I</td>
<td>192</td>
</tr>
<tr>
<td>pSt.II</td>
<td>403</td>
</tr>
<tr>
<td>pSt.III</td>
<td>420</td>
</tr>
<tr>
<td>pSt.IVb</td>
<td>35</td>
</tr>
</tbody>
</table>

Overall Survival (%)

- pSt.0 (n=122):
  - 95.3%
  - 90.7%
  - 92.5%
  - 88.7%
  - 82.6%
  - 70.9%
  - 76.9%
  - 57.0%
  - 56.5%
  - 38.4%
  - 14.8%
  - 8.9%

- pSt.I (n=192):
  - 87.4%
  - 83.6%
  - 64.0%
  - 55.9%
  - 21.7%

- pSt.II (n=403):
  - 57.0%
  - 56.5%
  - 38.4%
  - 14.8%
  - 8.9%

- pSt.III (n=420):
  - 42.0%
  - 38.4%
  - 21.7%

- pSt.IVb (n=35):
  - 14.8%
  - 8.9%

Months after Surgery
Figure 15) Survival of patients treated by esophagectomy in relation to residual tumor (R)

(April. 2002)

Overall Survival

Logrank test  p<0.0001

- R0 (n=1369)
- R1 (n=118)
- R2 (n=115)
Figure 16) Survival of patients treated by esophagectomy in relation to number of metastatic node (April. 2002)

Overall Survival

Logrank test  p<0.0001

Number of metastatic nodes
- 0  (n=648)
- 1-3  (n=549)
- 4-7  (n=235)
- 8-   (n=162)

Months after Surgery

Survival of patients treated by esophagectomy in relation to number of metastatic node.
Figure 17) Survival of patients treated by esophagectomy in relation to clinical TNM-Stage

(April. 2002)

Overall Survival
Logrank test $p<0.0001$

- cTNM
- Stage 0 (n=18)
- Stage I (n=343)
- Stage IIA (n=380)
- Stage IIB (n=168)
- Stage III (n=498)
- Stage IV (n=167)
Comprehensive Registry of Esophageal Cancer in Japan (1999)

JSED
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   Table 27) Effectiveness of radiotherapy and/or chemotherapy (non surgically treated cases)
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   Figure 5) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy
   Figure 6) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy
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Table 29) Effectiveness of treatments (Palliative operation cases without esophagectomy)
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Figure 8) N-category in Japanese Classification (JSED 1998 ~)
Figure 9) Grade of metastasis (gN) corrected by number of metastatic node (JSED 1998 ~)
Figure 10) Pathological Stage of JSED (1998 ~)

Table 46) Pathological findings of resected specimen (distant metastasis, stage, grade of dissection, and curability)
Table 47) Pathological findings of resected specimen (residual tumor, multiple cancers, and multiple lesions)

Table 48) Adjuvant therapy for cases of esophagectomy
Table 49) Outcome of cases with esophagectomy
Figure 11) Overall survival curves of patients treated by esophagectomy (1999)
Figure 12) Survival of patients treated by esophagectomy in relation to depth of tumor invasion (pT)
Figure 13) Survival of patients treated by esophagectomy in relation to lymph node metastasis (pN)
Figure 14) Survival of patients treated by esophagectomy in relation to pathological stage
Figure 15) Survival of patients treated by esophagectomy in relation to residual tumor (R)
Figure 16) Survival of patients treated by esophagectomy in relation to number of metastatic node
Figure 17) Survival of patients treated by esophagectomy in relation to clinical TMN-Stage
I. Clinical Factors of Esophageal Cancer
Patients treated in 1999
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- Dept of Surg.Kobekogyo( Koko) Hospital
- Inst. of Gastroenterol. Hofu Digestive Center
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- Mitsui Ohmuta Hospital
2. Patient Background

Table 1) Age, gender and treatment

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<th>Esophagectomy</th>
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<td>30~39</td>
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<td>3</td>
<td>1</td>
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<td>40~49</td>
<td>146 (4.8%)</td>
<td>122</td>
<td>24</td>
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<td>56</td>
<td>172</td>
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<td>50~59</td>
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<td>98</td>
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<td>85</td>
<td>267</td>
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<td>60~69</td>
<td>1111 (36.8%)</td>
<td>992</td>
<td>119</td>
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<td>263</td>
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<td>70~79</td>
<td>806 (26.7%)</td>
<td>700</td>
<td>106</td>
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<td>80~89</td>
<td>130 (4.3%)</td>
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<td>54 (1.8%)</td>
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*EMR: endoscopic mucosal resection
Table 2) Area of patient's residence and occupation

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<td>Nagano</td>
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<td>Akita</td>
<td>61 (2.0%)</td>
<td>Nagasaki</td>
<td>30 (1.0%)</td>
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<td>Aomori</td>
<td>22 (0.7%)</td>
<td>Nara</td>
<td>23 (0.8%)</td>
</tr>
<tr>
<td>Chiba</td>
<td>160 (5.3%)</td>
<td>Niigata</td>
<td>47 (1.6%)</td>
</tr>
<tr>
<td>Ehime</td>
<td>21 (0.7%)</td>
<td>Oita</td>
<td>10 (0.3%)</td>
</tr>
<tr>
<td>Fukui</td>
<td>21 (0.7%)</td>
<td>Okayama</td>
<td>38 (1.3%)</td>
</tr>
<tr>
<td>Fukuoka</td>
<td>158 (5.2%)</td>
<td>Okinawa</td>
<td>34 (1.1%)</td>
</tr>
<tr>
<td>Fukushima</td>
<td>35 (1.2%)</td>
<td>Osaka</td>
<td>247 (8.2%)</td>
</tr>
<tr>
<td>Giftu</td>
<td>36 (1.2%)</td>
<td>Saga</td>
<td>19 (0.6%)</td>
</tr>
<tr>
<td>Gunma</td>
<td>77 (2.5%)</td>
<td>Saitama</td>
<td>105 (3.5%)</td>
</tr>
<tr>
<td>Hiroshima</td>
<td>47 (1.6%)</td>
<td>Shiga</td>
<td>32 (1.1%)</td>
</tr>
<tr>
<td>Hokkaido</td>
<td>251 (8.3%)</td>
<td>Shimane</td>
<td>24 (0.8%)</td>
</tr>
<tr>
<td>Hyogo</td>
<td>149 (4.9%)</td>
<td>Shizuoka</td>
<td>45 (1.5%)</td>
</tr>
<tr>
<td>Ibaraki</td>
<td>51 (1.7%)</td>
<td>Tochigi</td>
<td>55 (1.8%)</td>
</tr>
<tr>
<td>Ishikawa</td>
<td>19 (0.6%)</td>
<td>Tokushima</td>
<td>7 (0.2%)</td>
</tr>
<tr>
<td>Iwate</td>
<td>54 (1.8%)</td>
<td>Tokyo</td>
<td>416 (13.8%)</td>
</tr>
<tr>
<td>Kagawa</td>
<td>7 (0.2%)</td>
<td>Tottori</td>
<td>4 (0.1%)</td>
</tr>
<tr>
<td>Kagoshima</td>
<td>47 (1.6%)</td>
<td>Toyama</td>
<td>16 (0.5%)</td>
</tr>
<tr>
<td>Kanagawa</td>
<td>236 (7.8%)</td>
<td>Wakayama</td>
<td>8 (0.3%)</td>
</tr>
<tr>
<td>Kochi</td>
<td>13 (0.4%)</td>
<td>Yamagata</td>
<td>22 (0.7%)</td>
</tr>
<tr>
<td>Kumamoto</td>
<td>14 (0.5%)</td>
<td>Yamaguchi</td>
<td>37 (1.2%)</td>
</tr>
<tr>
<td>Kyoto</td>
<td>43 (1.4%)</td>
<td>Yamanashi</td>
<td>13 (0.4%)</td>
</tr>
<tr>
<td>Mie</td>
<td>16 (0.5%)</td>
<td>Others</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Miyagi</td>
<td>46 (1.5%)</td>
<td>Unknown</td>
<td>47 (1.6%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>390 (12.9%)</td>
</tr>
<tr>
<td>Professional</td>
<td>355 (11.7%)</td>
</tr>
<tr>
<td>Management</td>
<td>244 (8.1%)</td>
</tr>
<tr>
<td>Office worker</td>
<td>476 (15.8%)</td>
</tr>
<tr>
<td>Sales worker</td>
<td>136 (4.5%)</td>
</tr>
<tr>
<td>Farm/Forestry/Marine product</td>
<td>182 (6.0%)</td>
</tr>
<tr>
<td>Mining and Quarrying</td>
<td>10 (0.3%)</td>
</tr>
<tr>
<td>Transport and communication</td>
<td>80 (2.6%)</td>
</tr>
<tr>
<td>Industrial technician</td>
<td>198 (6.6%)</td>
</tr>
<tr>
<td>General worker/Service industry</td>
<td>166 (5.5%)</td>
</tr>
<tr>
<td>Others</td>
<td>58 (1.9%)</td>
</tr>
<tr>
<td>Unclassified</td>
<td>18 (0.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>709 (23.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>3022 (100%)</td>
</tr>
</tbody>
</table>
### Table 3) Familial history of carcinoma

<table>
<thead>
<tr>
<th>Familial history</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>1656 (54.8%)</td>
</tr>
<tr>
<td>Yes</td>
<td>882 (29.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>484 (16.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3022 (100%)</td>
</tr>
</tbody>
</table>

### Table 4) Tumors of familial history of carcinoma

<table>
<thead>
<tr>
<th>Diseases</th>
<th>No. of cases (%)</th>
<th>Diseases</th>
<th>No. of cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malig. lymphoma</td>
<td>2 (0.2%)</td>
<td>Gallbladder ca.</td>
<td>5 (0.4%)</td>
</tr>
<tr>
<td>Leukemia</td>
<td>20 (1.7%)</td>
<td>Pancreas ca.</td>
<td>55 (4.6%)</td>
</tr>
<tr>
<td>Brain tumor</td>
<td>12 (1.0%)</td>
<td>Colon ca.</td>
<td>63 (5.3%)</td>
</tr>
<tr>
<td>Mandibular ca.</td>
<td>1 (0.1%)</td>
<td>Rectal ca.</td>
<td>42 (3.5%)</td>
</tr>
<tr>
<td>Paranasal sinus ca.</td>
<td>2 (0.2%)</td>
<td>Uterus ca.</td>
<td>64 (5.3%)</td>
</tr>
<tr>
<td>Thyroid ca.</td>
<td>2 (0.2%)</td>
<td>Ovarian ca.</td>
<td>3 (0.3%)</td>
</tr>
<tr>
<td>Breast ca.</td>
<td>48 (4.0%)</td>
<td>Seminoma</td>
<td>4 (0.3%)</td>
</tr>
<tr>
<td>Lung ca.</td>
<td>158 (13.2%)</td>
<td>Renal ca.</td>
<td>11 (0.9%)</td>
</tr>
<tr>
<td>Maxilla ca.</td>
<td>3 (0.3%)</td>
<td>Bladder ca.</td>
<td>20 (1.7%)</td>
</tr>
<tr>
<td>Tongue ca.</td>
<td>12 (1.0%)</td>
<td>Prostate ca.</td>
<td>5 (0.4%)</td>
</tr>
<tr>
<td>Oral ca.</td>
<td>1 (0.1%)</td>
<td>Osteosarcoma</td>
<td>2 (0.2%)</td>
</tr>
<tr>
<td>Pharyngeal ca.</td>
<td>8 (0.7%)</td>
<td>Spinal tumor</td>
<td>2 (0.2%)</td>
</tr>
<tr>
<td>Laryngeal ca.</td>
<td>41 (3.4%)</td>
<td>Malaig. melanoma</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>Esophgeal ca.</td>
<td>86 (7.2%)</td>
<td>Skin ca.</td>
<td>7 (0.6%)</td>
</tr>
<tr>
<td>Stomach ca.</td>
<td>361 (30.1%)</td>
<td>Others</td>
<td>2 (0.2%)</td>
</tr>
<tr>
<td>Hepatoma</td>
<td>84 (7.0%)</td>
<td>Unknown</td>
<td>66 (5.5%)</td>
</tr>
<tr>
<td>Cholangioma</td>
<td>4 (0.3%)</td>
<td>Total cases (%)</td>
<td>1200 (100%)</td>
</tr>
<tr>
<td>Jejunal ca.</td>
<td>1 (0.1%)</td>
<td>No. of patients</td>
<td>882</td>
</tr>
<tr>
<td>Duodenal ca.</td>
<td>2 (0.2%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 5) Chance and basis of diagnosis according to clinical T-category

| Chances of diagnosis | Superficial cancer (cTis,cT1) | Advanced cancer (cT2,cT3,cT4) | Total (%)
|----------------------|-------------------------------|-------------------------------|---------
| Chief complains      | 123 (30.4%)                  | 1709 (82.5%)                 | 1832 (74.0%) |
| Detection survey / dock | 122 (30.1%)                  | 161 (7.8%)                   | 283 (11.4%) |
| Examination for other disease | 143 (35.3%)                  | 93 (4.5%)                    | 236 (9.5%) |
| Unknown              | 17 (4.2%)                    | 108 (5.2%)                   | 125 (5.0%) |
| **Total**            | 405 (100%)                   | 2071 (100%)                  | 2476* (100%) |

| Detection methods | Superficial cancer (cTis,cT1) | Advanced cancer (cT2,cT3,cT4) | Total (%)
|-------------------|-------------------------------|-------------------------------|---------
| Esohagography     | 35 (8.6%)                     | 540 (26.1%)                  | 575 (23.2%) |
| Esohagoscopy      | 339 (83.7%)                   | 1355 (65.4%)                 | 1694 (68.4%) |
| CT-scan           | 5 (1.2%)                      | 34 (1.6%)                    | 39 (1.6%) |
| US                | 0 (0.2%)                      | 1 (0.05%)                    | 1 (0.04%) |
| Biopsy            | 1 (0.2%)                      | 4 (0.2%)                     | 5 (0.2%) |
| Others            | 1 (0.2%)                      | 4 (0.2%)                     | 5 (0.2%) |
| Unknown           | 24 (5.9%)                     | 133 (6.4%)                   | 157 (6.3%) |
| **Total**         | 405 (100%)                    | 2071 (100%)                  | 2476* (100%) |

*: excluding 546 cTX, cT0, cT unknown cases
Table 6) Symptoms according to clinical T-category

<table>
<thead>
<tr>
<th>Symptom</th>
<th>cTis, cT1</th>
<th>cT2, cT3, cT4</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases (%)</td>
<td>Cases (%)</td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>247</td>
<td>193</td>
<td>440</td>
</tr>
<tr>
<td>Chest pain</td>
<td>24</td>
<td>185</td>
<td>209</td>
</tr>
<tr>
<td>Sense of stricture</td>
<td>31 (7.7%)</td>
<td>870 (42.0%)</td>
<td>901 (36.4%)</td>
</tr>
<tr>
<td>Unusual sensation</td>
<td>28 (6.9%)</td>
<td>109 (5.3%)</td>
<td>137 (5.5%)</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>10 (2.5%)</td>
<td>428 (20.7%)</td>
<td>438 (17.7%)</td>
</tr>
<tr>
<td>Nausea / Vomiting</td>
<td>5 (1.2%)</td>
<td>23 (1.1%)</td>
<td>28 (1.1%)</td>
</tr>
<tr>
<td>Appetite loss</td>
<td>5 (1.2%)</td>
<td>7 (0.3%)</td>
<td>10 (0.4%)</td>
</tr>
<tr>
<td>Weight loss</td>
<td>3 (0.7%)</td>
<td>9 (0.4%)</td>
<td>14 (0.6%)</td>
</tr>
<tr>
<td>Swollen of lymph node</td>
<td>5 (1.2%)</td>
<td>24 (1.2%)</td>
<td>28 (1.1%)</td>
</tr>
<tr>
<td>Hoarseness</td>
<td>21 (5.2%)</td>
<td>86 (4.2%)</td>
<td>107 (4.3%)</td>
</tr>
<tr>
<td>Others</td>
<td>22 (5.4%)</td>
<td>106 (5.1%)</td>
<td>128 (5.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>405 (100%)</td>
<td>2071 (100%)</td>
<td>2476* (100%)</td>
</tr>
</tbody>
</table>

*; excluding 546 cTX, cT0, cT unknown cases
Table 7) Double / multiple primary cancers

<table>
<thead>
<tr>
<th></th>
<th>Endoscopical treatment (EMR/Stenting)</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>None</td>
<td>167 (66.8%)</td>
<td>678 (80.7%)</td>
<td>50 (76.9%)</td>
<td>1477 (81.3%)</td>
</tr>
<tr>
<td>Double</td>
<td>25 (10.0%)</td>
<td>65 (7.7%)</td>
<td>8 (12.3%)</td>
<td>165 (9.1%)</td>
</tr>
<tr>
<td>Metachronous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Before E-Ca</td>
<td>38 (15.2%)</td>
<td>71 (8.5%)</td>
<td>2 (3.1%)</td>
<td>128 (7.0%)</td>
</tr>
<tr>
<td>After E-Ca</td>
<td>4 (1.6%)</td>
<td>5 (0.6%)</td>
<td>1 (1.5%)</td>
<td>11 (0.6%)</td>
</tr>
<tr>
<td>Multiple</td>
<td>7 (2.8%)</td>
<td>8 (1.0%)</td>
<td>0</td>
<td>11 (0.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>9 (3.6%)</td>
<td>13 (1.5%)</td>
<td>4 (6.2%)</td>
<td>25 (1.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>250 (100 %)</td>
<td>840 (100 %)</td>
<td>65 (100 %)</td>
<td>1817 (100 %)</td>
</tr>
</tbody>
</table>

*; excluding 50 treatment unknown cases
## Table 8) Double / multiple primary cancers and Organs

<table>
<thead>
<tr>
<th>Organs</th>
<th>Synchronous</th>
<th>Metachronous</th>
<th>Multiple</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larynx/Maxilla</td>
<td>19 (6.7%)</td>
<td>18 (6.5%)</td>
<td>4 (7.3%)</td>
<td>41 (6.7%)</td>
</tr>
<tr>
<td>Pharynx</td>
<td>51 (17.9%)</td>
<td>22 (8.0%)</td>
<td>9 (16.4%)</td>
<td>82 (13.3%)</td>
</tr>
<tr>
<td>Oral cavity/Gum/Tongue</td>
<td>5 (1.8%)</td>
<td>10 (3.6%)</td>
<td>2 (3.6%)</td>
<td>17 (2.8%)</td>
</tr>
<tr>
<td>Stomach</td>
<td>124 (43.5%)</td>
<td>98 (35.6%)</td>
<td>14 (25.5%)</td>
<td>236 (38.4%)</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>33 (11.6%)</td>
<td>37 (13.5%)</td>
<td>5 (9.1%)</td>
<td>75 (12.2%)</td>
</tr>
<tr>
<td>Liver</td>
<td>8 (2.8%)</td>
<td>8 (2.9%)</td>
<td>2 (3.6%)</td>
<td>18 (2.9%)</td>
</tr>
<tr>
<td>Choledochus/Gallbladder</td>
<td>1 (0.4%)</td>
<td>3 (1.1%)</td>
<td>1 (1.8%)</td>
<td>5 (0.8%)</td>
</tr>
<tr>
<td>Pancreas</td>
<td>2 (0.7%)</td>
<td>3 (1.1%)</td>
<td>0</td>
<td>5 (0.8%)</td>
</tr>
<tr>
<td>Lung/Trachea/Bronchus</td>
<td>10 (3.5%)</td>
<td>22 (8.0%)</td>
<td>8 (14.5%)</td>
<td>40 (6.5%)</td>
</tr>
<tr>
<td>Remnant esophagus</td>
<td>0</td>
<td>4 (1.5%)</td>
<td>0</td>
<td>4 (0.7%)</td>
</tr>
<tr>
<td>Uterus/Ovarium</td>
<td>0</td>
<td>1 (0.4%)</td>
<td>1 (1.8%)</td>
<td>2 (0.3%)</td>
</tr>
<tr>
<td>Breast</td>
<td>2 (0.7%)</td>
<td>12 (4.4%)</td>
<td>0</td>
<td>14 (2.3%)</td>
</tr>
<tr>
<td>Prostate</td>
<td>1 (0.4%)</td>
<td>10 (3.6%)</td>
<td>1 (1.8%)</td>
<td>12 (2.0%)</td>
</tr>
<tr>
<td>Urinary bladder</td>
<td>2 (0.7%)</td>
<td>11 (4.0%)</td>
<td>1 (1.8%)</td>
<td>14 (2.3%)</td>
</tr>
<tr>
<td>Leukemia</td>
<td>2 (0.7%)</td>
<td>2 (0.7%)</td>
<td>0</td>
<td>4 (0.7%)</td>
</tr>
<tr>
<td>Skin</td>
<td>1 (0.4%)</td>
<td>1 (0.4%)</td>
<td>0</td>
<td>2 (0.3%)</td>
</tr>
<tr>
<td>Brain</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Thyroid</td>
<td>10 (3.5%)</td>
<td>1 (0.4%)</td>
<td>0</td>
<td>11 (1.8%)</td>
</tr>
<tr>
<td>Bone</td>
<td>0</td>
<td>1 (0.4%)</td>
<td>0</td>
<td>1 (0.2%)</td>
</tr>
<tr>
<td>Kidney</td>
<td>2 (0.7%)</td>
<td>1 (0.4%)</td>
<td>1 (1.8%)</td>
<td>4 (0.7%)</td>
</tr>
<tr>
<td>Others</td>
<td>12 (4.2%)</td>
<td>10 (3.6%)</td>
<td>5 (9.1%)</td>
<td>27 (4.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>0</td>
<td>1 (1.8%)</td>
<td>1 (0.2%)</td>
</tr>
</tbody>
</table>

Lesions: 285 (100%) 275 (100%) 55 (100%) 615 (100%)

Cases: 263 260 26 549
<table>
<thead>
<tr>
<th>Organs</th>
<th>Synchronous</th>
<th>Metachronous</th>
<th>Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Before E-Ca</td>
<td>After E-Ca</td>
</tr>
<tr>
<td>Larynx/Maxilla</td>
<td>9 (31.0%)</td>
<td>2 (5.0%)</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Pharynx</td>
<td>4 (10.0%)</td>
<td>2 (50.0%)</td>
<td>2 (13.3%)</td>
</tr>
<tr>
<td>Oral cavity/Gum/Tongue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomach</td>
<td>13 (44.8%)</td>
<td>22 (55.0%)</td>
<td>4 (26.7%)</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>2 (6.9%)</td>
<td>5 (12.5%)</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Liver</td>
<td>1 (3.4%)</td>
<td>3 (7.5%)</td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Choledochus/Gallbladder</td>
<td>1 (2.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pancreas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung/Trachea/Bronchus</td>
<td>1 (2.5%)</td>
<td></td>
<td>3 (20.0%)</td>
</tr>
<tr>
<td>Remnant esophagus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uterus/Ovarium</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td>2 (5.0%)</td>
<td></td>
<td>1 (6.7%)</td>
</tr>
<tr>
<td>Urinary bladder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leukemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>1 (3.4%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>3 (10.3%)</td>
<td></td>
<td>2 (13.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesions</td>
<td>29 (100%)</td>
<td>40 (100%)</td>
<td>15 (100%)</td>
</tr>
<tr>
<td>Cases</td>
<td>25</td>
<td>38</td>
<td>4</td>
</tr>
<tr>
<td>Organ</td>
<td>Synchronous</td>
<td>Metachronous</td>
<td>Multiple</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------</td>
<td>------------------------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Before E-Ca</td>
<td>After e-Ca</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cases</td>
<td>Cases</td>
</tr>
<tr>
<td>Larynx/Maxillary</td>
<td>6 (8.8%)</td>
<td>6 (7.8%)</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Pharynx</td>
<td>10 (14.7%)</td>
<td>1 (1.3%)</td>
<td>22 (22.2%)</td>
</tr>
<tr>
<td>Oral cavity/Gum/Tongue</td>
<td>2 (2.9%)</td>
<td>2 (2.6%)</td>
<td>2 (11.1%)</td>
</tr>
<tr>
<td>Stomach</td>
<td>25 (36.8%)</td>
<td>21 (27.3%)</td>
<td>1 (20.0%)</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>7 (10.3%)</td>
<td>13 (16.9%)</td>
<td>3 (16.7%)</td>
</tr>
<tr>
<td>Liver</td>
<td>4 (5.9%)</td>
<td>3 (3.9%)</td>
<td>2 (11.1%)</td>
</tr>
<tr>
<td>Choledocus/Gallbladder</td>
<td>1 (1.5%)</td>
<td>1 (1.3%)</td>
<td>4 (27.8%)</td>
</tr>
<tr>
<td>Pancreas</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Lung/Trachea/Bronchus</td>
<td>4 (5.9%)</td>
<td>8 (10.4%)</td>
<td>5 (27.8%)</td>
</tr>
<tr>
<td>Remnant esophagus</td>
<td>1 (1.5%)</td>
<td>1 (20.0%)</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Uterus/Ovarium</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Breast</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Prostate</td>
<td>1 (1.5%)</td>
<td>1 (20.0%)</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Urinary bladder</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Leukemia</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Skin</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Brain</td>
<td>1 (1.5%)</td>
<td>6 (7.8%)</td>
<td>1 (20.0%)</td>
</tr>
<tr>
<td>Thyroid</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Bone</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Kidney</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Others</td>
<td>4 (5.9%)</td>
<td>4 (5.2%)</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>Lesions</td>
<td>68 (100%)</td>
<td>77 (100%)</td>
<td>5 (100%)</td>
</tr>
<tr>
<td>Cases</td>
<td>65</td>
<td>71</td>
<td>5</td>
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<td>18 (100%)</td>
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### Table 11) Double primary cancer - Organs (in cases of palliative operation)

<table>
<thead>
<tr>
<th>Organs</th>
<th>Synchronous</th>
<th>Metachronous</th>
<th>Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Before E-Ca</td>
<td>After E-Ca</td>
</tr>
<tr>
<td>Larynx/Maxillary</td>
<td>1 (11.1%)</td>
<td>1 (50.0%)</td>
<td></td>
</tr>
<tr>
<td>Pharynx</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral cavity/Gum/Tongue</td>
<td>6 (66.7%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomach</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>1 (11.1%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liver</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choledocus/Gallbladder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pancreas</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung/Trachea/ Bronchus</td>
<td>1 (11.1%)</td>
<td>1 (50.0%)</td>
<td></td>
</tr>
<tr>
<td>Remnant esophagus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uterus/Ovarium</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinary bladder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leukemia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroid</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bone</td>
<td></td>
<td></td>
<td>1 (50.0%)</td>
</tr>
<tr>
<td>Kidney</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesions</td>
<td>9 (100%)</td>
<td>2 (100%)</td>
<td>2 (100%)</td>
</tr>
<tr>
<td>Cases</td>
<td>8</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
**Table 12** Double primary cancer - Organs (in cases of esophagectomy)

<table>
<thead>
<tr>
<th>Organs</th>
<th>Synchronous</th>
<th>Metachronous Before E-Ca</th>
<th>Metachronous After E-Ca</th>
<th>Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Larynx/Maxillary</td>
<td>12 (6.7%)</td>
<td>8 (6.0%)</td>
<td>1 (8.3%)</td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Pharynx</td>
<td>32 (17.9%)</td>
<td>12 (9.0%)</td>
<td>3 (25.0%)</td>
<td>5 (23.8%)</td>
</tr>
<tr>
<td>Oral cavity/Gum/Tongue</td>
<td>3 (1.7%)</td>
<td>7 (5.3%)</td>
<td>1 (8.3%)</td>
<td>2 (9.5%)</td>
</tr>
<tr>
<td>Stomach</td>
<td>80 (44.7%)</td>
<td>51 (38.3%)</td>
<td>3 (25.0%)</td>
<td>6 (28.6%)</td>
</tr>
<tr>
<td>Colon/Rectum</td>
<td>23 (12.8%)</td>
<td>17 (12.8%)</td>
<td></td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td>Liver</td>
<td>3 (1.7%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choledocus/Gallbladder</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pancreas</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lung/Trachea/Bronchus</td>
<td>5 (2.8%)</td>
<td>10 (7.5%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remnant esophagus</td>
<td></td>
<td>1 (0.8%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uterus/Ovarium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prostate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urinary bladder</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leukemia</td>
<td>1 (0.6%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroid</td>
<td>9 (5.0%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bone</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kidney</td>
<td>2 (1.1%)</td>
<td></td>
<td></td>
<td>1 (4.8%)</td>
</tr>
<tr>
<td>Others</td>
<td>5 (2.8%)</td>
<td></td>
<td></td>
<td>3 (14.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lesions</strong></td>
<td>179 (100%)</td>
<td>133 (100%)</td>
<td>12 (100%)</td>
<td>21 (100%)</td>
</tr>
<tr>
<td><strong>Cases</strong></td>
<td>165</td>
<td>128</td>
<td>11</td>
<td>11</td>
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</table>
### Table 13) Location of tumor

<table>
<thead>
<tr>
<th>Location</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Esophagectomy</td>
<td></td>
</tr>
<tr>
<td>Not detected</td>
<td>1 (0.4%)</td>
<td>1 (0.1%)</td>
<td>2 (0.1%)</td>
<td>4 (0.1%)</td>
</tr>
<tr>
<td>Pharynx</td>
<td>2 (0.8%)</td>
<td>47 (5.6%)</td>
<td>2 (3.1%)</td>
<td>13 (4.4%)</td>
</tr>
<tr>
<td>Cervical esophagus</td>
<td>29 (11.6%)</td>
<td>148 (17.6%)</td>
<td>12 (18.4%)</td>
<td>363 (12.2%)</td>
</tr>
<tr>
<td>Upper thoracic eso.</td>
<td>153 (61.2%)</td>
<td>453 (53.9%)</td>
<td>31 (47.7%)</td>
<td>1575 (53.0%)</td>
</tr>
<tr>
<td>Middle thoracic eso.</td>
<td>43 (17.2%)</td>
<td>151 (18.0%)</td>
<td>14 (21.5%)</td>
<td>707 (23.8%)</td>
</tr>
<tr>
<td>Lower thoracic eso.</td>
<td>1 (0.4%)</td>
<td>23 (2.7%)</td>
<td>1 (1.5%)</td>
<td>126 (4.2%)</td>
</tr>
<tr>
<td>EG-Junction (E=G)</td>
<td>1 (0.4%)</td>
<td>1 (0.1%)</td>
<td>14 (0.8%)</td>
<td>16 (0.5%)</td>
</tr>
<tr>
<td>Cardia (G)</td>
<td>2 (0.1%)</td>
<td>2 (0.4%)</td>
<td>2 (0.1%)</td>
<td>2 (0.07%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>17 (6.8%)</td>
<td>12 (1.4%)</td>
<td>3 (4.6%)</td>
<td>35 (1.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>250 (100%)</td>
<td>840 (100%)</td>
<td>65 (100%)</td>
<td>2972 (100%)</td>
</tr>
</tbody>
</table>
Table 14) Longitudinal tumor length on esophagography

<table>
<thead>
<tr>
<th>Length</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>not examined</td>
<td>105 (42.0%)</td>
<td>61 (7.6%)</td>
<td>8 (12.3%)</td>
<td>53 (2.9%)</td>
</tr>
<tr>
<td>~1cm</td>
<td>7 (2.8%)</td>
<td>7 (0.8%)</td>
<td>1 (1.5%)</td>
<td>38 (2.1%)</td>
</tr>
<tr>
<td>~2cm</td>
<td>27 (10.8%)</td>
<td>28 (3.3%)</td>
<td>4 (6.2%)</td>
<td>77 (4.2%)</td>
</tr>
<tr>
<td>~3cm</td>
<td>26 (10.4%)</td>
<td>44 (5.2%)</td>
<td>4 (6.2%)</td>
<td>173 (9.5%)</td>
</tr>
<tr>
<td>~4cm</td>
<td>12 (4.8%)</td>
<td>52 (6.2%)</td>
<td>3 (4.6%)</td>
<td>225 (12.4%)</td>
</tr>
<tr>
<td>~5cm</td>
<td>6 (2.4%)</td>
<td>72 (8.6%)</td>
<td>9 (13.8%)</td>
<td>241 (13.3%)</td>
</tr>
<tr>
<td>~6cm</td>
<td>5 (2.0%)</td>
<td>78 (9.3%)</td>
<td>7 (10.8%)</td>
<td>247 (13.6%)</td>
</tr>
<tr>
<td>~7cm</td>
<td>3 (1.2%)</td>
<td>103 (12.3%)</td>
<td>7 (10.8%)</td>
<td>201 (11.1%)</td>
</tr>
<tr>
<td>~8cm</td>
<td>4 (1.6%)</td>
<td>105 (12.5%)</td>
<td>7 (10.8%)</td>
<td>146 (8.0%)</td>
</tr>
<tr>
<td>~9cm</td>
<td>1 (0.4%)</td>
<td>75 (8.9%)</td>
<td>1 (1.5%)</td>
<td>94 (5.2%)</td>
</tr>
<tr>
<td>~10cm</td>
<td>1 (0.4%)</td>
<td>36 (4.3%)</td>
<td>3 (4.6%)</td>
<td>53 (2.9%)</td>
</tr>
<tr>
<td>~11cm</td>
<td>2 (0.8%)</td>
<td>45 (5.4%)</td>
<td>1 (1.5%)</td>
<td>49 (2.7%)</td>
</tr>
<tr>
<td>~12cm</td>
<td>0</td>
<td>19 (2.3%)</td>
<td>3 (4.6%)</td>
<td>22 (1.2%)</td>
</tr>
<tr>
<td>~13cm</td>
<td>2 (0.8%)</td>
<td>19 (2.3%)</td>
<td>0</td>
<td>15 (0.8%)</td>
</tr>
<tr>
<td>~14cm</td>
<td>1 (0.4%)</td>
<td>11 (1.3%)</td>
<td>0</td>
<td>7 (0.4%)</td>
</tr>
<tr>
<td>~15cm</td>
<td>0</td>
<td>3 (0.4%)</td>
<td>0</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>~16cm</td>
<td>2 (0.8%)</td>
<td>5 (0.6%)</td>
<td>0</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>~17cm</td>
<td>0</td>
<td>2 (0.2%)</td>
<td>0</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>17.1cm~</td>
<td>1 (0.4%)</td>
<td>4 (0.5%)</td>
<td>2 (3.1%)</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>45 (20.3%)</td>
<td>71 (8.5%)</td>
<td>5 (7.7%)</td>
<td>162 (8.9%)</td>
</tr>
<tr>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Total 250 (100%) 840 (100%) 65 (100%) 1817 (100%) 2972 (100%)
### Table 15) Endoscopic features

<table>
<thead>
<tr>
<th>Type</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 (0.7%)</td>
<td>1 (1.5%)</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>Not examined</td>
<td>5 (2.0%)</td>
<td>29 (3.5%)</td>
<td>1 (1.5%)</td>
<td>102 (5.6%)</td>
</tr>
<tr>
<td>0-I</td>
<td>25 (10.0%)</td>
<td>21 (2.5%)</td>
<td>1 (1.5%)</td>
<td>100 (5.5%)</td>
</tr>
<tr>
<td>0-IIb</td>
<td>53 (21.2%)</td>
<td>12 (1.4%)</td>
<td>0</td>
<td>27 (1.5%)</td>
</tr>
<tr>
<td>0-IIc</td>
<td>130 (52.0%)</td>
<td>70 (8.3%)</td>
<td>1 (1.5%)</td>
<td>248 (13.6%)</td>
</tr>
<tr>
<td>0-III</td>
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<td>8 (1.0%)</td>
<td>0</td>
<td>22 (1.2%)</td>
</tr>
<tr>
<td>0-V</td>
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<td>0</td>
<td>6 (0.3%)</td>
</tr>
<tr>
<td>1</td>
<td>10 (4.0%)</td>
<td>47 (5.6%)</td>
<td>4 (6.2%)</td>
<td>135 (7.4%)</td>
</tr>
<tr>
<td>2</td>
<td>279 (33.2%)</td>
<td>24 (36.9%)</td>
<td>6 (9.2%)</td>
<td>31 (1.7%)</td>
</tr>
<tr>
<td>3</td>
<td>2 (0.8%)</td>
<td>12 (1.4%)</td>
<td>0</td>
<td>26 (1.4%)</td>
</tr>
<tr>
<td>4</td>
<td>85 (10.1%)</td>
<td>11 (16.9%)</td>
<td>58 (3.2%)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>250 (100%)</td>
<td>840 (100%)</td>
<td>65 (100%)</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

0-I : superficial and protruding type  
0-IIa : superficial and slight elevated type  
0-IIb : superficial and flat type  
0-IIc : superficial and slightly depressed  
0-III : superficial and distinctly depressed  
1 : protruding type  
2 : ulcerative and localized type  
3 : ulcerative and infiltrating type  
4 : diffusely infiltrating type  
5 : miscellaneous type
### Table 16: Histologic types of biopsy

<table>
<thead>
<tr>
<th>Histologic types</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Esophagectomy</td>
<td>Total (%)</td>
</tr>
<tr>
<td>SCC</td>
<td>138 (55.2%)</td>
<td>385 (45.8%)</td>
<td>30 (46.2%)</td>
<td>796 (43.8%)</td>
</tr>
<tr>
<td>Well diff.</td>
<td>20 (8.0%)</td>
<td>52 (6.2%)</td>
<td>5 (7.7%)</td>
<td>170 (9.4%)</td>
</tr>
<tr>
<td>Moderately diff.</td>
<td>36 (14.4%)</td>
<td>234 (27.9%)</td>
<td>18 (27.7%)</td>
<td>530 (29.2%)</td>
</tr>
<tr>
<td>Poorly diff.</td>
<td>11 (4.4%)</td>
<td>111 (13.2%)</td>
<td>4 (6.2%)</td>
<td>212 (11.7%)</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>3 (1.2%)</td>
<td>9 (1.1%)</td>
<td>0</td>
<td>36 (2.0%)</td>
</tr>
<tr>
<td>Undifferentiated</td>
<td>0</td>
<td>9 (1.1%)</td>
<td>0</td>
<td>15 (0.8%)</td>
</tr>
<tr>
<td>So-called carcinosarcoma</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>Malignant melanoma</td>
<td>0</td>
<td>1 (0.1%)</td>
<td>0</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>Others</td>
<td>2 (0.8%)</td>
<td>5 (0.6%)</td>
<td>1 (1.5%)</td>
<td>16 (0.9%)</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>4 (1.6%)</td>
<td>1 (0.1%)</td>
<td>1 (1.5%)</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>18 (7.2%)</td>
<td>20 (2.4%)</td>
<td>4 (6.2%)</td>
<td>24 (1.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>250 (100%)</td>
<td>840 (100%)</td>
<td>65 (100%)</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>
Table 17) Depth of tumor invasion  cT (Clinical TNM-classification)

<table>
<thead>
<tr>
<th>cT</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>cTx</td>
<td>4 (1.6%)</td>
<td>1 (0.1%)</td>
<td>2 (3.1%)</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>cT0</td>
<td>3 (1.2%)</td>
<td>0</td>
<td>0</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>cTis</td>
<td>64 (25.6%)</td>
<td>6 (0.7%)</td>
<td>0</td>
<td>15 (0.8%)</td>
</tr>
<tr>
<td>cT1</td>
<td>31 (12.4%)</td>
<td>55 (6.5%)</td>
<td>2 (3.1%)</td>
<td>81 (4.6%)</td>
</tr>
<tr>
<td>cT1a</td>
<td>84 (33.6%)</td>
<td>17 (2.0%)</td>
<td>0</td>
<td>45 (2.5%)</td>
</tr>
<tr>
<td>cT1b</td>
<td>18 (7.2%)</td>
<td>61 (7.3%)</td>
<td>2 (3.1%)</td>
<td>327 (18.0%)</td>
</tr>
<tr>
<td>cT2</td>
<td>2 (0.8%)</td>
<td>87 (10.4%)</td>
<td>7 (10.8%)</td>
<td>355 (19.5%)</td>
</tr>
<tr>
<td>cT3</td>
<td>10 (4.0%)</td>
<td>297 (35.4%)</td>
<td>23 (35.4%)</td>
<td>778 (42.8%)</td>
</tr>
<tr>
<td>cT4</td>
<td>9 (3.6%)</td>
<td>284 (33.8%)</td>
<td>25 (38.5%)</td>
<td>159 (8.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>25 (10.0%)</td>
<td>32 (3.8%)</td>
<td>4 (6.2%)</td>
<td>51 (2.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>250 (100%)</td>
<td>840 (100%)</td>
<td>65 (100%)</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>
Table 18) Lymph node metastasis, cN; and Organ metastasis, cM (Clinical TNM-classification)

<table>
<thead>
<tr>
<th>cN</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>cNx</td>
<td>16 (6.4%)</td>
<td>26 (3.1%)</td>
<td>4 (6.2%)</td>
<td>28 (1.5%)</td>
</tr>
<tr>
<td>cN0</td>
<td>193 (77.2%)</td>
<td>262 (31.2%)</td>
<td>9 (13.8%)</td>
<td>845 (46.5%)</td>
</tr>
<tr>
<td>cN1</td>
<td>13 (5.2%)</td>
<td>522 (62.1%)</td>
<td>46 (70.8%)</td>
<td>885 (48.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>28 (11.2%)</td>
<td>30 (3.6%)</td>
<td>6 (9.2%)</td>
<td>59 (3.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>250 (100%)</td>
<td>840 (100%)</td>
<td>65 (100%)</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>cM</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td>cMx</td>
<td>9 (3.6%)</td>
<td>20 (2.4%)</td>
<td>2 (3.1%)</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>cM0</td>
<td>206 (82.4%)</td>
<td>542 (64.5%)</td>
<td>36 (55.4%)</td>
<td>1618 (89.0%)</td>
</tr>
<tr>
<td>cM1</td>
<td>2 (0.8%)</td>
<td>55 (6.5%)</td>
<td>7 (10.8%)</td>
<td>18 (1.0%)</td>
</tr>
<tr>
<td>cM1a</td>
<td>0</td>
<td>45 (5.4%)</td>
<td>4 (6.2%)</td>
<td>44 (2.4%)</td>
</tr>
<tr>
<td>cM1b</td>
<td>6 (2.4%)</td>
<td>151 (18.0%)</td>
<td>11 (16.9%)</td>
<td>84 (4.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>27 (10.8%)</td>
<td>27 (3.2%)</td>
<td>5 (7.7%)</td>
<td>52 (2.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>250 (100%)</td>
<td>840 (100%)</td>
<td>65 (100%)</td>
<td>1817 (100%)</td>
</tr>
<tr>
<td>Metastatic organs</td>
<td>Endoscopic treatment</td>
<td>Chemotherapy and/or radiotherapy</td>
<td>Surgery</td>
<td>Total (%)</td>
</tr>
<tr>
<td>-------------------</td>
<td>----------------------</td>
<td>----------------------------------</td>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Total (%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Esophagectomy</td>
<td></td>
</tr>
<tr>
<td>PUL</td>
<td>6 (66.7%)</td>
<td>52 (16.4%)</td>
<td>7 (26.9%)</td>
<td>69 (13.7%)</td>
</tr>
<tr>
<td>OSS</td>
<td>0 (11.1%)</td>
<td>17 (5.4%)</td>
<td>1 (3.8%)</td>
<td>18 (3.6%)</td>
</tr>
<tr>
<td>HEP</td>
<td>2 (11.1%)</td>
<td>64 (20.2%)</td>
<td>2 (7.7%)</td>
<td>85 (16.9%)</td>
</tr>
<tr>
<td>BRA</td>
<td>0</td>
<td>5 (1.6%)</td>
<td>0</td>
<td>6 (1.2%)</td>
</tr>
<tr>
<td>LYM</td>
<td>1 (11.1%)</td>
<td>148 (46.7%)</td>
<td>12 (46.2%)</td>
<td>270 (53.6%)</td>
</tr>
<tr>
<td>MAR</td>
<td>0</td>
<td>1 (0.3%)</td>
<td>0</td>
<td>2 (0.4%)</td>
</tr>
<tr>
<td>PLE</td>
<td>0</td>
<td>1 (0.3%)</td>
<td>1 (3.8%)</td>
<td>4 (0.8%)</td>
</tr>
<tr>
<td>PER</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>SKI</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTH</td>
<td>0</td>
<td>5 (1.6%)</td>
<td>0</td>
<td>8 (1.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>20 (6.3%)</td>
<td>3 (11.5%)</td>
<td>38 (7.5%)</td>
</tr>
</tbody>
</table>

Lesions | 9 (100%) | 317 (100%) | 26 (100%) | 152 (100%) | 504 (100%) |

One organ | 7 (87.5%) | 178 (70.9%) | 15 (68.2%) | 124 (84.9%) | 324 (75.9%) |
Two organs | 1 (12.5%) | 40 (15.9%) | 4 (18.2%) | 7 (4.8%) | 52 (12.2%) |
Three organs | 0 | 10 (4.0%) | 0 | 0 | 10 (2.3%) |
Four organs~ | 0 | 3 (1.2%) | 0 | 0 | 3 (0.7%) |
Unknown | 0 | 20 (8.0%) | 3 (13.6%) | 15 (10.3%) | 38 (8.9%) |

Total cases | 8 (100%) | 251 (100%) | 22 (100%) | 146 (100%) | 427 (100%) |
<table>
<thead>
<tr>
<th>cStage</th>
<th>Endoscopic treatment</th>
<th>Chemotherapy and/or radiotherapy</th>
<th>Surgery</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Palliative operation</td>
<td>Esophagectomy</td>
</tr>
<tr>
<td></td>
<td>63 (25.2%)</td>
<td>5 (0.6%)</td>
<td>0</td>
<td>18 (1.0%)</td>
</tr>
<tr>
<td>I</td>
<td>125 (50.0%)</td>
<td>103 (12.3%)</td>
<td>3 (4.6%)</td>
<td>365 (20.1%)</td>
</tr>
<tr>
<td>IIA</td>
<td>3 (1.2%)</td>
<td>99 (11.8%)</td>
<td>3 (4.6%)</td>
<td>419 (23.1%)</td>
</tr>
<tr>
<td>IIB</td>
<td>1 (0.4%)</td>
<td>42 (5.0%)</td>
<td>5 (7.7%)</td>
<td>214 (11.8%)</td>
</tr>
<tr>
<td>III</td>
<td>6 (2.4%)</td>
<td>274 (32.6%)</td>
<td>25 (38.5%)</td>
<td>564 (31.0%)</td>
</tr>
<tr>
<td>IV</td>
<td>2 (0.8%)</td>
<td>52 (6.2%)</td>
<td>5 (7.7%)</td>
<td>17 (0.9%)</td>
</tr>
<tr>
<td>IVA</td>
<td>0</td>
<td>48 (5.7%)</td>
<td>5 (7.7%)</td>
<td>45 (2.5%)</td>
</tr>
<tr>
<td>IVB</td>
<td>5 (2.0%)</td>
<td>150 (17.9%)</td>
<td>11 (16.9%)</td>
<td>83 (4.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>45 (18.0%)</td>
<td>67 (8.0%)</td>
<td>8 (12.3%)</td>
<td>92 (5.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>250 (100%)</td>
<td>840 (100%)</td>
<td>65 (100%)</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>
II. Clinical Results of Patients treated with Endoscopically in 1999
Table 21) Treatment details in patients with endoscopic treatment

<table>
<thead>
<tr>
<th>Treatment details</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endoscopic treatment only</td>
<td>250</td>
<td>(100%)</td>
</tr>
<tr>
<td>Endoscopic treatment + Radiotherapy</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Endoscopic treatment + Chemotherapy</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Endoscopic treatment + Hyperthermia</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Endoscopic treatment + Chemoradiotherapy</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>231</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment details</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMR</td>
<td>214</td>
<td>(85.6%)</td>
</tr>
<tr>
<td>EMR+PDT</td>
<td>4</td>
<td>(1.6%)</td>
</tr>
<tr>
<td>EMR+YAG laser</td>
<td>2</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>EMR+MCT</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>EMR+Esophageal stenting</td>
<td>2</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>EMR+Other treatment</td>
<td>2</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>Esophageal stenting</td>
<td>21</td>
<td>(8.4%)</td>
</tr>
<tr>
<td>Esophageal stenting+YAG laser</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Esophageal stenting + tracheal stenting</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>(1.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>250</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

EMR: endoscopic mucosal resection
PDT: photodynamic therapy
MCT: microwave coaguration therapy
### Table 22) Endoscopic mucosal resection (EMR)

<table>
<thead>
<tr>
<th>Method of EMR</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>One piece resection</td>
<td>82</td>
<td>(36.6%)</td>
</tr>
<tr>
<td>Piecemeal resection</td>
<td>138</td>
<td>(61.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td>(1.8%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>224</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radicallity of EMR</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete resection</td>
<td>165</td>
<td>(73.7%)</td>
</tr>
<tr>
<td>Non-complete resection</td>
<td>34</td>
<td>(15.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>25</td>
<td>(11.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>224</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of lesions treated by EMR</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>137</td>
<td>(61.2%)</td>
</tr>
<tr>
<td>2</td>
<td>42</td>
<td>(18.8%)</td>
</tr>
<tr>
<td>3</td>
<td>18</td>
<td>(8.0%)</td>
</tr>
<tr>
<td>4</td>
<td>3</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>10 and/or over</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>16</td>
<td>(7.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>224</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Complications of EMR</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>192</td>
<td>(85.7%)</td>
</tr>
<tr>
<td>Perforation</td>
<td>3</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>Bleeding</td>
<td>5</td>
<td>(2.2%)</td>
</tr>
<tr>
<td>Mediastinitis</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Stenosis</td>
<td>9</td>
<td>(4.0%)</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>14</td>
<td>(6.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>224</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
Table 23) Prognosis of patients underwent endoscopic mucosal resection (EMR)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>203</td>
<td>(90.6%)</td>
</tr>
<tr>
<td>Dead</td>
<td>14</td>
<td>(6.2%)</td>
</tr>
<tr>
<td>Lost of follow up</td>
<td>2</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>5</td>
<td>(2.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of recurrence</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>201</td>
<td>(89.7%)</td>
</tr>
<tr>
<td>Lymph node</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lung</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Liver</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Bone</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Brain</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Local</td>
<td>10</td>
<td>(4.5%)</td>
</tr>
<tr>
<td>Dissemination</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stump</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>12</td>
<td>(5.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>224</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Causes of Death</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death due to esophageal cancer</td>
<td>1</td>
<td>(7.1%)</td>
</tr>
<tr>
<td>Death due to other cancer</td>
<td>3</td>
<td>(21.4%)</td>
</tr>
<tr>
<td>Death due to other disease (rec+)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Death due to other disease (rec-)</td>
<td>5</td>
<td>(35.7%)</td>
</tr>
<tr>
<td>Death due to other disease (rec?)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Death related to treatment within 30 days</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Death related to treatment after 30 days</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>5</td>
<td>(35.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

rec : recurrence
Table 24) Histologic findings of EMR specimen (tumor size, histologic type, and depth of tumor invasion)

<table>
<thead>
<tr>
<th>Size of lesion</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 9mm</td>
<td>16 (7.1%)</td>
</tr>
<tr>
<td>10 ~ 19mm</td>
<td>59 (26.3%)</td>
</tr>
<tr>
<td>20 ~ 29mm</td>
<td>33 (14.7%)</td>
</tr>
<tr>
<td>30 ~ 39mm</td>
<td>8  (3.6%)</td>
</tr>
<tr>
<td>40 ~ 49mm</td>
<td>1  (0.4%)</td>
</tr>
<tr>
<td>50 ~ 59mm</td>
<td>6  (2.7%)</td>
</tr>
<tr>
<td>60 ~ 69mm</td>
<td>1  (0.4%)</td>
</tr>
<tr>
<td>70mm ~</td>
<td>1  (0.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>99 (44.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pathological depth of tumor invasion (pT)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pT0</td>
<td>1  (0.4%)</td>
</tr>
<tr>
<td>pTis</td>
<td>60 (26.8%)</td>
</tr>
<tr>
<td>pT1a(lpm)</td>
<td>41 (18.3%)</td>
</tr>
<tr>
<td>pT1a(mm)</td>
<td>43 (19.2%)</td>
</tr>
<tr>
<td>pt1b</td>
<td>14 (6.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>65 (29.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Histologic type of EMR specimen</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Squamous cell ca (SCC)</td>
<td>108 (48.2%)</td>
</tr>
<tr>
<td>Well diff. SCC</td>
<td>14  (6.3%)</td>
</tr>
<tr>
<td>Moderately diff. SCC</td>
<td>51  (22.8%)</td>
</tr>
<tr>
<td>Poorly diff. SCC</td>
<td>5  (2.2%)</td>
</tr>
<tr>
<td>Adenocarcinima</td>
<td>2  (0.9%)</td>
</tr>
<tr>
<td>Barrett's carcinoma</td>
<td>0  (0.0%)</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>3  (1.3%)</td>
</tr>
<tr>
<td>Others</td>
<td>4  (1.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>37 (16.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-classification of histological depth of invasion in superficial cancer</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>m1(ep)</td>
<td>71 (31.7%)</td>
</tr>
<tr>
<td>m2(lpm)</td>
<td>48 (21.4%)</td>
</tr>
<tr>
<td>m3(mm)</td>
<td>44 (19.6%)</td>
</tr>
<tr>
<td>sm1</td>
<td>10 (4.5%)</td>
</tr>
<tr>
<td>sm2</td>
<td>1  (0.4%)</td>
</tr>
<tr>
<td>sm3</td>
<td>1  (0.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>49 (21.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

ep: epithelium
lpm: lamina propria mucosa
mm: muscularis mucosa
Table 25) Histologic findings of EMR specimen (intraepithelial spread, vessel invasion, multiple cancer, and multiple lesion)

<table>
<thead>
<tr>
<th>Intraepithelial spread (ie)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>53 (23.7%)</td>
</tr>
<tr>
<td>(+)</td>
<td>10 (4.5%)</td>
</tr>
<tr>
<td>(+++) superficial spread</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>161 (71.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lympatic vessel invasion (ly)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>133 (59.4%)</td>
</tr>
<tr>
<td>(+)</td>
<td>10 (4.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>81 (36.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood vessel invasion (v)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>141 (62.9%)</td>
</tr>
<tr>
<td>(+)</td>
<td>5 (2.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>78 (34.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple primary cancer</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>69 (30.8%)</td>
</tr>
<tr>
<td>(+)</td>
<td>21 (9.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>134 (59.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple malignant lesions</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>70 (31.2%)</td>
</tr>
<tr>
<td>(+)</td>
<td>22 (9.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>132 (58.9%)</td>
</tr>
<tr>
<td>Total</td>
<td>224 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of multiple primary lesions</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>14 (60.8%)</td>
</tr>
<tr>
<td>3</td>
<td>1 (4.3%)</td>
</tr>
<tr>
<td>5</td>
<td>2 (8.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>6 (26.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>23 (100%)</td>
</tr>
</tbody>
</table>
Figure 1) Survival of patients treated with endoscopy

Overall Survival

Logrank test p<0.0001

EMR (n=207)
Others (n=19)

Overall Survival: 86.7% vs. 84.9%

Survival rates:
- EMR: 26.1% at 1 year
- Others: 26.1% at 1 year

(April. 2002)
Figure 2) Survival of patients treated with EMR

(April. 2002)

Overall Survival

Logrank test p=0.8713

EMR (n=199)
EMR + Other therapy (n=8)

Overall Survival

93.7% 87.5% 84.8%

Logrank test p=0.8713
Figure 3) Survival of patients according to type of EMR

(April. 2002)

Overall Survival

Logrank test p=0.1684

one piece (n=77)
piecemeal (n=128)
III. Clinical Results in Patients treated with Chemotherapy and/or Radiotherapy in 1999
Table 26) Radiotherapy and/or chemotherapy (non surgically treated cases)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiotherapy alone</td>
<td>232</td>
<td>(27.6%)</td>
</tr>
<tr>
<td>Chemoradiotherapy</td>
<td>526</td>
<td>(62.6%)</td>
</tr>
<tr>
<td>Chemotherapy alone</td>
<td>82</td>
<td>(9.8%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>840</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Endo-irradiation</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>652</td>
<td>(86.0%)</td>
</tr>
<tr>
<td>(+)</td>
<td>61</td>
<td>(8.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>45</td>
<td>(5.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>758</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radiotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curative radiation</td>
<td>611</td>
<td>(80.6%)</td>
</tr>
<tr>
<td>Palliative radiation</td>
<td>141</td>
<td>(18.6%)</td>
</tr>
<tr>
<td>Others</td>
<td>1</td>
<td>(0.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>5</td>
<td>(0.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>758</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doses of irradiation (Gy)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>21</td>
<td>(2.8%)</td>
</tr>
<tr>
<td>~ 19</td>
<td>50</td>
<td>(6.6%)</td>
</tr>
<tr>
<td>20 ~ 39</td>
<td>123</td>
<td>(16.2%)</td>
</tr>
<tr>
<td>40 ~ 59</td>
<td>511</td>
<td>(67.4%)</td>
</tr>
<tr>
<td>60 ~ 79</td>
<td>7</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>80 ~ 99</td>
<td>1</td>
<td>(0.1%)</td>
</tr>
<tr>
<td>100 ~</td>
<td>45</td>
<td>(5.9%)</td>
</tr>
<tr>
<td><strong>Unknown</strong></td>
<td>758</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

**Total**
Table 27) Effectiveness of radiotherapy and/or chemotherapy (non surgically treated cases)

<table>
<thead>
<tr>
<th>Chemotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>0</td>
</tr>
<tr>
<td>(+)</td>
<td>607 (99.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>1 (0.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>608 (100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response to chemoradiotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>115 (21.9%)</td>
</tr>
<tr>
<td>PR</td>
<td>204 (38.8%)</td>
</tr>
<tr>
<td>NC</td>
<td>60 (11.4%)</td>
</tr>
<tr>
<td>PD</td>
<td>44 (8.4%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>26 (4.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>77 (14.6%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>526 (100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response to chemotherapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
</tr>
<tr>
<td>PR</td>
</tr>
<tr>
<td>NC</td>
</tr>
<tr>
<td>PD</td>
</tr>
<tr>
<td>Not evaluated</td>
</tr>
<tr>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response to chemotherapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
</tr>
<tr>
<td>PR</td>
</tr>
<tr>
<td>NC</td>
</tr>
<tr>
<td>PD</td>
</tr>
<tr>
<td>Not evaluated</td>
</tr>
<tr>
<td>Unknown</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
Figure 4) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy

(April 2002)

Logrank test  p<0.0001

Overall Survival

Radiotherapy (n=198)  Chemoradiotherapy (n=469)  Chemotherapy (n=68)

32.5%  10.7%  38.5%  33.6%  32.5%  30.6%
Figure 5) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage I-IIA)

-cTNM Stage 0, I, and IIA Cases -

Overall Survival

(April. 2002)
Figure 6) Cumulative survival curves of patients treated by chemotherapy and/or radiotherapy (cStage IIB-IVB) - cTNM Stage IIB, III, IVA, IVB Cases - Overall Survival

(April. 2002)

- Radiotherapy (n=94)
- Chemoradiotherapy (n=339)
- Chemotherapy (n=62)

Logrank test  $p=0.0043$
IV. Clinical Results in Patients treated by Palliative Operation in 1999
Table 28) Palliative operation cases without esophagectomy

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery</td>
<td>11</td>
<td>(16.9%)</td>
</tr>
<tr>
<td>Surgery + radiotherapy</td>
<td>9</td>
<td>(13.8%)</td>
</tr>
<tr>
<td>Surgery + radiotherapy + endoscopic treatment</td>
<td>1</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>Surgery + chemoradiotherapy</td>
<td>35</td>
<td>(53.8%)</td>
</tr>
<tr>
<td>Surgery + chemotherapy</td>
<td>7</td>
<td>(10.8%)</td>
</tr>
<tr>
<td>Surgery + endoscopic treatment</td>
<td>2</td>
<td>(3.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>65</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radiotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No-irradiation</td>
<td>20</td>
<td>(30.8%)</td>
</tr>
<tr>
<td>Curative irradiation</td>
<td>33</td>
<td>(50.8%)</td>
</tr>
<tr>
<td>Palliative irradiation</td>
<td>12</td>
<td>(18.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>65</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surgical treatment</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probe thoraco / laparotomy</td>
<td>24</td>
<td>(36.9%)</td>
</tr>
<tr>
<td>Bypass-operation</td>
<td>12</td>
<td>(18.5%)</td>
</tr>
<tr>
<td>Gastrostomy / Jejunostomy</td>
<td>14</td>
<td>(21.5%)</td>
</tr>
<tr>
<td>Lymph adenectomy</td>
<td>6</td>
<td>(9.2%)</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
<td>(7.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td>(6.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>65</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total doses (Gy)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20</td>
<td>(30.8%)</td>
</tr>
<tr>
<td>2 - 19</td>
<td>2</td>
<td>(3.1%)</td>
</tr>
<tr>
<td>20 - 39</td>
<td>6</td>
<td>(9.2%)</td>
</tr>
<tr>
<td>40 - 59</td>
<td>12</td>
<td>(18.5%)</td>
</tr>
<tr>
<td>60 - 79</td>
<td>20</td>
<td>(30.8%)</td>
</tr>
<tr>
<td>80 - 99</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>100 - `</td>
<td>1</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>4</td>
<td>(6.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>65</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
Table 29) Effectiveness of treatments (Palliative operation cases without esophagectomy)

<table>
<thead>
<tr>
<th>Chemotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>23 (35.4%)</td>
</tr>
<tr>
<td>(+)</td>
<td>42 (64.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>65 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surg + chemoradiotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>2 (5.7%)</td>
</tr>
<tr>
<td>PR</td>
<td>15 (42.9%)</td>
</tr>
<tr>
<td>NC</td>
<td>10 (28.6%)</td>
</tr>
<tr>
<td>PD</td>
<td>4 (11.4%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>4 (11.4%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surg + radiotherapy</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>0</td>
</tr>
<tr>
<td>PR</td>
<td>1 (10.0%)</td>
</tr>
<tr>
<td>NC</td>
<td>2 (20.0%)</td>
</tr>
<tr>
<td>PD</td>
<td>1 (10.0%)</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>1 (10.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>5 (50.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>10 (100%)</td>
</tr>
</tbody>
</table>
Figure 7) Cumulative survival curves of patients treated by palliative surgery (cTNM) (April. 2002)

Overall Survival

Logrank test p=0.5430

- cTNM
- Stage I (n=2)
- Stage IIA (n=3)
- Stage IIB (n=4)
- Stage III (n=23)
- Stage IV (n=20)
V. Clinical Results in Patients treated with Esophagectomy in 1999
Table 30) Cases of esophagectomy (treatment, surgical procedure, and location of the tumor)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esophagectomy</td>
<td>971 (53.4%)</td>
</tr>
<tr>
<td>Esophagectomy + radiotherapy*</td>
<td>170 (9.4%)</td>
</tr>
<tr>
<td>Esophagectomy + chemoradiotherapy**</td>
<td>326 (17.9%)</td>
</tr>
<tr>
<td>Esophagectomy + chemotherapy***</td>
<td>318 (17.5%)</td>
</tr>
<tr>
<td>Esophagectomy + endoscopic treatment</td>
<td>31 (1.7%)</td>
</tr>
<tr>
<td>Esophagectomy + other treatment</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

* : + endoscopic treatment (1 cases)
** : + hyperthermia (9 cases), + endoscopic treatment (3 cases), + other treatment (1 case)
*** : + hyperthermia (2 cases), + endoscopic treatment (3 cases), + hyperthermia + endoscopic treatment (1 case), + other treatment (1 case)

<table>
<thead>
<tr>
<th>Surgical procedures</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esophagectomy without reconstruction</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>Esophagectomy + reconstruction (2-stage operation)</td>
<td>37 (2.0%)</td>
</tr>
<tr>
<td>Esophagectomy with reconstruction</td>
<td>1777 (97.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pharynx</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>Cervical esophagus</td>
<td>78 (4.3%)</td>
</tr>
<tr>
<td>Upper thoracic esophagus</td>
<td>181 (10.0%)</td>
</tr>
<tr>
<td>Middle thoracic esophagus</td>
<td>902 (49.6%)</td>
</tr>
<tr>
<td>Lower thoracic esophagus</td>
<td>490 (27.0%)</td>
</tr>
<tr>
<td>Abdominal esophagus</td>
<td>100 (5.5%)</td>
</tr>
<tr>
<td>EG Junction</td>
<td>15 (0.8%)</td>
</tr>
<tr>
<td>Cardia</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>43 (2.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

* Esophagectomy
** Esophagectomy + chemoradiotherapy
*** Esophagectomy + chemotherapy
Table 31) Cases of esophagectomy (surgical approach and region of lymphadenectomy)

<table>
<thead>
<tr>
<th>Approach</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical approach</td>
<td>51</td>
<td>(2.8%)</td>
</tr>
<tr>
<td>Right thoracotomy</td>
<td>1464</td>
<td>(80.6%)</td>
</tr>
<tr>
<td>Left thoracotomy</td>
<td>27</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>Left thoracoabdominal approach</td>
<td>60</td>
<td>(3.3%)</td>
</tr>
<tr>
<td>Laparotomy</td>
<td>28</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>Transhiatal (without blunt dissection)</td>
<td>7</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Transhiatal (with blunt dissection)</td>
<td>95</td>
<td>(5.2%)</td>
</tr>
<tr>
<td>Sternotomy</td>
<td>15</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>Others</td>
<td>15</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>55</td>
<td>(3.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1817</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region of lymphadenectomy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>39</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>C</td>
<td>56</td>
<td>(3.1%)</td>
</tr>
<tr>
<td>C+UM</td>
<td>23</td>
<td>(1.3%)</td>
</tr>
<tr>
<td>C+UM+MLM</td>
<td>36</td>
<td>(2.0%)</td>
</tr>
<tr>
<td>C+UM+MLM+A</td>
<td>638</td>
<td>(35.1%)</td>
</tr>
<tr>
<td>C+UM+A</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>C+MLM</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>C+MLM+A</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>C+A</td>
<td>15</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>UM</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>UM+MLM</td>
<td>25</td>
<td>(1.4%)</td>
</tr>
<tr>
<td>UM+MLM+A</td>
<td>599</td>
<td>(33.0%)</td>
</tr>
<tr>
<td>A</td>
<td>67</td>
<td>(3.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>82</td>
<td>(4.5%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1817</strong></td>
<td><strong>(100%)</strong></td>
</tr>
</tbody>
</table>

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM: middle-lower mediastinal nodes
A: abdominal nodes
<table>
<thead>
<tr>
<th>Reconstruction route</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>5</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Antethoracic</td>
<td>193</td>
<td>(10.6%)</td>
</tr>
<tr>
<td>Retrosternal</td>
<td>648</td>
<td>(35.7%)</td>
</tr>
<tr>
<td>Posterior mediastinal</td>
<td>465</td>
<td>(25.6%)</td>
</tr>
<tr>
<td>High intrathoracic*</td>
<td>245</td>
<td>(13.5%)</td>
</tr>
<tr>
<td>Low intrathoracic**</td>
<td>113</td>
<td>(6.2%)</td>
</tr>
<tr>
<td>Transhiatal</td>
<td>33</td>
<td>(1.8%)</td>
</tr>
<tr>
<td>Cervical</td>
<td>26</td>
<td>(1.4%)</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>84</td>
<td>(4.6%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

* with upper mediastinal anastomosis
** with middle/lower mediastinal anastomosis

<table>
<thead>
<tr>
<th>Organs for esophageal replacement</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>5</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Whole stomach*</td>
<td>91</td>
<td>(5.0%)</td>
</tr>
<tr>
<td>Gastric tube**</td>
<td>1409</td>
<td>(77.5%)</td>
</tr>
<tr>
<td>Jejunum***</td>
<td>97</td>
<td>(5.3%)</td>
</tr>
<tr>
<td>Free jejunum</td>
<td>28</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>Colon</td>
<td>122</td>
<td>(6.7%)</td>
</tr>
<tr>
<td>Free colon</td>
<td>5</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Skin graft</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>60</td>
<td>(3.3%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

* : Free jejunum+Whole stomach (1 case)
** : Gastric tube+Jejunum (7 cases), Free jejunum+Gastric tube (2 cases)
     Colon+Gastric tube(1 case), Free Colon+Gastric tube(1 case),
     Skin roll+Gastric tube (1case)
*** : Jejunum+Colon (2 case)
Table 33) Cases of intrathoracic esophagectomy (location of the tumor and reconstruction route)

<table>
<thead>
<tr>
<th>Reconstruction route</th>
<th>Upper thoracic</th>
<th>Middle thoracic</th>
<th>Lower thoracic</th>
<th>Total thoracic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases (%)</td>
<td>Cases (%)</td>
<td>Cases (%)</td>
<td>Cases (%)</td>
</tr>
<tr>
<td>(-)</td>
<td>0 (13.3%)</td>
<td>3 (0.3%)</td>
<td>1 (0.2%)</td>
<td>4 (0.3%)</td>
</tr>
<tr>
<td>Antethoracic</td>
<td>24 (40.3%)</td>
<td>107 (11.9%)</td>
<td>57 (11.6%)</td>
<td>188 (12.0%)</td>
</tr>
<tr>
<td>Retrosternal</td>
<td>70 (38.7%)</td>
<td>238 (26.4%)</td>
<td>100 (20.4%)</td>
<td>408 (25.9%)</td>
</tr>
<tr>
<td>Posterior mediastinal</td>
<td>9 (5.0%)</td>
<td>121 (13.4%)</td>
<td>95 (19.4%)</td>
<td>225 (14.3%)</td>
</tr>
<tr>
<td>High intrathoracic*</td>
<td>0 (2.8%)</td>
<td>25 (2.8%)</td>
<td>51 (10.4%)</td>
<td>76 (4.8%)</td>
</tr>
<tr>
<td>Low intrathoracic**</td>
<td>0 (0.1%)</td>
<td>0</td>
<td>0</td>
<td>2 (0.1%)</td>
</tr>
<tr>
<td>Transhiatal</td>
<td>0</td>
<td>0</td>
<td>7 (1.4%)</td>
<td>7 (0.4%)</td>
</tr>
<tr>
<td>Cervical</td>
<td>0</td>
<td>2 (0.2%)</td>
<td>0</td>
<td>2 (0.1%)</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>1 (0.1%)</td>
<td>0</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>5 (2.8%)</td>
<td>31 (3.4%)</td>
<td>7 (1.4%)</td>
<td>43 (2.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>181 (100%)</td>
<td>902 (100%)</td>
<td>490 (100%)</td>
<td>1573 (100%)</td>
</tr>
<tr>
<td>Location</td>
<td>Pharynx</td>
<td>Cervical esophagus</td>
<td>Abdominal esophagus</td>
<td>EGJ/Cardia</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------</td>
<td>--------------------</td>
<td>---------------------</td>
<td>------------</td>
</tr>
<tr>
<td></td>
<td>Cases</td>
<td>(%)</td>
<td>Cases (%)</td>
<td>Cases (%)</td>
</tr>
<tr>
<td>(-)</td>
<td>0</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Antethoracic</td>
<td>0</td>
<td>1 (1.3%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Retrosternal</td>
<td>0</td>
<td>2 (2.6%)</td>
<td>2 (2.0%)</td>
<td>0</td>
</tr>
<tr>
<td>Posterior mediastinal</td>
<td>1 (20.0%)</td>
<td>41 (52.6%)</td>
<td>12 (12.0%)</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>High intrathoracic*</td>
<td>0</td>
<td>0</td>
<td>19 (19.0%)</td>
<td>7 (38.9%)</td>
</tr>
<tr>
<td>Low intrathoracic**</td>
<td>0</td>
<td>0</td>
<td>30 (30.0%)</td>
<td>9 (50.0%)</td>
</tr>
<tr>
<td>Transhiatal</td>
<td>0</td>
<td>0</td>
<td>17 (17.0%)</td>
<td>0</td>
</tr>
<tr>
<td>Cervical</td>
<td>3 (60.0%)</td>
<td>21 (26.9%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Others</td>
<td>1 (20.0%)</td>
<td>1 (1.3%)</td>
<td>2 (2.0%)</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>3 (3.8%)</td>
<td>3 (3.0%)</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>5 (100%)</td>
<td>78 (100%)</td>
<td>100 (100%)</td>
<td>18 * (100%)</td>
</tr>
</tbody>
</table>

* E=G:15 cases, G:3 cases

Table 34) Cases of esophagectomy for external lesion of the thorax (location of the tumor and reconstruction route)
<table>
<thead>
<tr>
<th>Region of lymphadenectomy</th>
<th>Upper thoracic</th>
<th>Middle thoracic</th>
<th>Lower thoracic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>(- )</td>
<td>32 (2.0%)</td>
<td>27 (1.7%)</td>
<td>3 (0.2%)</td>
<td>610 (38.8%)</td>
</tr>
<tr>
<td>C</td>
<td>5 (2.8%)</td>
<td>16 (1.8%)</td>
<td>6 (1.2%)</td>
<td>27 (1.7%)</td>
</tr>
<tr>
<td>C+UM</td>
<td>2 (1.1%)</td>
<td>0 (0.0%)</td>
<td>1 (0.2%)</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>C+UM+MLM</td>
<td>8 (4.4%)</td>
<td>17 (1.9%)</td>
<td>9 (1.8%)</td>
<td>34 (2.2%)</td>
</tr>
<tr>
<td>C+UM+MLM+A</td>
<td>90 (49.7%)</td>
<td>382 (42.4%)</td>
<td>138 (28.2%)</td>
<td>610 (38.8%)</td>
</tr>
<tr>
<td>C+UM+A</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>C+MLM</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>C+MLM+A</td>
<td>1 (0.6%)</td>
<td>2 (0.2%)</td>
<td>0 (0.0%)</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>C+A</td>
<td>2 (1.1%)</td>
<td>3 (0.3%)</td>
<td>2 (0.4%)</td>
<td>7 (0.4%)</td>
</tr>
<tr>
<td>UM</td>
<td>1 (0.6%)</td>
<td>2 (0.2%)</td>
<td>1 (0.2%)</td>
<td>4 (0.3%)</td>
</tr>
<tr>
<td>UM+MLM</td>
<td>3 (1.7%)</td>
<td>16 (1.8%)</td>
<td>5 (1.0%)</td>
<td>24 (1.5%)</td>
</tr>
<tr>
<td>UM+MLM+A</td>
<td>42 (23.2%)</td>
<td>339 (37.6%)</td>
<td>196 (40.0%)</td>
<td>577 (36.7%)</td>
</tr>
<tr>
<td>UM+A</td>
<td>1 (0.6%)</td>
<td>3 (0.3%)</td>
<td>2 (0.4%)</td>
<td>6 (0.4%)</td>
</tr>
<tr>
<td>MLM</td>
<td>3 (1.7%)</td>
<td>9 (1.0%)</td>
<td>6 (1.2%)</td>
<td>18 (1.1%)</td>
</tr>
<tr>
<td>MLM+A</td>
<td>4 (2.2%)</td>
<td>55 (6.1%)</td>
<td>82 (16.7%)</td>
<td>141 (9.0%)</td>
</tr>
<tr>
<td>A</td>
<td>3 (1.7%)</td>
<td>20 (2.2%)</td>
<td>22 (4.5%)</td>
<td>45 (2.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>7 (3.9%)</td>
<td>24 (2.7%)</td>
<td>11 (2.2%)</td>
<td>42 (2.7%)</td>
</tr>
</tbody>
</table>

C: bilateral cervical nodes
UM: upper mediastinal nodes
MLM: middle-lower mediastinal nodes
A: abdominal nodes
### Table 36) Cases of esophagectomy for external lesion of the thorax (location of the tumor and lymph node dissection)

<table>
<thead>
<tr>
<th>Location of lymphadenectomy</th>
<th>Pharynx</th>
<th>Cervical esophagus</th>
<th>Abdominal esophagus</th>
<th>EGJ/Cardia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cases</td>
<td>Cases</td>
<td>Cases</td>
<td>Cases</td>
</tr>
<tr>
<td>(-)</td>
<td>0</td>
<td>4 (5.1%)</td>
<td>1 (1.0%)</td>
<td>0</td>
</tr>
<tr>
<td>C</td>
<td>5 (100%)</td>
<td>22 (28.2%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C+UM</td>
<td>0</td>
<td>20 (25.6%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C+UM+MLM</td>
<td>0</td>
<td>1 (1.3%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C+UM+MLM+A</td>
<td>0</td>
<td>19 (24.4%)</td>
<td>9 (9.0%)</td>
<td>0</td>
</tr>
<tr>
<td>C+UM+A</td>
<td>0</td>
<td>4 (5.1%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C+MLM</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>C+MLM+A</td>
<td>0</td>
<td>0</td>
<td>1 (1.0%)</td>
<td>0</td>
</tr>
<tr>
<td>C+A</td>
<td>0</td>
<td>6 (7.7%)</td>
<td>2 (2.0%)</td>
<td>0</td>
</tr>
<tr>
<td>UM</td>
<td>0</td>
<td>6 (7.7%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UM+MLM</td>
<td>0</td>
<td>1 (1.3%)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>UM+MLM+A</td>
<td>0</td>
<td>0</td>
<td>18 (18.0%)</td>
<td>1 (5.6%)</td>
</tr>
<tr>
<td>UM+A</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MLM</td>
<td>0</td>
<td>0</td>
<td>3 (3.0%)</td>
<td>2 (11.1%)</td>
</tr>
<tr>
<td>MLM+A</td>
<td>0</td>
<td>0</td>
<td>46 (46.0%)</td>
<td>9 (50.0%)</td>
</tr>
<tr>
<td>A</td>
<td>0</td>
<td>1 (1.3%)</td>
<td>16 (16.0%)</td>
<td>5 (27.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>0</td>
<td>0</td>
<td>4 (4.0%)</td>
<td>1 (5.6%)</td>
</tr>
</tbody>
</table>

Total                        | 5 (100%)| 78 (100%)          | 100 (100%)          | 18* (100%) *E=G:15cases, G:3cases
<table>
<thead>
<tr>
<th>Vascular anastomosis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1636</td>
<td>(90.0%)</td>
</tr>
<tr>
<td>(+)</td>
<td>105</td>
<td>(5.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>76</td>
<td>(4.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Table 37) Cases of esophagectomy (vascular anastomosis and endoscopic surgery)

<table>
<thead>
<tr>
<th>Endoscopic surgery</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1557</td>
<td>(85.7%)</td>
</tr>
<tr>
<td>Thoracoscopy</td>
<td>64</td>
<td>(3.5%)</td>
</tr>
<tr>
<td>Thoracoscopy assist</td>
<td>85</td>
<td>(4.7%)</td>
</tr>
<tr>
<td>Mediastinoscopy assist</td>
<td>30</td>
<td>(1.7%)</td>
</tr>
<tr>
<td>Laparoscopy assist</td>
<td>6</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Thoracoscopy &amp; Laparoscopy assist</td>
<td>1</td>
<td>(0.06%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>74</td>
<td>(4.1%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
### Table 38) Cases of esophagectomy (operative findings of cT and combined resected organs)

<table>
<thead>
<tr>
<th>Macroscopic T-category (cT)</th>
<th>Cases (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>T0</td>
<td>58 (3.2%)</td>
<td></td>
</tr>
<tr>
<td>T1</td>
<td>418 (23.0%)</td>
<td></td>
</tr>
<tr>
<td>T2</td>
<td>397 (21.8%)</td>
<td></td>
</tr>
<tr>
<td>T3</td>
<td>683 (37.6%)</td>
<td></td>
</tr>
<tr>
<td>T4</td>
<td>197 (10.8%)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>64 (3.5%)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>cT4 by lymphatic metastasis</th>
<th>Cases (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(- )</td>
<td>1692 (93.1%)</td>
<td></td>
</tr>
<tr>
<td>N1(T4)</td>
<td>13 (0.7%)</td>
<td></td>
</tr>
<tr>
<td>N2(T4)</td>
<td>19 (1.0%)</td>
<td></td>
</tr>
<tr>
<td>N3(T4)</td>
<td>6 (0.3%)</td>
<td></td>
</tr>
<tr>
<td>N4(T4)</td>
<td>8 (0.4%)</td>
<td></td>
</tr>
<tr>
<td>Nx(T4)</td>
<td>3 (0.2%)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>76 (4.2%)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Organs*</th>
<th>Cases (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(- )</td>
<td>76 (26.2%)</td>
<td></td>
</tr>
<tr>
<td>Larynx</td>
<td>28 (9.7%)</td>
<td></td>
</tr>
<tr>
<td>Trachea</td>
<td>21 (7.2%)</td>
<td></td>
</tr>
<tr>
<td>Aorta</td>
<td>5 (1.7%)</td>
<td></td>
</tr>
<tr>
<td>Lung</td>
<td>29 (10.0%)</td>
<td></td>
</tr>
<tr>
<td>Pericardium</td>
<td>21 (7.2%)</td>
<td></td>
</tr>
<tr>
<td>Diaphragm</td>
<td>23 (7.9%)</td>
<td></td>
</tr>
<tr>
<td>Stomach</td>
<td>8 (2.8%)</td>
<td></td>
</tr>
<tr>
<td>Pancreas+spleen</td>
<td>16 (5.5%)</td>
<td></td>
</tr>
<tr>
<td>Thoracic duct</td>
<td>21 (7.2%)</td>
<td></td>
</tr>
<tr>
<td>Recurrent nerve</td>
<td>11 (3.8%)</td>
<td></td>
</tr>
<tr>
<td>Recurrent nerve (main trunk)</td>
<td>6 (2.1%)</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>20 (6.9%)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>5 (1.7%)</td>
<td></td>
</tr>
<tr>
<td><strong>Total of resected organs</strong></td>
<td>290 (100%)</td>
<td></td>
</tr>
</tbody>
</table>

| Total of cT4 cases          | 197 |   |

*: Organs resected in addition to the esophagus
Table 39) Cases of esophagectomy (operative findings of the tumor feature and size)

<table>
<thead>
<tr>
<th>Macroscopic type</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-Ip</td>
<td>34</td>
<td>(1.9%)</td>
</tr>
<tr>
<td>0-Ipl</td>
<td>71</td>
<td>(3.9%)</td>
</tr>
<tr>
<td>0-Isep</td>
<td>19</td>
<td>(1.0%)</td>
</tr>
<tr>
<td>0-IIa</td>
<td>108</td>
<td>(5.9%)</td>
</tr>
<tr>
<td>0-IIb</td>
<td>38</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>0-IIc</td>
<td>236</td>
<td>(13.0%)</td>
</tr>
<tr>
<td>0-III</td>
<td>28</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>0-V</td>
<td>17</td>
<td>(0.9%)</td>
</tr>
<tr>
<td>1p</td>
<td>29</td>
<td>(1.6%)</td>
</tr>
<tr>
<td>1c</td>
<td>9</td>
<td>(0.5%)</td>
</tr>
<tr>
<td>1pl</td>
<td>59</td>
<td>(3.2%)</td>
</tr>
<tr>
<td>1sep</td>
<td>3</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>2</td>
<td>505</td>
<td>(27.8%)</td>
</tr>
<tr>
<td>3</td>
<td>455</td>
<td>(25.0%)</td>
</tr>
<tr>
<td>4s</td>
<td>20</td>
<td>(1.1%)</td>
</tr>
<tr>
<td>4ns</td>
<td>4</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>5c</td>
<td>13</td>
<td>(0.7%)</td>
</tr>
<tr>
<td>5s</td>
<td>6</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>5u</td>
<td>73</td>
<td>(4.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>90</td>
<td>(5.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size of Tumor (mm)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 9</td>
<td>27</td>
<td>(1.5%)</td>
</tr>
<tr>
<td>10 - 19</td>
<td>129</td>
<td>(7.1%)</td>
</tr>
<tr>
<td>20 - 29</td>
<td>227</td>
<td>(12.5%)</td>
</tr>
<tr>
<td>30 - 39</td>
<td>224</td>
<td>(12.3%)</td>
</tr>
<tr>
<td>40 - 49</td>
<td>296</td>
<td>(16.3%)</td>
</tr>
<tr>
<td>50 - 59</td>
<td>292</td>
<td>(16.1%)</td>
</tr>
<tr>
<td>60 - 69</td>
<td>184</td>
<td>(10.1%)</td>
</tr>
<tr>
<td>70 - 79</td>
<td>135</td>
<td>(7.4%)</td>
</tr>
<tr>
<td>80 - 89</td>
<td>79</td>
<td>(4.3%)</td>
</tr>
<tr>
<td>90 - 99</td>
<td>35</td>
<td>(1.9%)</td>
</tr>
<tr>
<td>100 - 109</td>
<td>32</td>
<td>(1.8%)</td>
</tr>
<tr>
<td>110 - 119</td>
<td>11</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>120 - 129</td>
<td>14</td>
<td>(0.8%)</td>
</tr>
<tr>
<td>130 - 139</td>
<td>8</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>140 - 149</td>
<td>5</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>150 -</td>
<td>11</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>108</td>
<td>(5.9%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
### Table 40) Histologic types of resected specimen and multiple primary cancer

<table>
<thead>
<tr>
<th>Histologic types</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not examined</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>SCC</td>
<td></td>
</tr>
<tr>
<td>Well diff.</td>
<td>106 (5.8%)</td>
</tr>
<tr>
<td>Moderately diff.</td>
<td>400 (22.0%)</td>
</tr>
<tr>
<td>Poorly diff.</td>
<td>774 (42.6%)</td>
</tr>
<tr>
<td>Poorly diff.</td>
<td>341 (18.8%)</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td></td>
</tr>
<tr>
<td>Barrett's adenocarcinoma</td>
<td>29 (1.6%)</td>
</tr>
<tr>
<td>Adenosquamous cell carcinoma</td>
<td>9 (0.5%)</td>
</tr>
<tr>
<td>Epidermoid carcinoma</td>
<td>4 (0.2%)</td>
</tr>
<tr>
<td>Adenoid cystic carcinoma</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>Basoloid carcinoma</td>
<td>26 (1.4%)</td>
</tr>
<tr>
<td>Undiff. carcinoma</td>
<td>14 (0.8%)</td>
</tr>
<tr>
<td>Undiff. carcinoma (small cell)</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>Sarcoma</td>
<td>0</td>
</tr>
<tr>
<td>So-called carcinosarcoma</td>
<td>12 (0.7%)</td>
</tr>
<tr>
<td>Pseudosarcoma</td>
<td>1 (0.06%)</td>
</tr>
<tr>
<td>True carcinosarcoma</td>
<td>0</td>
</tr>
<tr>
<td>Malignant melanoma</td>
<td>2 (0.1%)</td>
</tr>
<tr>
<td>Dysplasia</td>
<td>3 (0.2%)</td>
</tr>
<tr>
<td>Other</td>
<td>11 (0.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>66 (3.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple primary cancer</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(- )</td>
<td>1524 (83.9%)</td>
</tr>
<tr>
<td>(+)</td>
<td>220 (12.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>73 (4.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
<tr>
<td>Residual cancer cells at the transected stump</td>
<td>Cases (%)</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>proximal (p)/distal (d)</td>
<td></td>
</tr>
<tr>
<td>p / d (-)</td>
<td>1695</td>
</tr>
<tr>
<td>p / d (+)</td>
<td>59</td>
</tr>
<tr>
<td>Unknown</td>
<td>63</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intraepithelial spread (ie)</th>
<th>Cases (%)</th>
<th>Infilative growth pattern (inf)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ie(-)</td>
<td>1017</td>
<td></td>
<td>264</td>
</tr>
<tr>
<td>ie(+)</td>
<td>641</td>
<td></td>
<td>981</td>
</tr>
<tr>
<td>ie(++)superficial</td>
<td>40</td>
<td></td>
<td>206</td>
</tr>
<tr>
<td>Unknown</td>
<td>119</td>
<td></td>
<td>366</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td></td>
<td>1817</td>
</tr>
</tbody>
</table>
**Table 42** Pathological findings of resected specimen (vessel invasion and skip metastasis)

<table>
<thead>
<tr>
<th>Lympatic vessel invasion (ly)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ly0</td>
<td>550</td>
<td>(30.3%)</td>
</tr>
<tr>
<td>ly(+)</td>
<td>52</td>
<td>(2.9%)</td>
</tr>
<tr>
<td>Ly1</td>
<td>542</td>
<td>(29.8%)</td>
</tr>
<tr>
<td>ly2-3</td>
<td>563</td>
<td>(31.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>110</td>
<td>(6.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

**Blood vessel invasion (v)**

<table>
<thead>
<tr>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>v0</td>
<td>885</td>
</tr>
<tr>
<td>v(+)</td>
<td>17</td>
</tr>
<tr>
<td>v1</td>
<td>456</td>
</tr>
<tr>
<td>v2-3</td>
<td>345</td>
</tr>
<tr>
<td>Unknown</td>
<td>114</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
</tr>
</tbody>
</table>

**Skip metastasis in the esophageal wall (im-e)**

<table>
<thead>
<tr>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>im-e (-)</td>
<td>1566</td>
</tr>
<tr>
<td>im-e (+)</td>
<td>166</td>
</tr>
<tr>
<td>Unknown</td>
<td>85</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
</tr>
</tbody>
</table>

**Skip metastasis in the stomach wall (im-st)**

<table>
<thead>
<tr>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>im-st (-)</td>
<td>1664</td>
</tr>
<tr>
<td>im-st (+)</td>
<td>60</td>
</tr>
<tr>
<td>Unknown</td>
<td>93</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
</tr>
</tbody>
</table>
Table 43) Pathological findings of resected specimen (pT)

<table>
<thead>
<tr>
<th>pT-category</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not examined</td>
<td>0</td>
</tr>
<tr>
<td>pT0</td>
<td>21 (1.2%)</td>
</tr>
<tr>
<td>pTis</td>
<td>24 (1.3%)</td>
</tr>
<tr>
<td>pT1a</td>
<td>130 (7.2%)</td>
</tr>
<tr>
<td>pT1b</td>
<td>410 (22.6%)</td>
</tr>
<tr>
<td>pT2</td>
<td>248 (13.6%)</td>
</tr>
<tr>
<td>pT3</td>
<td>757 (41.7%)</td>
</tr>
<tr>
<td>pT4</td>
<td>162 (8.9%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>65 (3.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

Subclassification of superficial carcinoma

<table>
<thead>
<tr>
<th>Subclassification</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>m1 (pTis)*</td>
<td>24 (6.2%)</td>
</tr>
<tr>
<td>m2 (pT1a)**</td>
<td>49 (3.8%)</td>
</tr>
<tr>
<td>m3 (pT1a)***</td>
<td>81 (17.4%)</td>
</tr>
<tr>
<td>sm1 (pT1b)</td>
<td>70 (10.5%)</td>
</tr>
<tr>
<td>sm2 (pT1b)</td>
<td>111 (20.2%)</td>
</tr>
<tr>
<td>sm3 (pT1b)</td>
<td>176 (26.2%)</td>
</tr>
<tr>
<td>Unknown (pT1b)</td>
<td>53 (15.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>564 (100%)</td>
</tr>
</tbody>
</table>

* ep = epithel
** lpm = lamina proplia mucosa
*** mm = muscularis mucosa
**Table 44** Pathological findings of resected specimen (pN)

<table>
<thead>
<tr>
<th>Lymph node metastasis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n(-)</td>
<td>715</td>
<td>(39.4%)</td>
</tr>
<tr>
<td>n1+</td>
<td>231</td>
<td>(12.7%)</td>
</tr>
<tr>
<td>n2(+)</td>
<td>509</td>
<td>(28.0%)</td>
</tr>
<tr>
<td>n3(+)</td>
<td>168</td>
<td>(9.2%)</td>
</tr>
<tr>
<td>n4(+)</td>
<td>131</td>
<td>(7.2%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>63</td>
<td>(3.5%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of lymph node metastasis</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>715</td>
<td>(39.4%)</td>
</tr>
<tr>
<td>1~3</td>
<td>594</td>
<td>(32.7%)</td>
</tr>
<tr>
<td>4~7</td>
<td>259</td>
<td>(14.3%)</td>
</tr>
<tr>
<td>8~</td>
<td>154</td>
<td>(8.5%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>95</td>
<td>(5.2%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
Table 45) Pathological findings of resected specimen (grade of lymph node metastasis corrected using number of metastasis and fields of lymph node metastasis)

<table>
<thead>
<tr>
<th>Grade of metastasis</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>gN0</td>
<td>715 (39.4%)</td>
</tr>
<tr>
<td>gN1(n1a)</td>
<td>200 (11.0%)</td>
</tr>
<tr>
<td>gN2(n1b)</td>
<td>15 (0.8%)</td>
</tr>
<tr>
<td>gN2(n2a)</td>
<td>309 (17.0%)</td>
</tr>
<tr>
<td>gN3(n1c)</td>
<td>5 (0.3%)</td>
</tr>
<tr>
<td>gN3(n2b)</td>
<td>149 (8.2%)</td>
</tr>
<tr>
<td>gN3(n3a)</td>
<td>58 (3.2%)</td>
</tr>
<tr>
<td>gN4(n2c)</td>
<td>42 (2.3%)</td>
</tr>
<tr>
<td>gN4(n3b)</td>
<td>61 (3.4%)</td>
</tr>
<tr>
<td>gN4(n3c)</td>
<td>41 (2.3%)</td>
</tr>
<tr>
<td>gN4(n4a)</td>
<td>25 (1.4%)</td>
</tr>
<tr>
<td>gN4(n4b)</td>
<td>34 (1.9%)</td>
</tr>
<tr>
<td>gN4(n4c)</td>
<td>68 (3.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>95 (5.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

Number of lymph node metastasis
a : 1~3
b : 4~7
c : 8~

<table>
<thead>
<tr>
<th>Field of metastasis</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n(-)</td>
<td>715 (39.4%)</td>
</tr>
<tr>
<td>C</td>
<td>65 (3.6%)</td>
</tr>
<tr>
<td>A+C</td>
<td>73 (4.0%)</td>
</tr>
<tr>
<td>A+B+C</td>
<td>81 (4.5%)</td>
</tr>
<tr>
<td>C+B</td>
<td>25 (1.4%)</td>
</tr>
<tr>
<td>A</td>
<td>239 (13.2%)</td>
</tr>
<tr>
<td>A+B</td>
<td>264 (14.5%)</td>
</tr>
<tr>
<td>B</td>
<td>260 (14.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>95 (5.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

A: mediastinal lymph nodes
B: abdominal lymph nodes
C: cervical lymph nodes
Fig. 8) N-category in Japanese Classification (JSED 1998 ~)

- Cervical esophagus
- Upper thoracic esophagus
- Middle thoracic esophagus
- Lower thoracic esophagus
- Abdominal esophagus

Tumor location:
- pN₁
- pN₂
- pN₃
- pN₄
Fig. 9) Grade of metastasis (gN) corrected by number of metastatic node ( JSED 1998 ~ )

<table>
<thead>
<tr>
<th>pN-category of JSED</th>
<th>Number of lymph node metastasis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>a:( 1~3 )</td>
</tr>
<tr>
<td></td>
<td>b:( 4~7 )</td>
</tr>
<tr>
<td></td>
<td>c:( 8~ )</td>
</tr>
<tr>
<td>pN0</td>
<td>gN0</td>
</tr>
<tr>
<td>pN1</td>
<td>gN1</td>
</tr>
<tr>
<td>pN2</td>
<td>gN2</td>
</tr>
<tr>
<td>pN3</td>
<td>gN3</td>
</tr>
<tr>
<td></td>
<td>gN4</td>
</tr>
</tbody>
</table>

Fig. 10) Pathological Stage of JSED (1998 ~ )

<table>
<thead>
<tr>
<th>Tis</th>
<th>T1a</th>
<th>T1b</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>IVa</th>
<th>IVb</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>I</td>
<td>II</td>
<td>III</td>
<td>III</td>
<td>III</td>
<td>IVa</td>
<td>IVb</td>
</tr>
</tbody>
</table>
Table 46) Pathological findings of resected specimen (distant metastasis, stage, grade of dissection, and curability)

<table>
<thead>
<tr>
<th>Distant metastasias (pM)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pM0</td>
<td>1675</td>
<td>(92.2%)</td>
</tr>
<tr>
<td>pM1</td>
<td>43</td>
<td>(2.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>99</td>
<td>(5.4%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade of dissection (D)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0</td>
<td>136</td>
<td>(7.5%)</td>
</tr>
<tr>
<td>DI</td>
<td>224</td>
<td>(12.3%)</td>
</tr>
<tr>
<td>DII</td>
<td>719</td>
<td>(39.6%)</td>
</tr>
<tr>
<td>DIII</td>
<td>651</td>
<td>(35.8%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>87</td>
<td>(4.8%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pathological stage</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>151</td>
<td>(8.3%)</td>
</tr>
<tr>
<td>I</td>
<td>241</td>
<td>(13.3%)</td>
</tr>
<tr>
<td>II</td>
<td>435</td>
<td>(23.9%)</td>
</tr>
<tr>
<td>III</td>
<td>486</td>
<td>(26.7%)</td>
</tr>
<tr>
<td>IVa</td>
<td>305</td>
<td>(16.8%)</td>
</tr>
<tr>
<td>IVb</td>
<td>41</td>
<td>(2.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>158</td>
<td>(8.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Curability</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely curative (a)</td>
<td>1023</td>
<td>(56.3%)</td>
</tr>
<tr>
<td>Relatively curative (b)</td>
<td>521</td>
<td>(28.7%)</td>
</tr>
<tr>
<td>Absolutely non-curative (c)</td>
<td>170</td>
<td>(9.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>103</td>
<td>(5.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

Cases (%): 1817 (100%)
Table 47) Pathological findings of resected specimen (residual tumor, multiple cancers, and multiple lesions)

<table>
<thead>
<tr>
<th>Residual tumor (R)</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0</td>
<td>1490       (82.0%)</td>
</tr>
<tr>
<td>R1</td>
<td>105        (5.8%)</td>
</tr>
<tr>
<td>R2</td>
<td>120        (6.6%)</td>
</tr>
<tr>
<td>Rx</td>
<td>31         (1.7%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1817</strong>   (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple malignant lesions</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1358       (74.7%)</td>
</tr>
<tr>
<td>(+)</td>
<td>350        (19.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>109        (6.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1817</strong>   (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary multiple cancers</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1524       (83.9%)</td>
</tr>
<tr>
<td>(+)</td>
<td>220        (12.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>73         (4.0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1883</strong>   (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number of malignant lesions</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1358       (74.7%)</td>
</tr>
<tr>
<td>1</td>
<td>119        (6.5%)</td>
</tr>
<tr>
<td>2</td>
<td>102        (5.6%)</td>
</tr>
<tr>
<td>3</td>
<td>31         (1.7%)</td>
</tr>
<tr>
<td>4</td>
<td>7          (0.4%)</td>
</tr>
<tr>
<td>5 ~</td>
<td>10         (0.6%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>190        (10.5%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1817</strong>   (100%)</td>
</tr>
</tbody>
</table>
Table 48) Adjuvant therapy for cases of esophagectomy

<table>
<thead>
<tr>
<th>Radiotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1256</td>
<td>(69.1%)</td>
</tr>
<tr>
<td>Preoperative</td>
<td>201</td>
<td>(11.1%)</td>
</tr>
<tr>
<td>Pre+intraoperative(IOR)+Post</td>
<td>1</td>
<td>(0.06%)</td>
</tr>
<tr>
<td>Pre+postoperative</td>
<td>2</td>
<td>(0.1%)</td>
</tr>
<tr>
<td>IOR</td>
<td>3</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>IOR+postoperative</td>
<td>1</td>
<td>(0.6%)</td>
</tr>
<tr>
<td>Postoperative</td>
<td>312</td>
<td>(17.2%)</td>
</tr>
<tr>
<td>Time to recurrence</td>
<td>39</td>
<td>(2.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>(0.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1128</td>
<td>(62.1%)</td>
</tr>
<tr>
<td>Preoperative</td>
<td>276</td>
<td>(15.2%)</td>
</tr>
<tr>
<td>Pre+intraoperative(IOR)</td>
<td>1</td>
<td>(0.06%)</td>
</tr>
<tr>
<td>Pre+postoperative</td>
<td>52</td>
<td>(2.9%)</td>
</tr>
<tr>
<td>Intraoperative (IOR)</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>IOR+postoperative</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Postoperative</td>
<td>309</td>
<td>(17.0%)</td>
</tr>
<tr>
<td>Time to recurrence</td>
<td>49</td>
<td>(2.7%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>2</td>
<td>(0.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Doses of irradiation (Gy)</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1256</td>
<td>(69.1%)</td>
</tr>
<tr>
<td>1 ~ 19</td>
<td>19</td>
<td>(1.0%)</td>
</tr>
<tr>
<td>20 ~ 39</td>
<td>89</td>
<td>(4.9%)</td>
</tr>
<tr>
<td>40 ~ 59</td>
<td>283</td>
<td>(15.6%)</td>
</tr>
<tr>
<td>60 ~ 79</td>
<td>106</td>
<td>(5.8%)</td>
</tr>
<tr>
<td>80 ~ 99</td>
<td>3</td>
<td>(0.2%)</td>
</tr>
<tr>
<td>100~</td>
<td>5</td>
<td>(0.3%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>56</td>
<td>(3.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of chemotherapy</th>
<th>Cases</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(-)</td>
<td>1128</td>
<td>(62.1%)</td>
</tr>
<tr>
<td>Chemotherapy alone</td>
<td>371</td>
<td>(20.4%)</td>
</tr>
<tr>
<td>Concurrent chemoradiotherapy</td>
<td>238</td>
<td>(13.1%)</td>
</tr>
<tr>
<td>Sequential chemoradiotherapy</td>
<td>36</td>
<td>(2.0%)</td>
</tr>
<tr>
<td>Others</td>
<td>8</td>
<td>(0.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>36</td>
<td>(2.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817</td>
<td>(100%)</td>
</tr>
</tbody>
</table>
### Table 49) Outcome of cases with esophagectomy

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alive</td>
<td>1022 (56.2%)</td>
</tr>
<tr>
<td>Dead</td>
<td>700 (38.5%)</td>
</tr>
<tr>
<td>Lost of information</td>
<td>38 (2.1%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>57 (3.1%)</td>
</tr>
<tr>
<td>Total</td>
<td>1817 (100%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initial recurrence lesion of death cases</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>193 (21.8%)</td>
</tr>
<tr>
<td>Lymph node</td>
<td>186 (21.0%)</td>
</tr>
<tr>
<td>Lung</td>
<td>70 (7.9%)</td>
</tr>
<tr>
<td>Liver</td>
<td>92 (10.4%)</td>
</tr>
<tr>
<td>Bone</td>
<td>61 (6.9%)</td>
</tr>
<tr>
<td>Brain</td>
<td>13 (1.5%)</td>
</tr>
<tr>
<td>Primary lesion</td>
<td>83 (9.4%)</td>
</tr>
<tr>
<td>Dissemination</td>
<td>31 (3.5%)</td>
</tr>
<tr>
<td>Anastomotic region</td>
<td>2 (0.2%)</td>
</tr>
<tr>
<td>Others</td>
<td>21 (2.4%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>135 (15.2%)</td>
</tr>
<tr>
<td>Total of recurrence lesion</td>
<td>887 (100%)</td>
</tr>
<tr>
<td>Total death cases</td>
<td>700</td>
</tr>
</tbody>
</table>

### Courses of death

<table>
<thead>
<tr>
<th>Causes</th>
<th>Cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death due to recurrence</td>
<td>532 (76.0%)</td>
</tr>
<tr>
<td>Death due to other cancer</td>
<td>13 (1.9%)</td>
</tr>
<tr>
<td>Death due to other diseases(rec+)</td>
<td>10 (1.4%)</td>
</tr>
<tr>
<td>Death due to other diseases(rec-?)</td>
<td>43 (6.1%)</td>
</tr>
<tr>
<td>Death due to other diseases(rec?)</td>
<td>10 (1.4%)</td>
</tr>
<tr>
<td>Operative death*</td>
<td>25 (3.6%)</td>
</tr>
<tr>
<td>Postoperative hospital death**</td>
<td>35 (5.0%)</td>
</tr>
<tr>
<td>Unknown</td>
<td>32 (4.6%)</td>
</tr>
<tr>
<td>Total death cases</td>
<td>700 (100%)</td>
</tr>
</tbody>
</table>

* Death within 30 days
** Death over 30 days
Figure 11) Overall survival curves of patients treated by esophagectomy (1999) (April. 2002)

Overall Survival

Months after Surgery

75.8%
60.6%
44.0%
Figure 12) Survival of patients treated by esophagectomy in relation to depth of tumor invasion (pT)

Logrank test  p<0.0001

Overall Survival  (April. 2002)

- pTis (n=22)
- pT1a (n=120)
- pT1b (n=389)
- pT2 (n=219)
- pT3 (n=704)
- pT4 (n=151)

Log-log scale

Months after Surgery

82.1%
Figure 13) Survival of patients treated by esophagectomy in relation to lymph node metastasis (pN)

(April. 2002)

Overall Survival

Logrank test  p<0.0001

- pN0 (n=652)
- pN1 (n=209)
- pN2 (n=482)
- pN3 (n=160)
- pN4 (n=121)
Figure 14) Survival of patients treated by esophagectomy in relation to pathological stage (April 2002)

Overall Survival

Logrank test  $p<0.0001$

<table>
<thead>
<tr>
<th>pStage</th>
<th>Number (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pSt.0</td>
<td>139</td>
</tr>
<tr>
<td>pSt.I</td>
<td>222</td>
</tr>
<tr>
<td>pSt.II</td>
<td>400</td>
</tr>
<tr>
<td>pSt.III</td>
<td>451</td>
</tr>
<tr>
<td>pSt.IVb</td>
<td>34</td>
</tr>
</tbody>
</table>

Survival rates:

- pSt.IVa: 88.1% (n=289)
- pSt.0: 92.4% (n=139)
- pSt.I: 91.9% (n=222)
- pSt.II: 87.3% (n=400)
- pSt.III: 71.1% (n=451)
- pSt.IVb: 58.1% (n=34)

Months after Surgery

(84.6% at 20 months, 83.0% at 25 months, 47.7% at 30 months, 33.4% at 40 months)
Figure 15) Survival of patients treated by esophagectomy in relation to residual tumor (R)

Logrank test p<0.0001

Overall Survival

0 5 10 15 20 25 30 35 40

80.4 % 66.5 % 55.1 % 30.3 % 37.0 % 15.8 % 48.6 % 16.1 %

Months after Surgery
Figure 16) Survival of patients treated by esophagectomy in relation to number of metastatic node

(April. 2002)

Overall Survival

Logrank test  p<0.0001

Number of metastatic nodes
- 0  (n=652)
- 1-3 (n=554)
- 4-7 (n=240)
- 8-  (n=147)
Figure 17) Survival of patients treated by esophagectomy in relation to clinical TNM-Stage

Logrank test $p<0.0001$

Overall Survival

(April. 2002)

cTNM
Stage 0 (n=17)
Stage I (n=344)
Stage IIA (n=380)
Stage IIB (n=204)
Stage III (n=529)
Stage IV (n=135)
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Figure 12-2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy  
(pT3 & R0-R1 cases registered between 1993 and 1997)
Figure 13) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy  
(pT4 cases registered between 1993 and 1997)
Figure 13-2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy  
(pT4 & R0-R1 cases registered between 1993 and 1997)
Figure 1) Overall survival curves of patients treated by esophagectomy (1988-1997)

(April. 2002)

Overall Survival

n=11642
Figure 2) Survival of patients treated by esophagectomy in relation to depth of tumor invasion (pT)

(Cases registered between 1988 and 1997)

Logrank test  p<0.0001

Overall Survival

UICC-TNM: pT
- pTis (n=323)
- pT1 (n=3227)
- pT2 (n=1823)
- pT3 (n=4975)
- pT4 (n=1294)

Figure 2) Survival of patients treated by esophagectomy in relation to depth of tumor invasion (pT) (Cases registered between 1988 and 1997)
Figure 3) Survival of patients treated by esophagectomy in relation to lymph node metastasis (pN) (April. 2002) (Cases registered between 1988 and 1997)

Overall Survival

Logrank test  p<0.0001

UICC-pTN: pN
- pN0 (n=4869)
- pN1 (n=6773)
Figure 4) Survival of patients treated by esophagectomy in relation to distant metastasis (pM) (Cases registered between 1988 and 1997) (April. 2002)

Overall Survival
Logrank test  p<0.0001

UICC-pTN: pM
- pM0 (n=10238)
- pM1a (n=1137)
- pM1b (n=267)
Figure 5) Survival of patients treated by esophagectomy in relation to pathological stage

(April. 2002)

(Cases registered between 1988 and 1997)

Overall Survival

Logrank test  p<0.0001

<table>
<thead>
<tr>
<th>Pathological Stage</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>pSt.0 (n=313)</td>
<td></td>
</tr>
<tr>
<td>pSt.I (n=2050)</td>
<td></td>
</tr>
<tr>
<td>pSt.IIA (n=2180)</td>
<td></td>
</tr>
<tr>
<td>pSt.IIB (n=1900)</td>
<td></td>
</tr>
<tr>
<td>pSt.III (n=3795)</td>
<td></td>
</tr>
<tr>
<td>pSt.IVA (n=1137)</td>
<td></td>
</tr>
<tr>
<td>pSt.IVB (n=267)</td>
<td></td>
</tr>
</tbody>
</table>

UICC-pTNM:  pStage
- pSt.0 (n=313)
- pSt.I (n=2050)
- pSt.IIA (n=2180)
- pSt.IIB (n=1900)
- pSt.III (n=3795)
- pSt.IVA (n=1137)
- pSt.IVB (n=267)
Figure 6) Survival of patients treated by esophagectomy in relation to number of metastatic node (April. 2002)

(Cases registered between 1993 and 1997)

Overall Survival

Logrank test  p<0.0001

Number of metastatic nodes

- 0  (n=1706)
- 1-3  (n=1223)
- 4-7  (n=517)
- 8-   (n=376)
Figure 6-2) Survival of patients treated by esophagectomy in relation to number of metastatic node (April. 2002)

(R0-R1 Cases registered between 1993 and 1997)

Overall Survival

Logrank test  p<0.0001

<table>
<thead>
<tr>
<th>Number of metastatic nodes</th>
<th>(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1644</td>
</tr>
<tr>
<td>1-3</td>
<td>1055</td>
</tr>
<tr>
<td>4-7</td>
<td>380</td>
</tr>
<tr>
<td>8-</td>
<td>241</td>
</tr>
</tbody>
</table>

Years after Surgery
Figure 7) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (UtMt cases registered between 1993 and 1997)

**Overall Survival**

Logrank test  p=0.0046

<table>
<thead>
<tr>
<th>Years after Surgery</th>
<th>2-Field (n=1544)</th>
<th>3-Field (n=1671)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Extent of lymphadenectomy

- Red: 2-Field (n=1544)
- Green: 3-Field (n=1671)
Figure 7.2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (April 2002)

(UtMt & R0-R1 cases registered between 1993 and 1997)

Overall Survival

Logrank test p=0.0050

Extant of lymphadenectomy
- 2-Field (n=1352)
- 3-Field (n=1405)
Figure 8) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (Lt cases registered between 1993 and 1997)

Overall Survival

Extent of lymphadenectomy
- 2-Field (n=403)
- 3-Field (n=204)
Overall Survival

Figure 8-2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (April. 2002)

(Lt & R0-R1cases registered between 1993 and 1997)

Years after Surgery

Extent of lymphadenectomy
- 2-Field (n=368)
- 3-Field (n=195)
Figure 9) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (pTis cases registered between 1993 and 1997) (April 2002)

Overall Survival
Logrank test  p=0.0399

Extent of lymphadenectomy
- 2-Field (n=56)
- 3-Field (n=25)
Figure 9-2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (April. 2002)

(pTis & R0-R1caces registered between 1993 and 1997)

Overall Survival

Logrank test  \( p=0.0201 \)

Extent of lymphadenectomy

2-Field (n=52)

3-Field (n=25)
Figure 10: Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (April 2002)

(pT1 cases registered between 1993 and 1997)

Overall Survival

Extent of lymphadenectomy
- 2-Field (n=679)
- 3-Field (n=628)
Figure 10-2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (April. 2002)

(pT1 & R0-R1 cases registered between 1993 and 1997)

Overall Survival

Extent of lymphadenectomy

- 2-Field (n=643)
- 3-Field (n=563)
Figure 11) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (pT2 cases registered between 1993 and 1997)
Figure 11-2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (pT2 & R0-R1 cases registered between 1993 and 1997)

Overall Survival

Extent of lymphadenectomy
- 2-Field (n=288)
- 3-Field (n=259)
Figure 12) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (April. 2002)

(pT3 cases registered between 1993 and 1997)

Overall Survival

Logrank test  p<0.0001

Extent of lymphadenectomy

- 2-Field (n=735)
- 3-Field (n=788)
Figure 12-2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (April. 2002)

(pT3 & R0-R1 cases registered between 1993 and 1997)

Overall Survival

Logrank test  p<0.0001

Extent of lymphadenectomy

2-Field (n=651)
3-Field (n=668)
Figure 13) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (pT4 cases registered between 1993 and 1997)

Overall Survival

Logrank test  p=0.0026

Extent of lymphadenectomy
- 2-Field (n=156)
- 3-Field (n=133)
Figure 13-2) Survival of patients treated by esophagectomy in relation to the extent of lymphadenectomy (April. 2002)

(pT4 & R0-R1 cases registered between 1993 and 1997)

Overall Survival

Logrank test  p=0.0625

Extent of lymphadenectomy

2-Field (n=86)

3-Field (n=85)