compared between two groups. Postoperative complications were graded according to Clavien-Dindo classification. The complication defined as above Grade 3. Nutritional Status was evaluated with Controlling nutritional status (CONUT). Changes in body weight (BW) and area of psoas muscle mass at 3 months after surgery were evaluated.

Operative factors such as operative time and blood loss were not significant different between the NE and E groups. In E group, Postoperative any complications (p = 0.023), respiratory complications (p = 0.043) were significantly less than in NE group. CONUT score was lower on postoperative 1 month (p = 0.025) and 3 months (p = 0.044) in E group. Reduction rate of BW and psoas muscle mass index (PMI) on postoperative 3 months in E group was lower than in NE group (BW: 5.6 ± 6.4% vs 7.8 ± 5.2% (p = 0.045), PMI: 6.7 ± 14.9% vs 12.3 ± 13.3% (p = 0.021)).

ERAS could be effective for maintenance of a better nutritional status and prevention of the postoperative respiratory complication and loss of the BW and PMI.

448. THE PRIMARY TUMOR BURDEN SCORE: A NOVEL CLINICO-PATHOLOGICAL STAGING TOOL FOR PATIENTS WITH ESOPHAGEAL CARCINOMA RECEIVING NEOADJUVANT CHEMORADIO- THERAPY PLUS SURGERY

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The AJCC TNM staging system (8th edition) contains a ypTNM stage classification for patients with EC receiving neoadjuvant therapy prior to surgery. However, the ypTNM staging system may be unable to represent tumor changes occurring during the treatment. This study was to develop a prognostic model for esophageal carcinoma (EC) describing both the pretreatment pathological stage of the tumor and its change after neoadjuvant chemoradiotherapy (nCRT) plus surgery.

187 patients with esophageal carcinoma treated with nCRT plus surgery were identified from two medical centers. The Primary Tumor Burden Score (PTBS) was calculated by multiplying the percentage of residual primary cancer cells and the pretreatment pathological T stage (prepT-stage). Univariate and multivariate Cox regression was used to determine the relationships between clinico-pathological parameters and prognosis. The discriminatory power of the model was evaluated using the area under the curve (AUC) and goodness-of-fit Akaike information criterion (AIC). The revised TNM stage was compared with the ypTNM stage using the AIC and the C-index.

The PTBS model (AUC=0.727) outperformed to the residual tumor ratio (AUC=0.588) and the pretreatment T stage (AUC=0.6) in OS prediction (P < 0.05). High PTBS scores were associated with significantly worse outcomes: five-year OS of stage 1, 2, and 3 were 73%, 42%, and 11.4%, respectively, P < 0.001. The PTBS model was more accurate in predicting patient prognosis than cT-stage or ypT-stage (AIC: PTBS vs cT-stage and pT-stage, 30.38 vs –1.87 and 7.61). Multivariate analysis indicated that PTBS independently predicted OS and DFS. The PTBS-based revised TNM stage showed superior prognostic strength to the 8th AJCC ypTNM stage.

The PTBS model showed superior prognostic discriminatory ability than cT-stage or ypT-stage and may thus be useful for describing the influence of the primary tumor burden on survival in patients who received neoadjuvant CRT before surgery. A revised TNM stage based on PTBS showed superior prognostic capability to the 8th AJCC ypTNM stage.

<table>
<thead>
<tr>
<th>Prognostic stratification based on pretreatment clinical T category, pretreatment pathological T category, post-treatment pathological T category and tumor progression grade</th>
<th>LR x2</th>
<th>delta AIC</th>
<th>C-index</th>
<th>bootstrap C-index</th>
</tr>
</thead>
<tbody>
<tr>
<td>prepT</td>
<td>8.95</td>
<td>2.95</td>
<td>0.603</td>
<td>0.609</td>
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<tr>
<td>ypT</td>
<td>15.61</td>
<td>7.61</td>
<td>0.629</td>
<td>0.628</td>
</tr>
<tr>
<td>cT</td>
<td>0.13</td>
<td>-1.87</td>
<td>0.523</td>
<td>0.526</td>
</tr>
<tr>
<td>TRG</td>
<td>18.76</td>
<td>12.76</td>
<td>0.61</td>
<td>0.618</td>
</tr>
<tr>
<td>PTBS model</td>
<td>34.38</td>
<td>30.38</td>
<td>0.669</td>
<td>0.669</td>
</tr>
</tbody>
</table>

451. CLINICAL PATTERNS AND TREATMENT OUTCOMES OF OESOPHAGEAL PERFORATION—A TEN-YEAR RETROSPECTIVE ANALYSIS FROM A TERTIARY CENTER IN SOUTH INDIA

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Oesophageal perforation is a rare, often life-threatening clinical condition with reported mortality rates of 18 to 25%. Early diagnosis is often challenging with many patients presenting late and in shock. Management is even more challenging with a myriad of options but no standard options or criteria. We aim to review our ten-year experience of managing oesophageal perforation and propose an algorithmic approach for managing this condition.

A retrospective review of patients diagnosed with oesophageal perforation from 2011 to 2020 was done. Oesophago-gastric anastomotic perforations and corrosive injuries were excluded. The data relevant for the study included Pittsburgh Severity Score (PSS) was collected from the hospital electronic medical records and strengthened using telephonic conversation.

Thirty-six patients (M: F=26:10, mean age: 48 years) were included. In 21 (58%) patients, the perforation was localized to the thoracic oesophagus. The commonest cause of perforation was iatrogenic (n = 22, 67%), followed by spontaneous (n = 9, 25%). A severe PSS score (≥7) was associated with increased risk of operative intervention (76%) and mortality (18%). Eighteen patients (50%) required operative interventions wherein a primary repair was performed in seven (39%) patients, sepsis drainage in eight (44%) patients, and a diversion in one (6%) patient. Overall, eleven (31%) patients required a re-intervention, and the overall in-hospital mortality was 8.3%.

Early diagnosis and decision making using an algorithmic approach are critical in the management of oesophageal perforation. PSS score is a useful tool in assessing the severity of disease. A combined multidisciplinary approach involving therapeutic endoscopy, surgery, and critical care is essential. A minimally invasive surgical approach is a feasible option in selected group of patients.

452. OUTCOME OF ESOPHAGEAL RESECTION IN PATIENTS WITH ESOPHAGEAL CANCER WITH HISTOPATHOLOGICALLY CONFIRMED DISTANT METASTASIS

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Patients suffering from esophageal cancer with metastatic disease are usually considered not eligible for resection. In selected patients, however, surgery including resection of distant metastasis, is performed.

This study aimed to study the frequency and outcomes after surgery for metastatic esophageal cancer. A nationwide cohort study on all patients resected for esophageal cancer in Sweden, between 2006 and 2017, with histopathologically verified metastatic disease (pM1). Complete follow-up regarding survival was acquired from the Cause of death registry. Overall survival was analyzed and presented with the Kaplan Meier method and multivariable Cox-regression with Hazard Ratios (HR) with 95% Confidence Intervals (CI).

Of 1572 patients who underwent esophageal resection 75 had pM1 disease. Of those, 70% (n = 53) had been preoperatively staged as cM0. Conversely, 3% of patients with pM0 disease were staged as clinical cM1 or cMX prior to surgery.

Advanced T or N-stage was more common in M1 patients compared to M0 patients. Additionally, neoadjuvant treatment was less common in M1 compared to M0 patients (40% vs 52%) while adjuvant therapy was more common in M1 patients (38% vs 14%). Five-year overall survival was significantly lower in M1 compared to M0 patients, 15% vs 43% respectively (p = 0.001, log-rank test). In numbers, 11 out of 75 patients were alive after five years.

There are long-term survivors among patients with confirmed metastatic esophageal cancer that underwent radical resection. Selection of patients with limited metastatic disease and response to neoadjuvant therapy may contribute to this effect.

453. THE EFFECTIVITY OF NEOADJUVANT CHEMORADIO- THERAPY IN ESOPHAGEAL ADENOCARCINOMA WITH PRESENCE OF EXTRACELLULAR MUCINE, SIGNET-RING CELLS OR POORLY COHESIVE CELLS

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