P-OGC06  The effect of surgical complications on long-term prognosis following oesophagectomy for oesophageal cancer

Anna Broadbent1,2, Saqib Rahman1,2, Ben Grace1,2, Robert Walker1,2, Fergus Noble1, Jamie Kelly1, James Byrne1, Timiry2

1University Hospital Southampton, Southampton, United Kingdom, 2University of Southampton, Southampton, United Kingdom

Background: Globally, oesophageal cancer incidence continues to increase. In recent years, surgical and oncological advancements have increased survival rates. Despite this, survival remains <50% at five-years for patients treated with curative oesophagectomy. Previous data has suggested post-operative complications may play a role in long-term increased mortality in oesophageal cancer patients. This study aimed to examine the effect of adverse in-hospital events following oesophagectomy on the long-term prognosis for oesophageal cancer, including assessing the effect of cumulative complication burden using data from a single high-volume academic unit in the UK.

Methods: Retrospective analysis of patients undergoing oesophagectomy for oesophageal adenocarcinoma or squamous cell carcinoma was performed to assess the relationship between in-hospital events and long-term survival. Analysis was limited to patients who survived to 90 days post-oesophagectomy (n = 380). Complications were graded according to the Clavien-Dindo (CD) classification and the Comprehensive Complication Index (CCI). Survival was estimated using Kaplan Meier survival curves and multivariate cox-regression, adjusting for variables known to influence survival. The absolute magnitude of effect of complications on survival was assessed using the risk-adjusted population attributable fraction (PAF), which estimates the percentage improvement in survival if specified complications were removed.

Results: Complications occurred in 251 patients (66.1%). >CD3a complications (HR1.65, 95%CI 1.15-2.38, p < 0.010) and unplanned critical care admissions (HR2.24, 95%CI 1.45-3.46, p < 0.001) were independently associated with worse prognosis whereas pulmonary complications and anastomotic leak were not. A CCI >30 was the optimum cut-point for OS (HR1.94, 95%CI 1.36-2.78, p < 0.001), and after weighting to remove confounding bias median survival was shorter with CCI>30 (28vs72 months, p < 0.001). There was no difference in median survival when CCI>30 occurred from major or multiple minor complications (31 vs 21 months, p = 0.096). The risk adjusted PAF for CCI>30 was 8.5% (95%CI 3.6-13.1%).

Conclusions: Long-term survival following oesophagectomy for oesophageal cancer is significantly affected by major complications and unplanned critical care admissions. The cumulative effect of multiple post-operative minor complications is comparable to the effect of major complications on long-term survival from oesophageal cancer, and cause a substantial number of potentially preventable deaths, even in patients who survive to discharge.