

Age Increases the Likelihood of Withdrawal of Care after Robotic Esophagectomy

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Background: Esophageal cancer is increasing in incidence worldwide. Minimally invasive approaches to esophagectomy have decreased overall morbidity, yet complications remain frequent. While complications may lead to mortality, the incidence in younger compared to older patients remains undefined. We sought to evaluate the impact of complications after robotic assisted trans-thoracic esophagectomy (RATE) in elderly patients.

Methods: Utilizing a prospectively maintained esophageal database, we identified all patients who underwent robotic transthoracic esophagectomy between 2009-2020. We then stratified by age <70, and >70 years. Baseline univariate comparisons were made for continuous variables using both the Mann-Whitney U and Kruskal Wallis tests. Pearson's Chi-square test was used to compare categorical variables. All statistical tests were two-sided and $p < 0.05$ was significant.

Results: We identified 281 patients with median age 68 (30-91). There were 150 patients in the <70 group and 131 in the >70 cohort. ASA was higher in the >70 vs <70, $p < 0.001$. Median operative time was 369 (313-426) minutes in the <70 group and 350 (282-416) minutes in the >70 patients, $p = 0.05$. Length of ICU was 1 day in each group, $p = 0.30$. Median LOH was 8 (7-11) days in the <70 group and 9 (7-13) days in the >70 group, $p = 0.07$. Complications occurred in 81 (28.8%) of patients. There were 33 (22%) complications in the <70 cohort and 48 (36.6%) in the >70 group, $p = 0.008$. There were 12 (4.3%) mortalities, 3 (2%) in the <70 group and 9 (6.9%) in the >70 group, $p = 0.12$. Complications in each group were associated with increased mortality, $p = 0.01$, <70 and $p = 0.001$, >70. However, complications in the >70 group significantly increased the mortality (16.7%) compared to the <70 group (9.1%). In the >70 cohort, 5 patients were clinically improving prior to withdrawal of care due to family wishes.

Conclusions: Although the frequency of complications amongst patients <70 and >70 are comparable, the mortality rate in the >70 patients remain increased. Patients who are 70 years and older have a higher likely hood of withdrawal of care despite clinical improvements.