Partnering into the future: Looking up, reaching out

MDST-0047

Introduction

- Smoking is a known risk factor for postoperative complications, and preoperative smoking has been shown to increase risk for general morbidity: wound complications, general infections, pulmonary complications, neurological complications, and admission to the intensive care unit.¹
- Smoking is a major risk factor for esophageal cancer.²
- Surgical treatment for esophageal cancer is usually esophagectomy.³
- Studying smoking in the perioperative period for esophagectomy is integral, as many patients receiving esophagectomy are current or previous smokers.

Methods

- A comprehensive database of 405 esophagectomies at Ochsner Medical Center was created that included demographics, tumor data, surgery data, postoperative data, and nutritional status. Statistical analysis was subsequently performed using RStudio as it relates to current and previous smoking status.

Results

- Smokers (previous or current) were more likely to develop acute respiratory distress syndrome (p=0.044) than never smokers.
- Patients smoking at the time of surgery were more likely to develop pneumonia (p=0.004), pneumonothorax (p=0.010), have a life-threatening complication categorized as Clavien-Dindo grade 4 (p=0.015), and be readmitted to the hospital for a reason unrelated to esophagectomy (p=0.003) than those not smoking at the time of surgery (never smokers and previous smokers).
- Current smokers were more likely to have a 30-day readmission unrelated to esophagectomy (p=0.005) and have a Clavien-Dindo grade 4 complication (p=0.012) than former smokers (people who used to smoke but quit before surgery).

Discussion + Conclusion

- The data support smoking as a risk factor for postoperative complications, especially specific pulmonary complications, for esophagectomy.
- Importantly, there is evidence to support quitting smoking perioperatively helps surgical outcomes, specifically esophagectomy outcomes.
- An interesting area for further investigation includes time frame between smoking cessation and surgery:
  - Prior studies have shown preoperative smoking cessation ≥ 31 days is preferable to decrease considerable morbidity after minimally invasive esophagectomy.³
  - Another area for further investigation is preoperative measurement of respiratory status and its effect on surgical outcomes:
    - Prior studies have shown multidisciplinary perioperative management, including respiratory training, can decrease the postoperative complications after esophagectomy.⁴

References