The American Journal of Surgery®

# Predictors of pathologic upstaging in early esophageal adenocarcinoma: Results from the national cancer database

Craig S. Brown, Natalie Gwilliam, Alex Kyrillos, Waseem Lutfi, Brittany Lapin, Ki Wan Kim, Seth B. Krantz, John A. Howington, Katherine Yao, Michael B. Ujiki

PII: S0002-9610(17)30609-8

DOI: 10.1016/j.amjsurg.2017.07.015

Reference: AJS 12450

To appear in: *The American Journal of Surgery*

Received Date: 28 March 2017

Revised Date: 6 June 2017

Accepted Date: 16 July 2017

Please cite this article as: Brown CS, Gwilliam N, Kyrillos A, Lutfi W, Lapin B, Kim KW, Krantz SB, Howington JA, Yao K, Ujiki MB, Predictors of pathologic upstaging in early esophageal adenocarcinoma: Results from the national cancer database, *The American Journal of Surgery* (2017), doi: 10.1016/j.amjsurg.2017.07.015.

**Background**: Upstaging in early esophageal adenocarcinoma (EAC) patients happens at a high rate and has implications for treatment. We sought to identify risk factors predicting upstaging.

**Study Design**: The National Cancer Database (2010-2013) was queried for all patients with clinical T1/T2 and N0 EAC who underwent esophagectomy without neoadjuvant therapy. Logistic regression models were developed to investigate risk factors for upstaging.

**Results**: A total of 1120 patients were included. Pathologic upstaging occurred in 21.3% (n=239). After adjustment, risk of upstaging increased with tumor size (tumor size 1-3 cm, OR 4.57,95% CI 2.58-8.10, tumor size >3 cm, OR 10.57, 95% CI 5.77-19.35, as compared to tumors <1cm) as well as with positive margins (OR 4.13, 95% CI 2.17-7.87) and > than 10 lymph nodes examined (OR 1.85, 95% CI 1.29-2.63), while facility volume was not significant. Odds of upstaging increased linearly with number of lymph nodes examined (OR 1.02 per node).

**Conclusion**: Our data underscore the importance of tumor size as a predictor for upstaging and of completing a thorough lymph node dissection for staging purposes.