Trimodality therapy for potentially resectable esophageal and gastroesophageal junction (GEJ) cancers utilizing pre-operative radiotherapy with concurrent carboplatin and paclitaxel-based chemotherapy is being increasingly utilized secondary to the favorable results of the multi-institutional phase III CROSS trial. However, there is a paucity of domestic reports of this chemotherapy regimen as a component of chemoradiotherapy (CRT) in North America.

The specific aim of this present analysis was to report on our clinical experience using a modified CROSS regimen within a multidisciplinary upper foregut malignancy program at a NCI-designated cancer center.

### Methods

Patients with locoregionally advanced (cT2 - cT4 or node positive) esophageal/GEJ adenocarcinoma or squamous cell carcinoma receiving trimodality therapy with pre-operative carboplatin and paclitaxel-based CRT and subsequent esophagectomy were identified from an institutional database. All patients had pre- and post-CRT PET/CT scans. Patient, imaging, treatment and tumor response characteristics were analyzed.

### Results

Twenty-seven patients were analyzed. Median follow-up interval was 9.8 months (23 days - 2 years). Median age was 64 years (44 - 76 years) and 85% were male. All but one tumor had adenocarcinoma histology. A mean of 6 weeks of pre-operative carboplatin/paclitaxel was administered. The median radiation dose was 50.4 Gy (19 patients received 50.4 Gy, 3 received 41.4 Gy, 2 received 50 Gy, 2 received 54 Gy, and 1 received 45 Gy). Pathologic complete response (pCR) was achieved in 26% of patients, with all of these patients receiving 50.4 Gy. Median post-op hospital stay was 10 days (8 - 28 days). Three patients died prior to hospital discharge, due in part to acute respiratory distress syndrome (ARDS) and all three patients received 50 - 50.4 Gy. When excluding and including early post-operative deaths, median survival was 24.0 and 17.7 months, respectively.

### Conclusion / Discussion

Trimodality therapy utilizing concurrent weekly carboplatin/paclitaxel with dose-escalated radiation therapy resulted in pCR rates similar to the published CROSS trial results, but with a higher post-operative death rate. Although the sample size is small and further follow-up is necessary, dose-escalation may not be warranted secondary to a potentially increased risk of severe radiation-induced acute lung injury.