

In this study, we investigated how the blood flow of gastric conduit changed due to the difference in the lesser curvature cut line using ICG fluorescence imaging in patients with esophageal cancer.

Methods: A total of 193 cases of esophageal cancer surgery with gastric conduit reconstruction were included. (Conventional method) The lesser curvature cut line of the stomach was started from a distance of 5 cm from the pylorus (141 cases). (Current method) Gastric lesser curvature dissection was started from the last branch of the left gastric artery (52 cases). Blood flow of the gastric conduit was measured by the ICG fluorescence imaging, and the correlation between the changes in the gastric conduit and both blood flow and anastomotic failure was examined.

Results: Median length of the lesser curvature cut line was 10 cm from the pylorus in the current method, which was significantly longer than that in the conventional method ($P < 0.001$). Congestion at the tip of the gastric conduit were more observed in the conventional method ($P = 0.02$). The ICG fluorescent blood flow speed in the gastric conduit wall was 2.54 cm/s by the conventional method and 2.82 cm/s by the current method ($P = 0.03$). There were 23 cases (16.3%) of anastomotic leakage in the conventional method and 4 cases (7.7%) in the current method ($P = 0.09$).

Conclusion: By preserving the right gastric artery and vein, improvement of venous return is expected, and it is suggested that blood flow in the gastric conduit wall can be well maintained.

650 POSTOPERATIVE EARLY ORAL FEEDING PROGRAM ACCELERATES THE RECOVERY OF GASTROINTESTINAL FUNCTION IN ESOPHAGEAL CANCER PATIENTS

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Although the early oral feeding program (EOF) pasting the esophagectomy has been demonstrated to be valuable in attenuating inflammatory responses and shortening hospital stay without increasing complications, its impacts on gastrointestinal function recovery have not been elegantly investigated. This study aimed to solve these issues.

Methods: A total of 110 esophageal cancer patients were included after reviewing a prospective database. Patients of EOF group were compared with patients of late oral feeding (LOF) group with respects to the appearance of first flatus and bowel movement after esophagectomy. Perioperative changes in serum gastrointestinal hormones were compared between EOF group and LOF group using variance analysis of repeated measurements. Multivariable logistic regression was conducted to detect risk factors for delayed recovery of gastrointestinal function after esophagectomy.

Results: Patients of EOF group showed significantly shorter time from the surgery to the appearance of first flatus (2.1 ± 0.8 d vs 3.4 ± 1.2 d, $P < 0.001$) and bowel movement (3.2 ± 0.9 d vs 5.5 ± 1.5 d, $P < 0.001$) than those of LOF group. Patients of EOF showed increased levels of serum gastrin ($P = 0.007$) and motilin ($P = 0.027$) but decreased levels of somatostatin ($P = 0.004$) and cholecystokinin ($P = 0.028$) than patients of LOF group based on the repeated measurements on postoperative day 1, 3, and 5. Multivariable analysis demonstrated the EOF (vs. LOF) as a protective factor for delayed recovery of gastrointestinal function.

Conclusion: The postoperative EOF was demonstrated to accelerate the recovery of gastrointestinal function in esophageal cancer patients from the levels of clinical manifestation and hormone secretion. The EOF was anticipated to be highlighted in promoting perioperative managements.

651 A META-ANALYSIS OF SURVIVAL AFTER NEOADJUVANT CHEMORADIOTHERAPY VERSUS NEOADJUVANT CHEMOTHERAPY IN RESECTABLE LOCALLY ADVANCED ESOPHAGEAL CANCERS BASED ON HISTOLOGIC SUBTYPES

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Neoadjuvant treatments provided survival benefits over surgery alone in resectable locally advanced esophageal and esophagogastric junction (EGJ) cancer patients. Both neoadjuvant chemoradiotherapy (nCRT) and neoadjuvant chemotherapy (nCT) are shown to be effective treatments. However, the direct comparison between two methods based on histologic subtypes, squamous cell carcinoma (SCC) and adenocarcinoma (AC) is still limited. This study examined the hypothesis that nCRT could provide the better overall survival (OS) than nCT.

Methods: A comprehensive search of studies comparing nCRT and nCT in patients with esophageal and EGJ cancer based on histologic subtypes was conducted. A meta-analysis of randomized (8 articles) and non-randomized (15 articles) studies was performed using odds ratio (OR) and 95% confidence intervals (CI95%). The OS was the main objective, whereas the secondary objective were complete pathological response (pCR) rate, curative resection (R0) rate, locoregional progression free-survival (L-PFS) rate, postoperative complications and mortality.

Results: Twenty three articles included 1,671 SCC and 9,285 AC patients. Neither 3- nor 5-year OS was found to be different. However, SCC patients receiving nCRT showed the better 3-year OS (OR 1.67, CI95% 1.17–2.40, $p = 0.005$). Both pCR and R0 rates were superior in nCRT group (OR 3.30, CI95% 2.46–4.44 and 2.46, CI95% 1.66–3.65, $p < 0.00001$, respectively). The better 3-year L-PFS was observed in nCRT group (OR 1.47, CI95% 1.17–1.85, $p = 0.008$), but 5-year L-PFS was comparable. The 30-day mortality was comparable, while 90-day mortality was higher in nCRT group (OR 1.32, CI95% 1.01–1.72, $p = 0.04$).

Conclusion: The nCRT provided the better overall survival especially in SCC patients and also increased locoregional control. Meanwhile, postoperative complications and mortality were higher after nCRT. Due to clinical heterogeneity, the multidisciplinary team management for each patient is required before treatment.

652 LAPAROSCOPIC FUNDOPLICATION IS EFFECTIVE TREATMENT FOR PATIENTS WITH GASTROESOPHAGEAL REFLUX AND ABSENT ESOPHAGEAL CONTRACTILITY

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Anti-reflux surgery in the setting of preoperative esophageal dysmotility is contentious due to fear of persistent long-term dysphagia, particularly in individuals with an aperistaltic esophagus (absent esophageal contractility). Emerging evidence suggests fundoplication is safe and effective in patients with esophageal dysmotility. This study aimed to determine the long-term postoperative outcomes following fundoplication in patients with absent esophageal contractility versus normal motility.

Methods: A case control study was performed, using a prospectively maintained database to identify all (40) patients with absent esophageal contractility on preoperative manometry who subsequently underwent fundoplication (36 anterior partial, 4 Nissen). Cases were propensity matched based on age, gender, and fundoplication type with another 708 patients who all had normal motility. Groups were assessed using prospective symptom assessment questionnaires to assess heartburn, dysphagia for solids and liquids, regurgitation, and satisfaction with surgery. Outcomes were compared at baseline and at 1, 5 and 10 years follow-up.

Results: Across follow-up to 10 years, no significant differences were found between the two groups for any of the assessed postoperative symptoms. Multivariate analysis found that patients with absent contractility had worse preoperative dysphagia (adjusted mean difference 1.09, $p = 0.048$), but post-operatively there were no significant differences in dysphagia scores at 5 and 10 year follow-up. No differences in overall patient satisfaction were identified across the follow-up period.

Conclusion: Laparoscopic anterior partial fundoplication in patients with absent esophageal contractility achieves acceptable symptom control without significantly worse dysphagia compared to patients with normal contractility. Patients with medically refractory reflux who have absent contractility should still be considered for surgical intervention.