Four research questions, based on the PICO framework, guided the SLR which was conducted up to December 22nd, 2021. The search was performed across different databases including PubMed, MEDLINE (OVID), EMBASE, Cochrane Library, Web of Science, Google Scholar, Embase and Academic Search Premier. References were independently screened by two reviewers (PMcC and AA) who also independently assessed the full text of eligible articles, and extracted data. Due to heterogeneity of retrieved studies, narrative summaries are used to present the data.

In 30/916 papers, eligible for review, 348 patients were identified: 257 underwent an anti-reflux surgical procedure and included in the analysis. Refractory GERD was the most frequent indication for surgery, and post-operative dysphagia was a frequent complication. In 18 studies, fundoplication (FP) was effective, whereas 4 studies had equivocal findings and 5 didn’t report efficacy. Surgical procedures have changed in time: overall, the Collins-Nissen FP was the most popular in old studies, followed by Nissen FP while Dor FP has been used more recently. The data extracted show also an acceptable rate of mortality and morbidity related to surgery.

In SSc, FP seems a safe and effective procedure for GORD management. In many studies, transient post-operative dysphagia was related with the posterior FP. Our SLR shows that the surgical management of GORD is still highly challenging and minimal requirements should be provided to perform surgical studies in SSc, designing studies to define clinical criteria for surgical referral. In SSc, the right timing for surgery and the best surgical procedure still remain an unmet need.

598. EPHEPHREIC DIVERTICULUM CAUSING GASTROESOPHAGEAL JUNCTION OUTFLOW OBSTRUCTION (EGJOO)

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Oesophageal diverticulum is a rare cause of dysphagia. They are classified based on location- Zenker’s diverticulum distal to the cricopharyngeus; epiphrenic diverticulum above the lower oesophageal sphincter (LES)- or pathophysiology – traction vs pulsion. The prevalence of epiphrenic pulsion diverticulum ranges from 0.2% to 0.8%. We present a case of epiphrenic diverticulum and its management.

A 68 year old lady presents with dysphagia to solids and liquids, belching, food regurgitation, and acid breath for 10 years. She had no loss of weight, but experienced daily regurgitation and occasional retrosternal pain. Physical examination was unremarkable. We worked her up with further investigations and scans.

A CT abdomen reported a hiatus hernia and mural thickening of distal oesophagus with upstream oesophageal distension. A oesophagogastroduodenoscopy showed residual food in oesophagus. The lower oesophagus was dilated and the LES appeared tight with no masses. There was no hiatus hernia on endoscopy. Barium swallow revealed the lower oesophageal sphincter (LES) could be dilated and was proximally located at the gastroesophageal junction.

She underwent laparoscopic excision of esophageal diverticulum, cardiomyotomy and partial fundoplication to treat underlying gastric junction outflow obstruction. The video serves to highlight the surgical key steps. She was discharged on post-operative day 3 without complications and barium swallow pre/post op as shown.

Oesophageal diverticulum, although rare, remains a differential for dysphagia. For epiphrenic diverticulum, it is important to understand that this is a pulsion diverticulum, with an accompanying gastro-oesophageal outflow obstruction. In addition to surgical management with a laparoscopic diverticulectomy, a cardiomyotomy and partial fundoplication to treat underlying motility disorder is important. This case study and video serves to highlight the condition and present minimally invasive surgical management.

599. TOLL-LIKE RECEPTORS AND ESOPHAGEAL CANCER. DIAGNOSIS, PROGNOSIS AND THERAPY

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Esophageal cancer is the sixth leading cause of cancer related morbidity worldwide. It has to predominant subtypes, esophageal adenocarcinoma (EAC) and esophageal squamous cell carcinoma (ESCC). Despite all the advances in surgical therapy and adjuvant therapies, prognosis of esophageal cancer remains poor. EAC develops through Barrett’s esophagus (BE) and columnar dysplasia, preceded by gastro-esophageal reflux disease (GERD). Incidence of ESCC is increased with tobacco smoking and alcohol abuse.

Toll-like receptors (TLRs) can act as prognostic factors and potential therapeutic targets of esophageal cancer. TLRs, an important family of pattern recognition receptors, allow immune cells to recognize pathogens, triggering inflammation. TLRs-signaling pathway activates signaling elements, regulating inflammatory response, possibly correlating to carcinogenesis. In normal esophagus, TLRs play an important role in innate immunity, recognizing molecular patterns on microorganisms and inflammatory responses produced by tissue damage.

It is known that TLR3, TLR4, TLR5 and TLR7 are increasingly expressed from GORD to AC, with TLR4 known for being a mediator of proliferation in AC, while TLR1 and TLR4 overexpression in AC is related to poor prognosis and metastatic potential. Additionally, TLR3, TLR4 and TLR9 expression in stromal cells of ESCC has been associated with lymphatic metastasis, while TLR7 and TLR9 increased expression has also been addressed to advanced disease.

Herein, we aim to present all available data regarding the relations of TLRs and AC. It seems that TLRs expression can indicate esophageal metaplasia, dysplasia, and cancer. Toll-like receptors can act as significant and valuable indicators in diagnosis, prognosis and potentially can be used as therapeutic target of esophageal cancer.

600. TREATMENT OUTCOME OF CLINICALLY UNRESECTABLE ESOPHAGEAL CANCER AFTER NEO-ADJUVANT CHEMOTHERAPY WITH DOCETAXEL, CISPLATIN AND 5-FUOROURACIL

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Standard therapy for locally advanced unresectable esophageal cancer is neoadjuvant chemotherapy followed by definitive chemoradiotherapy (CRT). However, the prognosis was modest with the mean survival being around 1 year. Emerging evidence shows the efficacy results of using neoadjuvant chemotherapy docetaxel-cisplatin-5FU (DCF) for locally advanced esophageal tumor.

We reviewed the long-term clinical outcomes and safety data of neo-adjuvant chemotherapy DCF and subsequent definitive treatment in locally advanced clinically unresectable esophageal cancer.

All patients with locally advanced clinically unresectable esophageal cancer without any distant metastases and received induction DCF (docetaxel 70 mg/m2 D1, cisplatin 70 mg/m2 D1, 5-fluorouracil 750 mg/m2 on D1-5 Q3 weeks for 3 cycles) with an aim for conversion to definitive surgery or CRT were included.

Primary outcomes were overall survival (OS) and conversion rate (from unresectable to resectable tumor after DCF). Secondary outcomes include relapse pattern, safety data of chemotherapy and post-op complications.
Total 47 patients (median age 62yo, male: 41 (87.2%)) received neo-adjuvant DCF. 24 patients (41.4%) had subsequent surgery and 7 (14.9%) had definitive CRT.

The median OS was significantly longer in the surgical group than CRT group (40.2 vs. 9.1 months, HR 3.33, 95%CI 1.22–9.07, p=0.02) and no definitive treatment (40.2 vs. 6.1 months, HR 8.51, 95%CI 3.7–19.73, p<0.001).

Patients with surgery had a lower risk of local relapse (100% vs. 33%, p<0.001) but comparable risk of distant metastasis (47.8% vs. 58.6%, p=0.538) than those without surgery.

The incidence of G3/4 adverse events of DCF was 44.7%. 11 patients had pulmonary complications (PPC).

Patients with surgery had a lower risk of local relapse (100% vs. 33%, p<0.001) but comparable risk of distant metastasis (47.8% vs. 58.6%, p=0.538) than those without surgery.

Neo-adjuvant chemotherapy with DCF and subsequent conversion surgery offered a chance of cure with long-term survival benefit and manageable toxicities in patients with locally advanced unresectable esophageal cancer.

Figure: Overall survival of subsequent treatment after neo-adjuvant DCF in patients with locally advanced clinically inoperable esophageal carcinoma

601. SINGLE-PORT VATS ESOPHAGECTOMY. SAFE AND FEASIBLE TECHNIQUE
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Minimally invasive esophagectomy represents the gold standard for the treatment of esophageal carcinoma. The improvement of surgical techniques and the development of the single port vats for the thoracic time represent a safe and efficacy option. We show some technical aspects showing the feasibility of this approach and the potential troubles to face up.

We show a single port vats esophagectomy combined with full laparoscopy in a patient with esophageal adenocarcinoma and esophageal stent.

Patient discharged in 7 post operative day. Course was uneventful. The minimally invasive approach represents the gold standard for the treatment of esophageal carcinoma. Single port vats may be a feasible and safe option.

602. LONG-TERM OUTCOME OF COLON INTERPOSITION IN SEVERE CORROSIVE UPPER DIGESTIVE TRACT INJURY
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Long-term outcome of colonic interposition in patients with severe corrosive upper gastrointestinal tract injury is less known.

Patients diagnosed of severe corrosive upper digestive tract injury were included. Patients with full-thickness organ necrosis underwent emergent surgical resection without primary reconstruction. Subsequent esophageal reconstruction with subternal colonic interposition approximately 6 months after the ingestion was undertaken in physically and mentally fit patients.

Esophageal dilatation program was applied as first line treatment in all patients with esophageal stricture at a median duration of 5 weeks after the injury. Esophageal replacement procedure was offered to the patients who had failed dilatation. Late complications, swallow function, nutritional autonomy and overall survival in patients who underwent colonic interposition were evaluated.

There were 70 patients undergoing colonic interposition. Of 70 patients, 50 (71%) had cervical pharyngo-colonic and 20 had cervical esphago-colonic anastomoses. There was one (1.4%) 90-day hospital mortality. Anastomosis leakage was 8%. At median follow up of 58 months, late deaths were observed in 6 patients causing by neosdioblastiasis (2), resuicidal attempt (2) and intestinal volvulus (2). Adhesive small intestinal obstruction requiring laparotomy was observed in 7(10%). Nutritional autonomy was achieved in 55 of 60 (92%) patients. Strictures were developed in 10 (16%) and dumping syndrome in 20 (30%) patients. Five- and ten-year overall survival were 72% and 61%, respectively.

Colonic interposition in patients with severe corrosive upper digestive tract injury was safe and effective. Long-term survival, function and nutritional outcome are good regardless of the proximal level of cervical anastomosis. However, the late negative impact of the reconstructive procedure on metabolic derangement and small intestinal obstruction cannot be overemphasized.

603. NEOADJUVANT DCF VERSUS CRT IN COMPLEX TREATMENT OF LOCALLY ADVANCED ESOPHAGEAL SQUAMOUS CELL CANCER
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Both neoadjuvant chemotherapy and neoadjuvant chemoradiotherapy improve tumor resectability, lead to downstaging of tumor process and increase overall and disease-free survival rates. This study investigates the efficacy and outcomes after neoadjuvant chemotherapy with DCF regimen and chemoradiotherapy for patients with locally advanced esophageal squamous cell carcinoma.

We retrospectively analyzed the results of 130 patients from 2013 to 2018 who received preoperative DCF chemotherapy (docetaxel 70 mg/m2 on day 1, cisplatin 70 mg/m2 on day1, 5-FU 750 mg/m2 on days 1-5, total 4 courses) followed by surgery or chemoradiotherapy (paclitaxel 175 mg/m2 on day 1, cisplatin 75 mg/m2 on day 1, 5-FU 750 mg/m2 on days 1-5 and 46 Gy) followed by surgery. Surgery included both open and minimal invasive esophagectomy with regional lymphadenectomy. Data, surgical results, treatment related complications and long-term results were compared in two groups.

Patient characteristics did not differ between the two groups. Incidence of ≥ grade 2 complications were higher in the DCF group. Incidence of neutropenia was in 72.3% versus 30.7% in the CRT group, febrile neutropenia 18.4% and 7.7%, respectively. The R0 resections were similar (98.3%). Chylothorax was noted only in two patients in the CRT group (3.0%).

Complete pathological response in the CRT group was in 35.3% versus 20.0% in the DCF group. 3-year overall survival in the DCF and CRT groups was 70.7% and 64.6%, and 3-year disease-free survival was 60.0% and 49.2%, respectively (p<0.05).

Thus, 4 courses of DCF is not inferior compared to CRT in terms of survival rates and becomes an alternative to CRT in the complex treatment of locally advanced squamous cell carcinoma of the esophagus.

604. DOES MINIMALLY INVASIVE ESOPHAGECTOMY REDUCE POSTOPERATIVE PULMONARY COMPLICATIONS? AN INTERNATIONAL COHORT STUDY FROM THE OESOPHAGO-GASTRIC ANASTOMOSIS AUDIT (OGAA)
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There is limited data characterizing the external validity of randomised trials on MIE for esophageal cancers. This study aimed to characterise the global impact of minimally invasive esophagotomy (MIE) on postoperative pulmonary complications (PPC).