Esophageal cancer is one of the most common cancers worldwide and half of all new cases occurred in China. Population-based endoscopic screening has been carried out in some high-risk areas in China since 2005, but previous evidence was based predominately on small-sample, single-center studies. We undertook a population-based, multi-center cohort study to estimate the effectiveness of endoscopic screening program in reducing the incidence and mortality of esophageal in high risks areas in China.

Methods. This study was conducted in six areas in China from 2005 to 2015. All permanent residents aged 40–69 yeas were identified as target subjects. We defined those who were invited and undertook endoscopic screening as the screened group, and those who refused screening as the non-screened group. The target subjects who were not invited to screening was assigned to the control group. The effectiveness of endoscopic screening and screening program were evaluated by comparing the reductions in the incidence and mortality from esophageal cancer in those screened or those invited to screening with reductions in the control group, respectively.

Results. Our cohort analysis included 637 500 people: 299 483 in the control group and 338 017 in the invited to screening group, 113 340 (33.53%) of whom were screened eventually. Compared with subjects in the control group, esophageal cancer incidence and mortality were reduced by 26% (relative risk(RR) 0.74, 95% confidence interval(CI), 0.69–0.79) and 60% (0.40, 0.36–0.45) respectively in those screened, and they were reduced by 15% (0.85, 0.82–0.89) and 33% (0.67, 0.63–0.71) respectively in those invited to screening.

Conclusion. Among individuals aged 40–69 years in high risk areas of esophageal cancer, one-time endoscopic screening program was associated with a significant decrease in esophageal cancer incidence and mortality.

167 VOLATILE ORGANIC COMPOUND PROFILING FOR DETECTION OF ESOPHAGEAL CANCER IN EXHALED BREATH

R Vissapragada[1] N Dharmawardhana[2] D Watson[3] R Yazbek[1]
1.College of Medicine and Public Health, Flinders University, Adelaide, Australia 2. Otolaryngology Unit, Flinders Medical Centre, Adelaide, Australia 3. Oesophago-Gastric Surgery Unit, Flinders Medical Centre, Adelaide, Australia

Endoscopic surveillance for Barrett's esophagus (BE) is invasive but remains the standard modality for early diagnosis of esophageal adenocarcinoma (EAC) and intervention. Human breath contains an array of volatile organic compounds (VOC) that change in disease conditions. VOC detection provides a potential source of biomarkers for non-invasive, real-time identification of EAC. This study aimed to characterize a VOC-profile applicable to the detection of EAC and to provide pilot data to design a future validation trial.

Methods. Breath samples were collected in our endoscopy unit from BE, EAC, and control patients. Samples were collected in FlexFoil bags (SKC ltd) using previously standardized methods. Hydrogen, methane and other VOCs were quantified by QuinTron BreathTracker® and selected-ion flow tube mass spectrometry (SIFT-MS, Syft®) respectively. 250 reported cancer-related VOCs were selected for analysis. Non-parametric tests were used to identify candidate VOCs, and logistic regression analysis was then applied to determine the best predictors for EAC. Receiver Operating Characteristic (ROC) Curves were developed to determine the sensitivity and specificity of the model.

Results. 68 individuals were enrolled in the study (Controls, n = 37; BE, n = 21; EAC, n = 10). 8 VOCs were identified with significant concentration differences between the three groups: Trimethylbenzene (3 iso-forms), Dimethyl Sulfide, 4-isopropyl toluene, 1-butanol, trichloroethylene, hydrogen sulfide, methyl mercaptan, p-isopropenyl toluene. Logistic regression analysis of these 10 compounds demonstrated predictive probability of EAC from other groups with ROC curves calculating an area under the curve of 0.85.

Conclusion. Previous studies have supported the utility of VOCs in exhaled breath as non-invasive real-time tests for the identification of some other cancer types. This pilot study has identified potential VOCs which might identify individuals with EAC. A larger study will be needed to validate and confirm these findings.

176 SURGICAL MANAGEMENT OF CORROSIVE INJURIES OF ESOPHAGUS AND STOMACH—A 5 YEAR SINGLE CENTER EXPERIENCE

A Raj P S S Bhoopathi S Ahanatha Pillai
The Tamil nadu dr mgr university, Madurai, India

Corrosive injuries to the upper aero-digestive tract are a frequent cause of morbidity in India. We report here our institution's last 5-year experience in surgical management of corrosive injuries of oesophagus and stomach.

Methods. The aim of this study was to analyze the circumstance, demographic features, clinical findings and complications of caustic ingestion, the various surgical procedures performed and their short and long term outcomes. The records of 20 patients who underwent surgery for corrosive injuries of the oesophagus and stomach in our institution over a 5-year period (Jan2015-Dec2019) were retrospectively analyzed.

Results. Of 20 patients 13(65%) were accidental and 7(35%) were suicidal. Median age was 31 years with 75%males & 25%females. Presenting complaints were weight-loss(95%), dysphagia(65%) & vomiting(50%). Distributions of strictures were oesophageal, gastric or combined. 70% (N = 14) underwent feeding jejunostomy(FJ) as initial procedure. Isolated oesophageal strictures were managed by dilatation followed by gastric-pull through(N = 4)/coloplasty(N = 2). Isolated gastric strictures were managed Antrectomy (N = 5), distal/total gastrectomy (N = 2). Combined strictures were managed with coloplasty with antrectomy and Billroth I (N = 3) or coloplasty with Colo-jejunal anastomosis (N = 1). One patient underwent emergency esophagogastrectomy+cervical-oesophagostomy for perforation. Mortality rate was 15%(3/20).

Conclusion. Management of corrosive strictures varied between individual patients requiring a injury based surgery. Extensive injury with perforation, peritonitis or mediastinitis needed emergency surgery but associated with high mortality. Dilatation frequently failed in long segment strictures. High pharyngeal strictures were associated with higher morbidity. Isolated gastric strictures were easiest to manage. Corrosive strictures of oesophagus and stomach are difficult to manage and surgery has to be tailored according to site and extent of oesophageal/gastric stricture.

179 FEASIBILITY AND ONCOLOGICAL OUTCOME OF CHEMORADIATION WITH INTENSIFIED IMRT IN LOCALLY ADVANCED ESOPHAGEAL CANCER

R Innocente[1] F Navarria[1] R Petri[2] E Palazzari[1] M Gigante[1] M Vecchiato[2] A Ziccarelli[2] A Martino[2] L Foltran[3] A Buonadonna[3] G Lo Re[3] M Spina[3] P Ubiali[6] D Tonin[6] A Lauretta[4] J Polesel[5] G Franchin[1] A De Paoli[1]
1. Dept of Radiation Oncology, Centro Di Riferimento Oncologico di Aviano (CRO) IRCCS, Aviano-Pordenone, Italy 2.Dept of General Surgery, University Hospital , Udine, Italy 3. Dept of Medical Oncology, Centro Di Riferimento Oncologico di Aviano (CRO) IRCCS, Aviano-Pordenone, Italy 4. Dept of Surgical Oncology, Centro Di Riferimento Oncologico di Aviano (CRO) IRCCS, Aviano-Pordenone, Italy 5. Dept of Cancer Epidemiology, Centro Di Riferimento Oncologico di Aviano (CRO) IRCCS, Aviano-Pordenone, Italy 6. Dept of General Surgery, Santa Maria degli Angeli Hospital, Pordenone, Italy

To assess safety, feasibility and efficacy of an intensified preoperative IMRT and concomitant carboplatin and paclitaxel-based chemotherapy (Carbo/-Tax CT) in patients (pts) with locally advanced esophageal cancer (LAEC) treated at our Institution.

Methods. a retrospective analysis of toxicity (CTCAE 4.03), progression free survival (PFS) and overall survival (OS) of pts affected by LAEC, treated with preoperative intensified radiotherapy (IMRT) and weekly concurrent carboplatin and paclitaxel-based chemotherapy (CT) according to the CROSS trial, between February 2016 and October 2019, at the Centro di Riferimento Oncologico, Aviano (CRO).

Results. Sixty-nine consecutive pts, 57(82.6%) males, were treated. The median age was 69 yrs (38–85), the ECOG PS 0–2. All pts underwent concurrent chemoradiotherapy, IMRT technique, 45 Gy/25 to PTV1 (primary tumor volume + regional nodes), a simultaneous boost from 52.5Gy to 54Gy to PTV2 (gross tumor volume) and weekly concurrent carboplatin (AUC2) and paclitaxel (50 mg/m2). Induction CT was administered to 17 pts. All pts completed RT with median 4 (1–5) CT cycles.

Characteristic, toxicity and result

	N (pts)	%
Histology:		
Adenocarcinoma	31	45
Squamos cell carcinoma	38	55
T2	5	7.3
T3	54	78.2
T4	10	14.5
N0	7	10
N1	47	68
N2	15	22
Toxicity		
G4	0	0
G3		
GI	3	4
Leukopenia	2	3
Anemia	2	3
Thrombocytopenia	2	3
cCR	31	45
Radical esophagectomy	28	40.5
with pCR	10	35

Median follow-up was 8 months (4–17); 2-yr PFS and OS were 49.0% and 80.3%, respectively. At 2 yrs, local recurrence rate was 8.4% (CI 95%: 2.6%–18.8%).

Conclusion. Preoperative intensified IMRT with concomitant Carbo/Tax CT in pts with LAEC appears safe and feasible with promising oncological outcome and needs to be confirmed in a larger series of pts.

182 PREOPERATIVE COMBINATION OF PEMBROLIZUMAB WITH CHEMORADIATION FOR PATIENTS WITH LOCALLY ADVANCED ESOPHAGEAL SQUAMOUS CELL CARCINOMA:MID-TERM RESULTS OF NCT03604991

H Li[1] C Li[1] Y Zheng[1] S Zhao[2] X Chen[3] Y Han[1] J Xiang[1] Y Wu[1]
1.Department of Thoracic Surgery,Ruijin Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, China 2.Department of Radiotherapy,Ruijin Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, China 3.Department of Pathology,Ruijin Hospital, Shanghai Jiaotong University School of Medicine, Shanghai, China

Esophageal squamous cell carcinoma (ESCC) ranks the most common subtype of esophageal cancer in Asia. Neoadjuvant chemoradiotherapy (CRT) followed by radical resection is thought to be the most effective therapeutic plan for locally advanced ESCC. This study aims to evaluate the safety and feasibility of preoperative Immunotherapy with concurrent CRT in treating locally advanced ESCC.

Methods. The 20 enrolled patients will receive preoperative immune therapy (Pembrolizumab) with concurrent CRT. Neoadjuvant CRT includes carboplatin (AUC = 2, once a week for 5 weeks), paclitaxel (50 mg/m^2, once a week for 5 weeks) and radiotherapy (23 fraction of 1.8 Gy, 5 fraction a week). Pembrolizumab (2 mg/kg) will be given on day 1 and day 22 of neoadjuvant therapy. Within 4–6 weeks after the completion of preoperative therapy, patients will undergo esophagectomy. PET-CT was obtained at baseline and prior to surgery. The primary end point of the study was safety. We also evaluated the feasibility, pathologic complete response (PCR) and radiographic response.

Results. All the 20 patients have received pembrolizumab with concurrent CRT successfully, neoadjuvant pembrolizumab plus CRT had an acceptable side-effect profile and the most common side effect during neoadjuvant therapy was decreased WBC, 1 patient died for esophageal bleeding 2 weeks after neoadjuvant therapy; 1 patient was dis covered to have liver metastasis and discontinued the study treatment; 15 patients undergo esophagectomy within 4–6 weeks after neoadjuvant therapy, 9 patients achieved PCR and 6 patients were partial response, the PCR rate was 52.9%(9/17) of all tumors and 60% of resected tumor(9/15);so far 3 patients were still waiting for surgery.

Conclusion. Neoadjuvant pembrolizumab with concurrent CRT was safe, did not delay surgery and induced a PCR in 52.9% of all tumors and 60% of resected tumor, supporting a further study to confirm whether patient can benefit from neoadjuvant pembrolizumab with concurrent CRT. (ClinicalTrials.gov number, NCT03604991.)

184 WHICH ROUTE FOR ESOPHAGEAL RECONSTRUCTION WHEN NONE IS FEASIBLE?

H De Malleray V Hubaud B Bottet G Brioude D Trousse P Thomas X D'journo
Aix-marseille University, Marseille, France

Which route for esophageal reconstruction when none is feasible?

Methods. What is in the video: this 3-minute video describes a challenging case of a complex esophageal reconstruction for a giant trachea-esophageal fistula in a patient with severe comorbidities and a radiation-induced mediastinal fibrosis. We depict the technical aspect of a presternal gastric by-pass covering with a pediculized myocutaneous latissimus dorsi flap.

Results. Why this video is important for the congress: this video exposes the surgical dilemma of the route of reconstruction for digestive continuity when none of traditional routes are allowed: 1) posterior mediastinum route forbidden because of post-radiation mediastinal fibrosis; 2) retrosternal route prohibited by a previous coronary artery by-pass; 3) subcutaneous route not feasible because of severe sternal radiodermatis.

Conclusion. In conclusion, our case shows that covering the presternal digestive interposition with a locoregional pediculized myocutaneous flap is a valid alternative when others routes have been eliminated.

Video. https://drive.google.com/open?id=1SXueOktZU15N8GgG324KJJb1SF-XqPym

195 RANDOMISED TRIAL OF LAPAROSCOPIC NISSEN VS. ANTERIOR 180 DEGREE PARTIAL FUNDOPLICATION—LATE CLINICAL OUTCOMES AT 15–20 YEARS

V Rudolph-Stringer[1] T Bright[1] P Devitt[2] P Game[2] G Jamieson[2] D Watson[1]
1. Flinders University Discipline of Surgery, Flinders Medical Centre, Bedford Park, Adelaide, Australia 2. University of Adelaide Discipline of Surgery, Royal Adelaide Hospital, Adelaide , Australia

Laparoscopic Nissen fundoplication for gastro-oesophageal reflux is followed by troublesome side effects in some patients. Partial fundoplications are proposed for reflux control with less side effects. We reported earlier outcomes from a randomised control trial of Nissen vs. anterior 180° partial fundoplication, with a good outcome following anterior 180° partial fundoplication at up to 10 years follow-up. For this study we determined very late clinical outcomes at up to 20 years follow-up.

Methods. 107 patients were randomised to Nissen vs. anterior 180° partial fundoplication. 15–20 year follow-up data was available for 79 (41 Nissen, 38 anterior). Outcome was assessed using a standardised clinical questionnaire that included 0–10 analogue scores and yes/no questions to evaluate reflux symptoms, side-effects and overall satisfaction with surgery.

Results. Heartburn (mean score 3.2 vs 1.4, p = 0.001) and proton pump inhibitor use (41.7% vs 17.1%, p = 0.023) were higher, dysphagia for solids (mean score 1.8 vs 3.3, p = 0.015) was less, and ability to belch was better preserved (84.2% vs 65.9%, p = 0.030) after anterior fundoplication. Overall outcome measures were similar for both groups (mean satisfaction score 8.4 vs 8.0, p = 0.444; 86.8% vs 90.2% satisfied with outcome). Six patients underwent revision from anterior to Nissen fundoplication for reflux, and 5 from Nissen to partial fundoplication for dysphagia. Two further patients underwent revision following Nissen fundoplication for reflux and paraoesophageal hernia respectively.

Conclusion. At up to 20 years follow-up Nissen and anterior 180-degree partial fundoplication achieve similar rates over overall success, but with a