CO-024 - FULL-THICKNESS LES MYOTOMY IS A RISK FACTOR FOR GASTROESOPHAGEAL REFLUX AFTER POEM: RESULTS OF MULTIVARIATE ANALYSIS ON A LARGE SERIES OF PATIENTS TREATED WITH POEM.

Inês Cunha[1]; Pietro Familiari[2,3]; Rosario Landi[2,3]; Guido Costamagna[2,3]; Paulo Massinha[3,4]; Vicente Ma Facas[5]

1 - Serviço de Gastrenterologia, Centro Hospitalar e Universitário de Coimbra; 2 - Digestive Endoscopy Unit, Fondazione Policlinico Universitario Agostino Gemelli IRCCS; 3 - Universita' Cattolica del Sacro Cuore – Rome, Italy; 4 - Serviço de Gastrenterologia, Hospital Garcia de Horta - EPE, Almada; 5 - Departamento de Matemática, Faculdade de Coimbra - Polo 2

Introduction/Aims: Recently, Per-Oral-Endoscopic-Myotomy (POEM) quickly became one of the first-line therapies of achalasia. Gastroesophageal reflux (GER) is the major side effect of the procedure. However, variables associated with post-POEM GER are largely unknown. Aim of this study is to evaluate the incidence of iatrogenic GER and to identify the associated risk factors.

Material/Methods: Five-hundred-ninety-nine patients underwent POEM between May/2011-August/2018 in a single center; 385 adults (female 50%), mean age 50±15.7 years-old, with a complete evaluation of GER (including pH-study, manometry and esophagogastroduodenoscopy) were included. An altered pH-study was defined by a DeMeester-score≥14.72. Esophagitis was classified according to the Los Angeles classification. Clinically-relevant GER was defined by an altered DeMeester-score associated with symptoms and/or esophagitis. Demographics (gender, age), body-mass-index, achalasia sub-type, previous therapies, length of esophageal and gastric myotomy, LES myotomy extent (full-thickness or selective-inner-circular), postoperative 4sIRP were collected and analyzed. Fisher's Exact test and ANOVA test were used to identify associations with altered pH-study, clinically relevant GER and esophagitis.

Results: An altered pH-study was documented in 49.7% of patients (mean 5%total-reflux-time 8.3%; deMeester-score 29.8%). Esophagitis was seen in 34% of patients (28.6% grade A/B; 5.2% Grade C/D). Interestingly, esophagitis was diagnosed in 21% patients with a normal pH-study and in 47% of patients with altered pH-study. Clinically-relevant GER was present in 32% of patients. At multivariate-analysis, patients with full-thickness LES myotomy had a higher incidence of altered pH-study (55.3% vs 34%, $p<0.001$), esophagitis (35.8% vs 28%, p=NS) and clinically relevant GER (36.5% vs 19%, $p<0.001$), compared to the patients with a selective-inner-circular myotomy. A significant association was found between a lower postoperative 4sIRP and clinically-significant GER (7.4mmHg vs 9.4mmHg, $p<0.05$) or esophagitis (7.5mmHg vs 9.4mmHg, $p<0.05$), but not between 4sIRP and altered pH-study.

Conclusions: GER is frequent after POEM. A selective-inner-circular LES myotomy may be useful to prevent GER.