care although patients with adverse prognostic features may still benefit from oesophagectomy.

P116 A PILOT STUDY ON ENERGY INTAKE AND TOTAL ENERGY EXPENDITURE, USING A MULTI SENSOR DEVICE, IN OESOPHAGEAL CANCER PATIENTS DURING THE ENTIRE COURSE OF MODERN MULTIMODALITY TREATMENT

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Aim: The objective of the present pilot study was to address the feasibility and practical use of SenseWear Armband Mini® (SWA) as a possible valid method offering longitudinal, comprehensive and complete assessment of energy balance in oesophageal cancer patients submitted to modern multimodality therapy.

Background and methods: Assessment of malnutrition and its consequences are pivotal in the curative management of patients with oesophageal cancer. Twenty patients were recruited at diagnosis of oesophageal cancer, all amenable for curative treatment. The baseline measurement took place before start of neoadjuvant treatment and at three additional measurement periods: after the completion of neoadjuvant treatment, and at three and six months postoperatively. The patients carried the SWA for three consecutive days at each measurement period, allowing the measurement of free-living total energy expenditure (TEE) and physical activity level (PAL). Alongside, a three-day food diary was recorded, permitted the calculation of energy and protein intake. The body weigth was measured at all four occasions.

Results: Body weight steadily decreased during the preoperative phase. However, the greatest weight loss was observed during the first 3 months after surgery (mean=5.6 kg), where after it stabilised. The median energy intake of 1982 kcal (range: 910-3455) at baseline increased to 2210 kcal (range: 1718-3355, p=0.009) after the completion of the neoadjuvant treatment. At 3 months after oesophagectomy energy intake decreased to 1749 kcal (range: 1024-2707, p=0.101) and regained baseline levels first at 6 months postoperatively. The same trend was observed regarding protein intake. The TEE was 2262 kcal (range: 1595-3150) at baseline with no change after preoperative oncological treatment. A significant reduction in energy expenditure to 1975 kcal (range 1396-2336, p=0.005) was recorded at 3 months post oesophagectomy, which remained unchanged at six months after surgery.

Conclusion: There are significant obstacles in recording complete, comprehensive and repetitive data on energy balance during the entire course of modern multimodality treatment of oesophageal cancer patients.
With the objective to achieve and maintain positive energy balance focus must be on the patients' energy intake already at the time of diagnosis, throughout the neoadjuvant therapy phase but particularly during the first 3 postoperative months.

P117 THE IMPACT OF ELDERLY ON SURGICAL OUTCOMES AFTER IVOR-LEWIS ESOPHAGECTOMY: REVIEW OF A SINGLE INSTITUTION EXPERIENCE

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Background: Esophagectomy is a surgical procedure burdened by a high morbidity rate. The effect of minimally invasive (MI) approach on elderly patients is still not clear. Aim of this study was to analyze the impact of MI approach on post-operative course according to the patient age.

Methods: A consecutive series of 692 patients underwent to elective oncological esophagectomy between 1997 and 2017. All data were entered into a prospective database. Patients submitted to 3-flield or trans-hiatal esophagectomy were excluded and only Ivor-Lewis open, hybrid or totally minimally invasive esophagectomy were evaluated. Patients were stratified according to age in 3 groups: Group A (≤ 50 years) 53 patients, Group B (> 51 and < 70 years) 269 and Group C (were ≥71 years) 126. Clinical and pathological factors influencing surgical outcome were evaluated. Complications were classified according to Clavien-Dindo (CD).

Results: As expected outcomes worsened with patients age (CD ≥ 3b: 7.5% group A, 13% group B and 21% group C. p=0.001), mortality (0% group A, 3% group B and 5.5% group C. p=0.035) and length of stay (10 days group A, 11 days group B and 13 days group C. p=0.001). A statistically significant higher incidence of anastomostic leaks was observed among patients submitted to totally MI esophagectomy in group C vs A and B that were respectively 12,5%, 0% and 7%. Major respiratory complications were not statistically different among these 3 three sub-group.

Conclusions: Old age has a significant impact on outcomes after esophagectomy. In this subset of patients a MI approach could also increase postoperative morbidity. Elderly patients should be carefully selected before to be submitted to MI esophagectomy.

P118 LOSS OF SMAD4 EXPRESSION IN ESOPHAGEAL ADENOCARCINOMA (EAC) IS CORRELATED TO POOR SURVIVAL

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Aim: Our study is aimed to evaluate the impact of SMAD4 expression on the clinical outcome of therapy for esophageal adenocarcinoma (EAC).

Background and Methods: Esophageal adenocarcinoma is characterized by a high genetic heterogeneity and a low survival rate, despite the adoption of aggressive therapies. We evaluated the expression of SMAD4, a tumor suppressor gene frequently mutated in cancer. by immunohistochemistry in 67 formalin-embedded (FFPE) EAC surgical specimens (patients were primarily treated with surgical resection-naïve cases), 34 of which were analyzed for SMAD4 gene by Next Generation Sequencing (NGS) with a dedicated target panel. Loss of SMAD4 protein was defined by a complete loss of expression in least 30% of cancer cells. Survival curves were determined using Kaplan–Meier methods.

Results: Loss of SMAD4 immunoreactivity was found in 33 out of 67 EAC cases (49.3%). Among a subset of 34 cases assessed in NGS, SMAD4 mutations were found in 3 cases (8.8%), all associated with protein loss. Loss of SMAD4 expression was also found in several cases with no mutations in SMAD4 gene (17/34, 50%). Loss of SMAD4 immunoreactivity was associated with poor overall survival (p=0.013) and higher risk of recurrence (p=0.001).

Conclusion: Loss of SMAD4 expression was a recurrent event in EAC, linked with genetic mutations in few cases, whereas in the majority of cases it might be related to epigenetic mechanisms, such as promoter hypermethylation. SMAD4 loss was strongly associated with recurrence and poor survival in patients, suggesting SMAD4 expression as potential prognostic biomarker in EAC. Further studies are required to develop strategic therapeutic options directly targeting SMAD4 and/or its regulators.

P119 SURGICAL OUTCOMES AFTER ESOPHAGECTOMY IN THE ELDERLY POPULATION - A SINGLE CENTER COHORT STUDY

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Aim: To evaluate morbidity and mortality after esophagectomy among elderly patients

Background and Methods: Esophagectomy is associated with significant morbidity[1], and with the aging population we are faced with an increasing number of elderly patients eligible for surgery. In this retrospective study we analyzed both minor and major postoperative complications (Clavidien-Dindo II-V), in-hospital and 90-day mortality, and overall survival in all carcinoma patients ≥75 yo undergoing esophagectomy for cancer between 2009 and 2018 at a high-volume center.

Results: 47 patients underwent esophagectomy during the 10-yr. period, 95,7% either minimally invasively or with a hybrid approach. Median age was 77, and the oldest patient 85 yo. The majority were in otherwise good