

29<sup>rd</sup> August 2021 | Fourth official session



**TUGS ABSTRACT BOOKLET**

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# WELCOME TO SCIENTIFIC SUNDAYS !

**TUGS Scientific Sundays** aim to provide a free platform to researchers in Upper Gastrointestinal (UGI) Surgery from around the world to present their research to a global audience.

We welcome submissions in all areas of UGI Surgery including oesophago-gastric cancer surgery, bariatric surgery, hepato-biliary surgery, pancreatic surgery, hernia surgery, and trauma surgery. Each abstract submitted until the 15th of a month will be reviewed by our panel of experts. The best amongst them will be accepted for oral presentation on the last Sunday of the following month between 2 -3 PM London time. Other accepted abstracts will be presented as posters on our website.

The best abstract amongst the oral presentations as decided by our panellists will be awarded the **TUGS Prize**. All accepted (both oral and poster) abstracts will also be published in the monthly TUGS Abstract book which will be freely downloadable from our website.

You no longer have to wait for months or travel thousands of miles to present your findings. You can do that to a worldwide audience right from the comfort of your own living room. Welcome to TUGS Scientific Sundays!

Sjaak Pouwels

TUGS Scientific Coordinator

Kamal Mahawar

TUGS Chief Coordinator





# ORAL PRESENTATIONS

## ABSTRACT #1

### Hyper-perfusion Index (HPi): A Novel Parameter to Predict Graft Related Outcome in Adult Living Donor Liver Transplant

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Presented on the 29<sup>th</sup> August 2021

**Background:** Portal hyper-perfusion is frequently associated with early allograft dysfunction (EAD). It is imperative to identify patients who would require portal inflow modulation (PIM). We aimed to identify factors associated with hyper-perfusion related graft injury and develop a predictive index for the same.

**Materials and methods:** Prospectively-maintained database was queried to identify 135-adult LDLT recipients between September-2016 and July-2020. According to the calculated sample size, 96-patients were randomly selected for "test-cohort". Remaining 39-patients made the "validation-cohort". EAD was defined according to the A2ALL study. "Hyper-perfusion index (HPi)", defined as post-transplant portal pressure gradient ( $\Delta P_{post}$ )/graft-to-recipient-splenic volume ratio (GRSVR), was devised based on laws of flow dynamics and regression analysis.

**Results:** Overall, 40-patients (29.6%) had EAD, six 90-day mortalities (4.4%) were attributable to EAD. In Test-cohort, EAD patients (n=29, 30.2%) had lower GRSVR (1.00 vs. 2.22,  $P < 0.001$ ), higher  $\Delta P_{post}$  (14.8 vs. 11.9,  $P = 0.004$ ) and HPi (20.89 vs. 8.67,  $P < 0.001$ ). Multivariate analysis revealed GRSVR,  $\Delta P_{post}$  and HPi as significant factors to predict EAD. ROC determined cut-off of  $HPi \geq 9.97$  could predict EAD with sensitivity=90% and specificity=73% (F-score=0.712).  $HPi \geq 16.25$  predicted 90-day mortality with sensitivity=100%, specificity=78.9%. Patients with higher HPi had delayed graft-related recovery. Non-EAD patients had a higher 1-year (96% vs. 79%) and 2-year (88% vs. 79%) survival. The cut off of HPi was validated well in the validation-cohort (F-score=0.645) (Hosmer-Lemeshow test,  $P = 0.89$ ).

**Conclusion:** While predicted-GRSVR may help identify at-risk patients pre-operatively; intra-operatively calculated HPi is more accurate in identifying patients who would require PIM. Achieving an HPi below target cut-off significantly decreases the risk of EAD even in low-GRSVR patients.

## ABSTRACT #2

### Laparoscopic sleeve gastrectomy vs lifestyle modification in class I obesity in Pakistani population. A prospective cohort study.

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**Background:** The American Society of Metabolic and Bariatric Surgery (ASMBS) stated that bariatric surgery (BS) is indicated in Class I obesity patients with one or more co-morbidities. However, other weight loss options, such as diet plus exercise, still remains an option for subjects with a BMI ranging from 30 to 35 kg/m<sup>2</sup>. The aim of this study was to prospectively compare results of patients undergoing Laparoscopic sleeve gastrectomy (LSG) and weight control program (WCP) in Class I obesity.

**Materials and methods:** A prospective analysis of all patients in Class I obesity having diabetes and hypertension with follow-up at 6, 12 and 18 months were included in the study. Subjects were divided into two groups: LSG group that included patients who had undergone Laparoscopic sleeve gastrectomy and WCP group that included patients who underwent weight control program. %EBMIL and co-morbidities remission (diabetes mellitus and hypertension) were recorded as HBA1C levels and systolic B.P. Self-esteem was also recorded using Self-esteem Rosenberg score at 0 and 18 months. Overall Patient Satisfaction Score was calculated using Visual Analogue Score.

**Results:** About 106/150 patients were included in laparoscopic Sleeve Gastrectomy group (LSG) while 103/150 were included in the weight control program (WCP). The reduction in HBA1C was more pronounced in the LSG group and the difference between the two was statistically significant after 6 months 12 and 18 months (LSG  $5.6 \pm 0.47$  vs WCP  $6.5 \pm 0.64$  CI 1.04-0.73  $P < 0.05$ ). At 12 and 18 months, there was statistically significant reduction in the blood pressure after sleeve gastrectomy (LSG  $134.2 \pm 7.16$  vs WCP  $145.63 \pm 5.94$  CI 13.2-9.6  $P < 0.05$ ). The self-esteem level according to the Rosenberg score did increase in overall study population. The patient satisfaction score was more in LSG group as compared to WCP group ( $P < 0.05$ ). %EBMIL at 6 months in LSG group was 35.48 percent when compared to WCP group which was

only 7.23percent. Whereas at 12 months %EBMIL was increased two folds in LSG group (68.19%) versus 14.53% in WCP group. At final follow up on 18 months the %EBMIL in LSG group was 99.60% however it was only 25.70% in WCP group ( $P<0.05$ ).

**Conclusion:** Our study elucidates a clear superiority of laparoscopic sleeve gastrectomy over any structured weight control program regarding weight reduction, improvement in glycemic control and reduction in blood pressure in class I obesity patients. Additionally, patient reported self-esteem and satisfaction improved markedly after bariatric surgery compared to weight control program.

## ABSTRACT #3

### **The mininvasive management of median arcuate ligament syndrome : a systematic review**

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**Presented on the 29<sup>th</sup> August 2021**

**Background:** The Median Arcuate Ligament Syndrome, also called Dunbar's Syndrome, is a rare pathological disease associated with direct compression of the celiac artery by the median arcuate ligament.

**Materials and methods:** We analyzed the literature about the incidence, clinical presentation, diagnosis and laparoscopic management of MALS.

**Results:** The incidence of this disease is unclear. The prevalence of gender is for Female, the age of incidence has a median between 30 and 50 years, but also cases had been reported in pediatric population. The symptoms include exercise-induced or postprandial epigastric pain, nausea, vomiting, and weight loss. There's not a consensus agreement about diagnosis and management. Usually for the diagnosis are used Ultrasound Duplex, Angiography, Angio CT, Angio RM in various combinations. The surgical management more common is the decompression of the median arcuate ligament's constriction of the celiac artery. In literature it's described in various techniques: only laparoscopic; robotic assisted,, retroperitoneal approach. Also, there's not an agreement about the conservative management for symptomatic patients, however the literature describe that patients treated nonoperatively appear to have worse evolution.

**Conclusion:** MALS si a rare disease with a large number of symptoms and a difficult diagnosis. There is no established guideline for diagnosis and therapy, but the surgical approach appears to be essential for symptom resolution. The minivasive approach appears

## ABSTRACT #4

### Effect of Protein Supplementation on Fat-Free Mass among Upper Gastrointestinal Surgical Patients

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**Background:** There remains a paucity of data regarding the long-term effects of targeted daily protein intake and its role in nutritional restoration. This study aims to evaluate the effect of protein supplementation among upper gastrointestinal (GI) surgical patients, reviewing the effect of compliance, and its nutritional outcome.

**Materials and methods:** The records of 223 upper GI surgical patients from September 2017 to June 2021 were retrospectively reviewed. Protein intake was categorised into 0.8-1.2g/kg/day and >1.2g/kg/day of protein. Hand grip strength and body composition including weight, Body Mass Index (BMI), Fat-Free Mass (FFM), and Fat Mass (FM) were measured. Independent t-test and paired t-test were used to analyse the effects of different levels of protein intake on hand grip strength and body composition.

**Results:** Among the 223 patients included, 84 subjects had benign upper GI pathology and 139 subjects had malignant upper GI pathology, with mean follow-up duration of 52.3 (SD,42.10) weeks and 39.3 (SD,35.11) respectively ( $p=0.019$ ). Patients who were compliant consumed >1.2g/kg/day (mean, 1.3g/kg/day) of protein while less-compliant patients consumed 0.8-1.2g/kg/day (mean, 1.0g/kg/day) of protein. Patients with benign pathology receiving >1.2g/kg/day of protein, showed significant improvement in hand-grip strength ( $p<0.001$ ) and FFM ( $p<0.001$ ). Patients with malignant pathology who were not compliant had deteriorating hand grip strength and significant FFM reduction ( $p=0.004$ ). With higher protein compliance, patients with malignant pathology had increased hand-grip strength and preservation of FFM.

**Conclusion:** Protein supplementation is paramount in nutrition recovery and muscle mass restoration among upper gastrointestinal surgical patients. Compliance to protein intake of at least 1.2g/kg/day could preserve muscle mass and strength among those with oesophago-gastric malignancies, potentially improving outcome.

