

27<sup>rd</sup> June 2021 | Second 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

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TUGS Chief Coordinator





# ORAL PRESENTATIONS

## ABSTRACT #1

### Effects of Bariatric Surgery on Heart Rhythm Disorders: a Systematic Review and Meta-Analysis.

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**Presented on the 27<sup>th</sup> June 2021**

**Background:** Obesity is associated with cardiac structural changes and repolarization abnormalities such as prolongation of QTc interval, lengthening of P-wave and QTc dispersion, as well as rhythm disorders like atrial fibrillation. The aim of this systematic review is to provide an overview of the literature on the effects of bariatric surgery on obesity-associated electrocardiogram (ECG) abnormalities and cardiac arrhythmias.

**Materials and methods:** A systematic search on the effects of obesity and bariatric surgery on ECG abnormalities and associated cardiac arrhythmias was conducted. The methodological quality of the included studies was rated using the Newcastle-Ottawa scale (NOS) for non-randomized trials. The agreement between the reviewers was assessed with Cohen's kappa.

**Results:** Fourteen studies were included with a methodological quality ranging from poor to good. The agreement between the reviewers, assessed with the Cohen's kappa, was 0.75. Majority of the studies showed a significant decrease of QT interval and related measures after bariatric surgery. Regarding atrial fibrillation the results were conflicting. Seven studies were included in the meta-analysis on effects of bariatric surgery on QTc interval and a significant decrease in QTc interval of -33.6 ms, 95%CI [-49.8 to -17.4] was seen. Similar effects were seen regarding P-wave dispersion, -12.9 ms [-17.7 to - 8.0], after bariatric surgery.

**Conclusion:** The significant weight loss produced by bariatric surgery results in significant decrease in QTc interval and P-wave dispersion, i.e., a normalization of initial pathology. The effects on atrial fibrillation are conflicting and not yet fully understood.

## ABSTRACT #2

### Liver function monitoring in bariatric patient – preliminary study results

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Presented on the 27<sup>th</sup> June 2021

**Background:** Non-alcoholic fatty liver disease (NAFLD) is one of the leading causes of liver disease worldwide. It is especially prevalent in bariatric population, with incidence of more than 90% in patients undergoing bariatric procedures. Aside from lifestyle modification, bariatric surgery is the only effective treatment to date. A crucial problem in management of NAFLD is disease diagnosis and monitoring. Definitive diagnosis can only be obtained through liver biopsy, but the invasiveness of the procedure limits its usability. Liver function tests could present an important tool in evaluation of such patients.

**Materials and methods:** Patients undergoing bariatric were included in a prospective study. Before the procedure a measurement of liver function was made using perfusion densitometry with Limon device (Pulsion Medical System, München, Germany). Results were compared with a liver biopsy obtained during bariatric surgery.

**Results:** While the results are preliminary, as the goal sample size was not yet reached, they show a promising trend towards statistically significant correlation.

**Conclusion:** While liver function monitoring is commonly used in intensive care patients and patients undergoing major liver surgery its use in bariatric patients or NAFLD is not yet researched. Only limited experience is available. Our study, though preliminary, could show that liver function monitoring using noninvasive Limon measurements could be useful in identifying and monitoring NAFLD in bariatric population.



## ABSTRACT #3

### Periodontal health of patients indicated for bariatric surgery

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**Background:** Periodontitis is an inflammatory disease of tooth-supporting tissue initiated by dental plaque bacteria. It is a leading cause of tooth loss and can have negative consequences on general health. Patients indicated for bariatric surgery (PIBS) are not routinely screened for periodontitis, even though obesity and bariatric surgery present as a risk factor for this disease. The study aim was to evaluate the periodontal status of BSP and the association between periodontitis and systemic health.

**Materials and methods:** 64 PIBS underwent periodontal examination and were divided into two groups, periodontitis (PG) and non-periodontitis group (NPG). The medical and demographic data were obtained from medical files, while behavioural data was obtained by the interview. Simple statistical tests were used to assess the differences between the groups. The logistic regression models were used to calculate the association (odds ratio (OR)) between periodontitis and hypertension, as well as the Edmonton obesity staging system (EOSS).

**Results:** The prevalence of periodontitis in PIBS was 64% (CI 95% 51%-76%). PG (n=41) and NPG (n=21) differed in age, EOSS, hypertension, and smoking habits ( $p < 0.05$ ). Hypertension was positively associated with periodontitis (OR=8.29, 95% CI 1.86-36.77;  $p < 0.05$ ), but not with age, smoking habits, and diabetes mellitus. EOSS was associated with age (OR=1.07, 95% CI 1.02-1.13;  $p < 0.05$ ) and not periodontitis (OR=1.27, 95% CI 0.38-4.2;  $p > 0.05$ ).

**Conclusion:** In PIBS, the prevalence of periodontitis was high, and periodontitis was positively associated with hypertension, regardless of other confounding factors. Higher levels of EOSS in periodontitis patients result from the greater age of PG.

## ABSTRACT #4

### “Many Ways to Skin Gastric Cancer” - Robotic versus Laparoscopic versus Open Gastrectomy

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**Aim:** Robotic techniques relevance in gastric cancer surgery is being examined. The study presents comparison of perioperative outcome between different surgical approaches for gastric adenocarcinoma (AC)

**Materials and methods:** retrospective cohort of 85 patients that underwent gastrectomy for (AC) at Rambam Hospital during 2012-2016. Patients data was collected based on demographic characteristics, BMI, operating room time (ORT), number of lymph nodes (LN), length of hospitalization (LOH), and perioperative complications

**Results:** study population included 55 patients after total gastrectomies, 10 of them robotic and 30 partial gastrectomies, 12 of them robotic. Age, gender, and BMI were similar between patients who underwent any type of procedures. Median length of hospitalization (LOH) for robotic total gastrectomy was 4.5 days and it was significantly shorter than both laparoscopic total gastrectomy (LTG) 7.0 days ( $p=0.003$ ) and open total gastrectomy (OTG) 9.0 days ( $p<0.001$ ). Similar significant differences in (LOH) between the groups were observed among patients who underwent partial gastrectomy, but the comparison between robotic and laparoscopic procedures was limited due to small numbers of (LPG). Median(ORT) was significantly longer among robotic gastrectomies compared to open, the difference was 64 min in total gastrectomy group and 145 min in partial gastrectomy group ( $p<0.001$  for both differences), but the difference in(ORT) between laparoscopic and robotic procedures were smaller and non-significant. The number of dissected (LN) was similar between the 3 procedures in total gastrectomies. In partial gastrectomies, the number of dissected (LN) was even higher among both laparoscopic and robotic gastrectomies compared to open ( $p<0.001$ )

**Conclusion:** robotic total and partial gastrectomies for gastric (AC) are associated with oncologically adequate lymphadenectomy and faster patient recovery, but longer ORT

## ABSTRACT #5

### Role of Robotic Surgery in the management of benign hepatobiliary diseases

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**Background:** recently robotic surgery has emerged as one of the most promising surgical advances. Despite its worldwide acceptance in many different surgical specialties, the use of robotic assistance in the field of hepatobiliary (HBP) surgery remains relatively unexplored. Our study presents single institution's initial experience of robotic assisted surgery for treatment of benign hepatobiliary pathologies.

**Methods:** A retrospective analysis of a prospectively maintained database on clinical outcomes was performed for 32 consecutive patients that underwent robotic assisted surgery for benign HBP disease at Rambam Medical Center during 2013-2016.

**Results:** There were 32 robotic assisted surgical procedures performed for benign HBP pathologies during the study period. There were 4 anatomical robotic liver resections for symptomatic hemangiomas, 9 cases of giant liver cyst, 5 robotic assisted surgery for type I choledochal cyst, 3 case of benign (iatrogenic) common bile duct (CBD) stricture, 5 cases of robotic (CBD) exploration due to large intra choledochal stones and 6 cases of cholecystectomy for cholelithiasis. The median postoperative hospital stays for all procedures were 3.5 days (range 1–6 days). General morbidity (minor) was 2%. There was no mortality in our series.

**Conclusion:** Robotic surgery is feasible and can be safely performed in patients with different benign HBP pathologies. Further evaluation with clinical trials is required to validate it's real benefits.



# POSTER PRESENTATIONS

## ABSTRACT #6

### **Covid 19 infection leading to gastrointestinal bleeding and duodenal obstruction: a rare case report**

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Accepted on the 27<sup>th</sup> June of 2021. Please find the online poster on: <https://www.tugsglobal.com/2nd-session>

**Introduction:** COVID-19 is a highly transmittable viral infection caused by SARS CoV-2. Our article is aimed at studying the complication of retroperitoneal bleed in a patient following low molecular weight heparin (lmwh) therapy during COVID-19 treatment.

**Case report:** A 60 year old man presented with severe COVID-19 infection and abdominal pain. On investigation we found haemorrhagic clots around 2nd part of duodenum and pancreas due to bleeding from gastroduodenal artery branch. So we stopped lmwh and managed him conservatively for 4 days. Then his Haemoglobin dropped to 7 gm, so conventional angiography was done that showed active bleed so coiling was done. He was discharged but after 2 days he complained of vomiting and dysphagia. On repeat CT it showed severe duodenal compression so was operated for gastro-jejunostomy. Post op his D-dimer was high so lmwh dose was given but again had a staple line Bleed. It was managed conservatively with blood transfusion.

**Discussion and conclusion:** Selective Trans arterial Embolization is considered as the first line treatment for Upper GI haemorrhage. In our case we did embolization for bleeding vessel. Complications of duodenal obstruction was managed conservatively before going for gastrointestinal diversion. In our case we did gastrojejunostomy as patient was not responding to conservative treatment. We successfully operated by doing open gastrojejunostomy as laparoscopic was not possible for this patient due to old age and bad chest status due to covid 19 infection. So we report this rare case and discuss literature review.

## ABSTRACT #7

### Cardiac remodeling in obesity and after bariatric and metabolic surgery; is there a role for gastro-intestinal hormones

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**Accepted on the 27<sup>th</sup> June of 2021. Please find the online poster on: <https://www.tugsglobal.com/2nd-session>**

**Introduction:** Obesity is associated with various diseases such as type 2 diabetes, hypertension, obstructive sleep apnea syndrome (OSAS), metabolic syndrome, and cardiovascular diseases. It affects several organ systems, including the pulmonary and cardiac systems. Furthermore, it induces pulmonary and cardiac changes that can result in right and/or left heart failure.

**Methods:** Methods: In this review, authors provide an overview of obesity and cardiovascular remodeling, the individual actions of the gut hormones (like GLP-1 and PYY), the effects after bariatric/metabolic surgery and its influence on cardiac remodeling. In this review, we focussed and searched for literature in Pubmed and The Cochrane library (from the earliest date until April 2019), regarding cardiac function changes before and after bariatric surgery and literature regarding changes in gastrointestinal hormones.

**Conclusion:** Conclusion: Regarding the surgical treatment of obesity and metabolic diseases there is recognition of the importance of both weight loss (bariatric surgery) and improvement in metabolic milieu (metabolic surgery). A growing body of evidence further suggests that bariatric surgical procedures [like the Sleeve Gastrectomy (SG), Roux-en Y Gastric Bypass (RYGB), or One Anastomosis Gastric Bypass (OAGB)] have can improve outcomes of patients suffering from a number of cardiovascular diseases, including heart failure.

## ABSTRACT #8

### Endothelial function in obesity and effects of bariatric and metabolic surgery

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**Introduction:** Due to the lifestyle changes and the on-going urbanization waves there is obesity pandemic. The visceral fatty tissue of patients with obesity, in comparison with subcutaneous fat, has more gene expression related to inflammation, oxidative stress, cytokine production, and angiogenesis. The abovementioned leads to a decrease in arteriolar function and also an impaired endothelial vasodilatation and eventually endothelial dysfunction.

**Methods:** This review aims to provide an overview of the pathophysiology of obesity and endothelial dysfunction and the effects after bariatric and metabolic surgery and the consequences of surgery for the endothelial function. In this review, we focussed and searched for literature in Pubmed and The Cochrane library (from the earliest date of each database until February 2020) regarding endothelial function, obesity, and effects of bariatric and metabolic surgery.

**Conclusion:** Within cardiovascular research, the endothelium and its function have a prominent role and it is the responsibility of the researchers to unravel the pathophysiological mechanisms and potential new targets for treatment of cardiovascular diseases.



## ABSTRACT #9

### **Delayed diagnosis and subsequently increased severity of acute appendicitis (compatible with clinical/pathologic grounds) during the COVID-19 pandemic – an observational case-control study**

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Accepted on the 27<sup>th</sup> June of 2021. Please find the online poster on: <https://www.tugsglobal.com/2nd-session>

**Background:** During a global crisis like the current COVID-19 pandemic, delayed admission to hospital in cases of emergent medical illness may lead to serious adverse consequences. We aimed to determine whether such delayed admission affected the severity of an inflammatory process regarding acute appendicitis, and its convalescence.

**Methods:** In a retrospective observational cohort case-control study, we analyzed the medical data of 60 patients who were emergently and consecutively admitted to our hospital due to acute appendicitis as established by clinical presentation and imaging modalities, during the period of the COVID-19 pandemic (our study group). We matched a statistically control group consisting of 97 patients who were admitted during a previous 12-month period for the same etiology. All underwent laparoscopic appendectomy. The main study parameters included intraoperative findings (validated by histopathology), duration of abdominal pain prior to admission, hospital stay and postoperative convalescence (reflecting the consequences of delay in diagnosis and surgery).

**Results:** The mean duration of abdominal pain until surgery was significantly longer in the study group. The rate of advanced appendicitis (suppurative and gangrenous appendicitis as well as peri-appendicular abscess) was greater in the study than in the control group (38.3 vs. 21.6%, 23.3 vs. 16.5%, and 5 vs. 1% respectively), as well as mean hospital stay.

**Conclusion:** A global crisis like the current viral pandemic may significantly affect emergent admissions to hospital (as in case of acute appendicitis), leading to delayed surgical interventions and its consequences.



