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# SAGES ORAL ABSTRACTS

## *SAGES at IHPBA 2024, May 2024, Cape Town*

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### Personalised circulating tumor DNA (ctDNA) monitoring for recurrence detection and treatment response assessment in hepatocellular carcinoma (HCC)

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HCC is an aggressive malignancy, accounting for ~90% of primary hepatic cancers. Here we sought to analyse the utility of longitudinal testing with ctDNA in patients (pts) with HCC. This is a multicenter retrospective study that included 227 plasma samples from 66 pts with HCC. The curative-intent surgeries included liver Tx (41/66, 62%) and hepatectomy (23/66, 34%); two pts (3%) who were inoperable received liver-directed and targeted therapy. Five of the 41 post-Tx pts received additional resection for oligometastatic recurrence prior to ctDNA testing. The cohort was analyzed based on 3 mutually exclusive sub-cohorts: Cohort A ($n$ = 34): recurrence monitoring after curative liver Tx; Cohort B ($n$ = 25): recurrence monitoring after curative-intent surgical resection; Cohort C ($n$ = 7): pts with known recurrence monitored for treatment response/disease progression. Longitudinal ctDNA testing was performed by using Signatera™ bespoke mPCR NGS assay. The cohort distribution included: 28 (42.4%)/21 (31.8%)/7 (10.6%)/9 (13.6%) stage I/II/III/IV pts with a median age of 67 years (range: 21–84); median follow-up of 584 days (range: 79–1537). In cohort A, all patients were ctDNA-negative and remained recurrence-free.

In cohort B, postsurgical ctDNA was detected in 9 (36%) patients, 6 experienced clinical recurrence and 3 had limited follow-up. The median lead time of ctDNA detection over clinical recurrence was 52 days (range: 00 to 262 days). Among the ctDNA-negative patients ($n$ = 16), only one pt experienced clinical recurrence that was > 1 year after the most recent ctDNA testing. In cohort C, on-treatment ctDNA dynamics were concordant with treatment response in 4 pts as measured by imaging. The remaining 3 pts were persistently ctDNA-negative on/shortly after chemotherapy. Longitudinal testing with ctDNA is critical in identifying early recurrence post-curative treatments including transplant or surgical resection. Similarly, monitoring treatment response in the palliative setting can help resolve ambiguous imaging results.

### The epidemiological profile of gastric cancer patients in Groote Schuur Hospital Cape Town, South Africa.

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**Introduction:** Gastric cancer (GCA) is the 5th most common cancer and 3rd leading cause of cancer-related death. *Helicobacter pylori* (*H. pylori*) is the chief risk factor. The prevalence of *H. pylori* in Africa is between 60–90%, despite this GCA appears to be low, the so-called African enigma.

**Aim:** To document the epidemiological profile and risk factors of GCA in a South African cohort.

**Methods:** A retrospective folder review of patients with GCA from 2018-2022.

**Results:** 443 patients were included; median age = 63 (range 29–86), 65% male (61% ≥ 60 years old). HPT (38.2%) and diabetes (17.6%) were the main comorbidities. 46% and 8.4% had history of smoking and alcohol use respectively. NSAID and PPI use were reported in 8.8% and 7%, respectively. The commonest symptom was loss of weight (38.6%) and epigastric pain (29%). 68% had a Hb < 12 g/dl with a median Hb = 10 (range 3.8–17). Endoscopically, gastritis or duodenitis or ulcers were recorded in 63% of cases. The commonest site of GCA was non-cardia (82.2%); antral and corpus cancers in 40.9% and 53.2% respectively. Histologically, *H. pylori* was reported in 11.5%, while chronic atrophic gastritis (CAG) in 15.6%. *H. pylori* was not associated with either antral or corpus cancer, or CAG, however PPIs were associated with a reduced odd of antral cancer, OR = 0.42, CI = 0.18-0.97, $p$ = 0.04. None of the other demographic or clinical factors were associated with the location of GCA.

**Conclusion:** GCA is higher in males and those ≥ 60 years. Loss of weight and anaemia are key red flags. Non-cardia gastric cancers are the commonest in this cohort. The low prevalence of *H. pylori* suggests previous eradication, although CAG was high, thus maintaining the increased risk of non-cardia CGA. Interestingly, PPI use was significantly protective against developing antral

cancer. This highlights the need to treat *H. pylori* before CAG occur.

## An unusual case of Mirizzi syndrome in an anomalous cystic duct: a case report

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**Introduction:** Mirizzi syndrome is a rare complication of gallstone disease. Anatomical variations of the cystic duct are common, with a reported prevalence of between 29%–49%. Herein we report a case of Mirizzi syndrome occurring in a patient with an anomalous cystic duct.

**Case report:** A 52-year-old woman with suspected choledocolithiasis and cholangitis was referred for an endoscopic retrograde cholangiopancreaticography (ERCP). She reported jaundice, pale stool and pruritus for 3 weeks, associated with abdominal pain and fever for 2 days. Laboratory tests revealed cholestasis and an elevated white blood cell count. Abdominal ultrasound showed multiple gallstones, intrahepatic duct dilatation and a calculus within a dilated common bile duct (CBD). ERCP confirmed biliary dilation and a tapered distal CBD without any filling defects. After a sphincterotomy and balloon pull-through across the CBD, decompression with a plastic stent was achieved. The cause of the biliary dilation could not be ascertained at ERCP. Computed tomography showed normal pancreas and an anomalous dilated cystic duct with low insertion into the CBD at the level of the pancreatic head. Endoscopic ultrasound (EUS) showed a 10 mm calculi but it was difficult to determine if this was in the CBD or cystic duct. Magnetic resonance cholangiopanceaticogram (MRCP) confirmed that this stone was in the anomalous cystic duct effacing the CBD. The pre-operative diagnosis of Mirizzi syndrome and cystic duct variant, allowed the surgeons to plan a safe approach.

**Conclusion:** This was an unusual case of a low inserting cystic duct stone giving the impression of a CBD stone causing distal biliary obstruction. Failure to identify a CBD stone at ERCP prompted further imaging and an eventual diagnosis of type 1 Mirizzi syndrome. The case highlights the need for multimodality imaging in the diagnostic workup of selected patients with gallstone disease.

## Landscape of oesophageal cancer in Kenya: experience from Garissa Regional Cancer Center

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**Objective:** The objective of this study is to look at the clinicopathological characteristics of esophageal cancer (EC) in Northern Kenya.

**Methods:** Retrospective descriptive study involving patients' file review of confirmed EC cases diagnosed or treated at the Garissa Regional Cancer Center (GRCC) from 2019–2023

**Results:** 124 oesophageal cases were identified, (51.4%) males and (48.4%) females with a mean age of 57.56 years. Documented risk factors for EC include, hot beverage consumption (47 cases, 37.9%), followed by history of peptic ulcer disease (27 cases, 21.8%), smoking (8.9%), and gastro-oesophageal reflux disease (2 cases,1.6%). Stage of diagnosis at presentation was stage 1 (1 case, 0.8%), stage 2 (22 cases, 17.8%), stage 3 (25 cases, 20.2%), stage 4 (50 cases, 40.3%), not staged (26 cases, 21%). Histology subtypes: squamous cell carcinoma (SCC) (105 cases, 84.7%), adenocarcinoma (5 cases, 4%), anaplastic (5 cases, 4%), SCC+ adenocarcinoma (1 case, 0.8%), unknown histology (8 cases, 3.2%). Nearly all patients had triple diagnostic assessment (Endoscopy, histology, and staging scans) accounting for 92 cases (74.2%), 24 cases (20%) had endoscopy+ histology, and 8 cases (3.2%) had imaging scans. (16.1%) had a family history of EC. Majority of the patients were ethnic Somali (87.1%), residing in Garissa County (77.4%). Only (27 cases, 25.8%) had health insurance, while the majority paid cash (92 cases,74.1%). Only 21% (26 cases) received chemotherapy alone, 5 cases (4%) got radiotherapy alone, (16 case, 12.9%) got chemoradiotherapy, and a significant number of patients (77 cases, 62.1%) did not receive hospital-based cancer treatment.

**Conclusions:** This study is the first oesophageal study at the GRCC. Our study confirmed the clinicopathological features of one of the most common cancers in Kenya and more so among Kenyan-Somalis. The study also validates the predominance of histological subtypes of esophageal SCC with the late presentation, short survival, and significant loss of follow-up.

## Multidrug resistant infections in liver transplant donors - epidemiology and impact on transplantation outcome

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**Background:** One of the challenges within the sphere of liver transplantation (LT) is the limited supply of organ donors. Consequently, there is significant health interest in expanding the donor pool to include organs with positive bacterial cultures, leading to several reports of donors transmitting bacteria to recipients. The incidence of transplants performed with livers from donors with Multidrug-Resistant Organisms (MDRO) infection remains to be clarified. This paper planned to address this knowledge gap by studying a retrospective cohort of LT donors. Therefore, this study sought to (1) ascertain the

incidence of infection caused by MDROs and non-MDROs in livers designated for transplantation. Another aim was to (2) delineate the prevalence of each MDRO infection to assess the implications for healthcare system.

**Methods:** All donors whose livers were offered to São Paulo Transplant System/ Brazil between 2018 and 2023 were included (ethics exemption requested due to deceased donors). Tests results from aerobic, anaerobic, urine and tracheal secretion cultures obtained during donor's terminal hospitalization were included, in which descriptive variables were analyzed and related to the presence of non-MDRO and MDRO infection, variety of pathogens.

**Results:** A total of 402 patients were included; 225 patients (56%) had positive bacterial cultures; out of the 225 livers with infection, 154 (68%) patients had MDRO infection. Were identified in the 154 patients: 41 different pathogens and a total of 233 MDRO infections, of which 117 (50.2%) were gram-negative microorganisms and 116 (49.8%) gram-positive. The most common MDRO gram-positive infections were *staphylococcal* (60%), with *Staphylococcus epidermidis* (20%) and Staphylococcus aureus (18%); there was also an expressive presence of *Enterococcus faecalis* (16%). MDRO gram-negative infections showed *Escherichia coli* (20%), *Klebsiella pneumoniae* (20%) and *Pseudomonas aeruginosa* (17%) were predominant.

**Conclusion:** These results are important for risk-stratifying potential donors and educating transplant recipient prophylaxis.

## S100A14 as a diagnostic marker for hepatocellular carcinoma among Sudanese patients at Ibn Sina hospital

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**Background:** Hepatocellular Carcinoma (HCC) is the most common primary malignant tumor of the liver. It is the commonly diagnosed cancer in terms of annual cancer death. Early detection and diagnosis represent the major concern in the management of HCC. This study aimed to study the sensitivity/ specificity/PPV and NPV of the tumor marker S100A14 as a diagnostic marker for HCC among Sudanese patients.

**Methods:** Descriptive case control study, hospital based. Was Conducted on two groups of patients. Serum alpha fetoprotein and S100A14 blood samples were collected then was investigated by using ELISA technique. Data analyzed using SPSS version 2. Chi-square test was used in the comparison between two groups with qualitative data. The comparison between more than two groups with quantitative data and parametric distribution was done by using one-way analysis of variance (ANOVA) test. The (ROC) was used to assess the best cut-off point between two groups with its sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) and area under the curve (AUC).

**Results:** The total number of patients enrolled in the study were 89 patients. The S100A14 was significantly elevated in the HCC group. A cut-off value for serum S100A14 between HCC and control group is ≥ 5.012 with a sensitivity of 83% and specificity of 49.6%. S100A14 level was a significant diagnostic factor for HCC.

**Conclusion:** The results considered that S100A14 is a useful diagnostic marker for HCC.

## Is magnetic resonance enterorrhaphy superior to endoscopy in detecting active disease in patients with Crohn's disease? a pilot study

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**Introduction:** Magnetic resonance enterorrhaphy (MRE) is established as a non-invasive tool in diagnosis, treatment response, monitoring and determining complications in patients with Crohn's disease (CD). It is however expensive and must be used rationally. The aim was to compare the utility of MRE compared to endoscopy (gold standard) in CD in assessing known disease activity variables.

**Methods:** Data was retrieved from patient folders, the radiology database (PACS) and (NHLS). Patients who had an MRE following a CD diagnosis/flare were included.

**Results:** The records of 20 patients were reviewed; median age = 34 (range 20–69), 80% female. 55% were active smokers and 30% had EIMs. Using Montreal 65% had ileal, 15% ileo-colonic and 15% colonic disease. Mean days to MRE = 32±88. MRE detected disease in the terminal ileum (TI) in 50%, ileo-caecal valve (ICV) (15%), ascending (AC) (15%), transverse (TV) (15%), descending (DC) (5%), and sigmoid (15%). In all segments active inflammation was reported in 85%, strictures (40%), ulceration (20%) and penetrating disease (20%). MRE also reported perianal disease (15%), inflammatory masses (15%), intra-abdominal abscesses (10%) and sacro-iliitis (15%). Contrastingly, endoscopic disease in the TI was seen in 30%, ileocaecal area (30%), AC (5%), T/C (10%), DC (15%), and sigmoid (20%). Inflammation was reported in 35%, (30% mild, 15% moderate and 20% severe), strictures (55%) and ulcers (60%).

**Conclusion:** Access to MRE in our centre is reasonably good. The utility of MRE is in detecting TI and proximal large bowel disease, and complications of CD. Curiously MRE was superior in detecting active inflammation; this may be due to the non-mucosal/extra-intestinal features of inflammation such as bowel wall hyperenhancement, comb's sign etc. Endoscopy was better at detecting strictures and ulcers. Both MRE and endoscopy are useful in the complete assessment of patients with CD. Future

studies will correlate MRE with disease activity using available scoring systems.

## The association between serum fructosamine and random spot urine fructose levels with the severity of non-alcoholic fatty liver disease– an analytical cross-sectional study

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**Background:** Non-alcoholic fatty liver disease (NALFD) in South Africa and Africa at large is considered a hidden threat. Our local population is burdened with increased metabolic risk factors for NAFLD. Our setting requires a reasonable approach to screen and aid the diagnosis of NAFLD. The aim of this study was to investigate serum fructosamine and random spot urine fructose levels as biomarkers for the screening, diagnosis and monitoring of NAFLD. The primary objective of this study was to compare serum fructosamine and random spot urine fructose levels between different groups of NAFLD severity as measured by ultrasound. A secondary objective was to determine the association if any between serum transaminases, the AST to Platelet Ratio Index (APRI) score, serum fructosamine and urine fructose in different groups with steatosis.

**Methods:** Using a cross-sectional study design 65 patients with three different levels of NAFLD as detected by imaging were enrolled. The primary exposures measured were serum fructosamine with random spot urine fructose; and secondary exposures were the serum transaminases (AST and ALT) and the AST to Platelet Ratio Index (APRI) score. Patients identified at the departments of Gastroenterology, General Internal Medicine and Diagnostic Radiology were invited to participate.

**Results:** There were 38, 17 and 10 patients with mild, moderate and severe steatosis. There was no significant difference* between the groups regarding serum fructosamine (µmol/L) (mild (257 (241, 286)), moderate (239 (230, 280)) and severe (260 (221, 341)), $p = 0.5$) or random spot urine fructose (mmol/L) (mild (0.86 (0.51, 1.30)), moderate (0.84 (0.51, 2.62)) and severe (0.71 (0.58, 1.09)), ($p = 0.8$). ALT (U/L) differed between groups (mild (19 (12, 27)), moderate (27 (22, 33)), severe (27 (21, 56)), $p = 0.03$) but not AST (U/L) ($p = 0.7$) nor APRI ($p = 0.9$). *Median (IQR, Kruskal Wallis rank sum test). Urine fructose and ALT were correlated, in the moderate to severe steatosis group ($r = 0.490$, $p < 0.05$) but not in the mild steatosis group. Serum fructosamine was associated with age in the mild steatosis group but not the moderate-severe steatosis group ($r = 0.42$, $p < 0.01$).

**Conclusion:** Serum fructosamine and random spot urine fructose did not vary with the severity of non-alcoholic fatty liver disease, indicating that they would not be useful biomarkers in this condition.

## A retrospective record review of the natural history of chronic Hepatitis B patients attending a quartenary Johannesburg Hospital

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**Background:** Chronic infection with hepatitis B virus (HBV) affects approximately 316 million persons across all ages worldwide with significant morbidity and mortality in endemic areas such as Sub-Saharan Africa. Despite advancements in primary prevention as well as treatment of the disease, there is a paucity of data of the demographics and natural history of these patients in South Africa. In this study, we aim to describe this patient population in our setting.

**Methods:** A retrospective review of patient records at a quartenary hospital's liver clinic was performed from September 2022 to June 2023. Ninety-eight patients met inclusion criteria. Patient demographics, risk factors, serology, comorbidities, confounders, complications and treatment modalities were captured.

**Results:** Patient demographics showed a male predominance ($n = 62$; 63.25%), with median age of diagnosis at 39 years (IQR 32-46 years). The prevalence of HBeAg positivity was 21.43% at diagnosis. The most prevalent clinical phase was HBeAg negative with chronic hepatitis ($n = 58$, 59.18%). HBeAg loss from positive to HBeAg negative occurred in 23.81%. Seroconversion from HBsAg positive to HBsAg negative occurred in 11.22%. Cirrhosis was present in 30 patients. Six patients had hepatocellular carcinoma. HBeAg positivity increased risk of developing cirrhosis in multi-variate models ($p$-value = 0.043). Seventy-two of the 98 patients in this study were on treatment with low barrier resistance antivirals, with 90 having viral loads lower than detectable.

**Conclusion:** The chronic HBV patient population attending this institution has similar demographics as other parts of the world. Patients attending our clinic have higher HBeAg loss and HBsAg seroconversion rates. Cirrhosis is more prevalent than HCC within this study cohort. HBeAg positivity is an important risk factor in developing cirrhosis and hepatocellular carcinoma.

## Bone mineral density reduced in patients with Inflammatory Bowel Disease despite adequate supplementation: Tygerberg Hospital experience

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**Introduction:** Patients with inflammatory bowel disease (IBD) have an increased risk for low mineral bone-density. The reasons

are multifactorial and include steroid use, ongoing or severe inflammation, lack of physical activity, extensive small bowel disease or resection and nutritional deficiencies. Osteoporosis is present in 13–42% of IBD patients and osteopenia has been reported in up to 77% of patients. The aim was to assess bone density in IBD patients at Tygerberg Hospital.

**Methods:** Retrospective chart review of all patients attending our IBD clinic, that have had DXA scans done previously.

**Results:**

| | CD | UC | Total |
|---|---|---|---|
| Patients | 15 (47%) | 17 (53%) | 32 |
| Male | 3 (20%) | 5 (29%) | 8 (25%) |
| Female | 12 (80%) | 12 (71%) | 24 (75%) |
| Post-menopausal | 7 (58%) | 10 (83%) | 17 (71%) |
| Mean age | 42 yrs | 56.9 yrs | 63.4 yrs |
| BMI | 25.6 | 27.6 | 28 |
| High-dose/prolonged-dose steroids | 14 (93%) | 4 (24%) | 18 (56%) |
| Smokers (current or ex) | 6 (40%) | 3 (18%) | 9 (28%) |
| Severe disease | 11 (73%) | 3 (18%) | 14 (44%) |
| Severe disease + abnormal DXA | 8 (53%) | 2 (12%) | 10 (31%) |
| Osteoporosis (hip) | 0 | 1 | 1 (3%) |
| Osteoporosis (femur-neck) | 1 | 5 | 6 (19%) |
| Osteoporosis (AP-Spine) | 1 | 1 | 2 (6%) |
| Osteopenia (hip) | 3 | 6 | 9 (28%) |
| Osteopenia (femur-neck) | 4 | 7 | 11 (34%) |
| Osteopenia (AP-Spine) | 3 | 5 | 8 (25%) |
| Z score: normal | 1 (7%) | 2 (12%) | 3 (9%) |
| Z score: below desired level | 6 (40%) | 0 | 6 (19%) |
| Calcium/Vitamin D supplementation | 15 | 17 | 32 (100%) |

**Discussion:** The majority of IBD patients currently being screened for low bone density are female, with just over half of them being post-menopausal. The average BMI in our group lies in the overweight range, which is known to be bone-protective. Osteopenia is common with up to a third of patients having this, and 20% found to have osteoporosis. In younger patients where Z-score was used, 66% had abnormally low bone-density. Smoking conferred a significant risk for low bone density in our Crohn's patients, as well as the presence of severe disease and significant glucocorticoid usage.

**Conclusion:** Bone loss should be anticipated in high-risk patients. There is a role for bone density screening in IBD patients- proper risk stratification should be done.

## Clinical and social characteristics and outcomes of patients with amoebic colitis seen at Groote Schuur Hospital, Cape Town, South Africa: a 5-year retrospective review

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**Background:** Entamoeba histolytica infection causes over a 100 000 deaths/year from amoebic dysentery and/or liver abscesses. The prevalence is disproportionately higher in developing countries due to poor socio-economic/sanitation conditions. There is paucity of data on the prevalence of amoebic colitis in Cape Town. The aim was to describe the clinico-social characteristics and outcomes of confirmed amoebic colitis in a tertiary hospital in Cape Town.

**Methods:** A cross-sectional review of confirmed cases from the NHLS database, and folder review from 01 July 2018 to 30th June 2023.

**Results:** Thirty patients were found; median age = 50 (range 21–67), 53% male. 80% were current or ex-tobacco smokers, 50% current or ex-recreational drug users and 54% current or ex-alcohol drinkers. Where documented 30% had no travel out of the province. The commonest comorbidities were HPT (30%), COPD (21%), diabetes (10%) and HIV (17%). The commonest presentations were abdominal pain (80%), weight loss (66%), and chronic diarrhoea (43%). Mean haemoglobin = 10.9±2.9 and albumin = 23 ± 8.9; median WCC = 13 (range 1.8-49) and CRP = 219 (range 1-519). Of 21 stool samples sent, two were positive for amoebic cysts and 48% were inflammatory. Amoebic serology (done in 30%) was positive in 100% of samples. In 56% of the cohort, 41% had hepatic cysts on CT scanning. 27% of patients had colectomy and 20% died. The odds of dying if HIV infected was significant, OR = 19, CI = 2.3-159, $p$ = 0030.

**Conclusion:** Amoebic colitis is rare in Cape Town, affects middle aged patients, with a history of alcohol, smoking or recreational drugs. Abdominal pain, weight loss and raised inflammatory markers are typical and 41% have concomitant liver abscesses. Amoebic serology is 100% sensitive and should be the test of choice. Amoebic colitis has high morbidity and mortality, and HIV is a significant risk for death. In HIV positive patients or those using substances with inflammatory diarrhoea, amoebic colitis must be considered.

## A challenging case of laparoscopic trans-gastric resection of a giant inflammatory gastric polyp presenting with gastric outlet obstruction and severe anaemia

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**Introduction:** Gastric hyperplastic polyps are the most common benign epithelial tumors in the stomach. These are strongly associated with inflammatory conditions like chronic gastritis, helicobacter pylori gastritis, reactive or chemical gastritis. In comparison to adenomatous polyps which can transform to invasive adenocarcinoma, hyperplastic polyps have virtually no malignant potential. Prevalence of dysplasia ranges from 1.9% to 19% and malignant transformation in 0.6% to 2.1% cases.

Usually asymptomatic, it can cause Occult Gastrointestinal Bleed and Gastric Outlet Obstruction. The aim was to present a challenging case of Laparoscopic Trans-Gastric Resection of a Giant Inflammatory Gastric Polyp in a 21-year-old female with Gastric outlet obstruction performed at Nazareth Hospital, Shillong, India.

**Method:** A 21-year-old female patient had presented with severe anemia and symptoms of gastric outlet obstruction since 3 months. She had melena for 1 month. She also had history of Pulmonary Tuberculosis for which she had taken the antitubercular therapy. CT scan suggested a Giant ulcerated hyperplastic polyp extending from Body of stomach till the 3rd part of Duodenum. Oesophagogastroduodenoscopy revealed a massive gastric polyp with ulceration, prolapsing into D3, causing obstructive symptoms. Patient underwent laparoscopic trans gastric resection of the polyp after optimisation.

**Results:** Successful laparoscopic trans gastric resection of the polyp was done using Endo GIA staplers. On Histopatholgy, the polyp was noted to be an Inflammatory fibroid polyp. The patient did well. There was no complications or recurrence of the polyp on 2 year follow up span.

**Conclusion:** Majority of the gastric polyps are asymptomatic, but may exhibit occult blood loss leading to chronic anemia along with gastric outlet obstruction. Symptomatic gastric polyps should be removed endoscopically at the initial diagnosis. But massive polyps will require either Laparoscopic or open surgical modality. Minimally invasive modality can provide a lesser postoperative morbidity with a shorter hospital stay.

## Diagnostic yield and appropriate use of a tertiary hospital. Upper endoscopy service in South Africa

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**Background:** Upper endoscopy is a scarce resource, and evaluation of an efficient and economical utilisation thereof is essential in resource-constrained environments. The aim was to assess efficacy of the Groote Schuur Hospital upper endoscopy service by determining the local rate of normal (negative) endoscopy, malignancy detection, alarm symptom (dysphagia, weight loss, bleeding, anaemia, vomiting) correlation with positive findings and comparing local results with international high-volume units.

**Methods:** A four-year (March 2018 - March 2022) retrospective review of all index diagnostic endoscopies was performed; evaluating appropriateness of endoscopy indication (as per red flag symptoms defined by the British Society for Gastroenterology), with findings graded as normal, mild or of significant clinical relevance, or malignant (University of Cape Town HREC 031/2015, HREC 778/2022).

**Results:** Of 8 773 index endoscopies included (57.46% female; median age 55 years, IQR: 42–67 years), 55.1% were elective, 25.28% urgent and 18.27% emergencies. A normal endoscopy rate of 18.64% (1 581) was determined with endoscopy indication assessed as appropriate in 80.17% (5 776). Findings were 'mild' in 5 153 (61.76%), 'significant' in 1 424 (16.79%) with malignancy confirmed histologically in 323 (3.81%). Multivariate analysis of associations between endoscopy indications and findings indicated dysphagia ($p < 0.001$), loss of weight ($p = 0.004$) and vomiting ($p = 0.025$) to be positively associated with malignancy. The indication most strongly associated with malignancy is dysphagia with 18.9% having a malignancy (OR 9.28; $p < 0.0001$). Anaemia, dyspepsia, epigastric pain and atypical chest pain had a statistically significant negative association with malignancy. Dysphagia and upper gastrointestinal bleeding were positively associated with significant, but non-malignant pathology.

**Conclusion:** This study confirms efficiency by indicating a lower normal endoscopy rate, higher rate of appropriately referred scopes, with a similar malignancy detection rate compared to international centres.

## The dietician's role in the preoperative management for patients undergoing laparoscopic surgery of the upper GIT

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**Introduction:** Hepatomegaly and visceral adiposity can complicate laparoscopic surgery of the upper gastrointestinal tract (GIT) with increased risk of visceral organ injury, longer operating times, and create unnecessary technically challenging situations which can be averted by introducing a preoperative two-week very low-calorie diet (VLCD). The study is designed to describe the volumetric changes in left hepatic lobe volume (LHLV) and body composition following a preoperative two-

week VLCD as indicators of visceral adiposity and its effect on aversion to challenging operative difficulties.

**Methodology:** A cross-sectional study was conducted on 48 patients scheduled for a laparoscopic Nissen and Redo Nissen Fundoplication. Ethical approval was granted by the Faculty of Health Sciences of the University of the Free State (UFS-HSD2021/1664/2202-0006). Sonographic assessment of the liver volume left of the falciform ligament and an InBody assessment was obtained at baseline and on the day of surgery, following the VLCD (1 000 kcal or 800 kcal per day meal plan).

**Results:** Statistically significant ($p < 0.05$) decreases in weight, BMI, waist circumference, body fat mass, body fat percentage, abdominal fat, muscle mass, and LHLV were noted. A median weight loss of 3.5 kgs, 2.2 kgs body fat loss, and a 2.5 cm decrease in waist circumference was observed. LHLV was reduced by 33% ($p < 0.05$). A questionnaire on the surgeon's subjective assessments reported an 86.4% improvement in ease of access to the EG junction.

**Conclusion:** A dietician-led two-week VLCD could improve access to the upper GIT in laparoscopic surgery by significantly reducing liver volume, and visceral adiposity, and may avert technically challenging situations and the need for pre-op LHLV measurement. Due to the findings, the current upper GIT unit has amended its preoperative management to include a VLCD on all patients scheduled for laparoscopic upper GIT surgery.

## Point-of-care immunochemical faecal occult blood testing and symptom-based clinical prediction models to promote earlier diagnosis of colorectal cancer in South Africa

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**Background:** The incidence of colorectal cancer (CRC) is increasing in South Africa (SA). Early diagnosis of CRC could improve outcomes but this is hindered by timeous access to colonoscopy for symptomatic patients. A point of care (POC) immunochemical faecal occult blood test (iFOBT) may be a pragmatic strategy to select who may benefit from early colonoscopy. The aim was to determine the sensitivity and specificity of POC iFOBT for CRC within a cohort of SA adults exhibiting lower gastrointestinal "red flag" symptoms (unintentional weight loss, altered bowel habits, iron deficiency anaemia) and develop a clinical prediction model for CRC.

**Methods:** A prospective cohort study of symptomatic adult patients referred for colonoscopy at Inkosi Albert Luthuli Central hospital and Dr Pixley Ka Isaka Seme Memorial hospital were invited to participate. Patients known with inflammatory bowel disease, CRC and previous colorectal surgery were excluded. All consenting participants had stool collected before colonoscopy for POC iFOBT. Enrollment commenced in October 2022 after ethics approval (BREC/0004161/2022).

**Results:** One hundred and sixteen participants were analysed thus far with 23 positive colonoscopies and 93 negative colonoscopies. Among all patients with positive colonoscopy, twelve had CRC or adenoma and eleven benign histology. The POC iFOBT was positive in 7/8 diagnosed CRC (87.5%) and 1/4 adenomas (25%). The POC iFOBT performance for predicting CRC had a sensitivity of 87% and specificity of 46%. The overall CRC detection rate was 6.7%.

**Conclusion:** Preliminary analysis of POC iFOBT in symptomatic SA patients referred for colonoscopy shows moderately strong sensitivity and weak specificity for CRC.

## Endoscopic pneumatic balloon dilatation outcomes in the treatment of benign gastric outlet obstruction in sub-Saharan Africa

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**Background:** Endoscopic pneumatic balloon dilatation (EPBD) is considered first-line management for benign gastric outlet obstruction (GOO) with overall outcomes reported as excellent. A paucity of data is available from Sub-Saharan Africa. The aim was to determine outcomes and success of EPBD for benign GOO and compare local results to international units.

**Method:** A single-centre retrospective analysis (March 2018 to February 2023) of EPBD for benign GOO presenting to a tertiary gastrointestinal unit. Patient demographics, GOO aetiology and EPBD outcomes (procedural and clinical success) were documented with univariate analysis performed to identify factors associated with EPBD failure (University of Cape Town HREC 203/2021; HREC031/2015).

**Results:** A total of 74 patients (45.9% females), undergoing 209 EPBD sessions, with a mean age of 50.2 ± 14.3 years, were included with peptic ulcer disease (PUD) accounting for 74.3%. A 78.4% procedural success rate (following a median of 1 (1–1.25) sessions), but only a 45.9% clinical success rate (median of 2 (1.5–4) sessions) were achieved. Forty-four patients (59.4%) received a 15 mm balloon or larger at the initial dilatation and 34 subsequently reached a 20 mm balloon diameter. There were 17 (8.1%) complications, including eight bleeding episodes (two requiring endoscopic management), two patients with sedation-

related bradypnoea and five failed guidewire cannulations (after initial success). Two perforations occurred during the 209 EPBD sessions (0.96%); one managed by partial gastrectomy, the other with temporary covered stent placement. No EPBD-related mortalities occurred. No patient, stricture or EPBD technique parameters were associated with EPBD treatment failure on univariate analysis. Only 39.2% (29 patients) had their benign GOO successfully treated by EPBD in this cohort.

**Conclusion:** Our EPBD success rate is significantly less than reported internationally. Although procedural success is achieved rapidly, the clinical success rates are low with progression to further treatment modalities frequently required.

## Increasing burden of acute hepatitis A among Ethiopian children, adolescents, and young adults: a change in epidemiological pattern and need for hepatitis A vaccine

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**Background:** Hepatitis A is a vaccine-preventable, faeco-oral infection due to poor sanitary conditions. It is predominantly acquired during early childhood and results in lasting acquired protective immunity. However, it results in severe disease which can end up in acute fulminant hepatitis and hepatic failure when acquired during adolescence and adulthood. The prevalence of acute hepatitis A is increasing among children, adolescents, and young adults from higher-income households. They acquire this infection at a later age when they are exposed for the first time to contaminated food and drinks after being brought up in a relatively clean environment. This calls for the introduction of the Hepatitis A vaccine in Ethiopia; possibly as part of the Expanded Program on Immunisation (EPI). The aim was to assess the epidemiological pattern of acute hepatitis A Infection at Adera Medical Center in Addis Ababa, Ethiopia.

**Methods:** Socio-demographic and clinical data were collected from patients who were diagnosed to have hepatitis A infection at Adera Medical Center in 2020. The ethical clearance and approval were obtained from Adera Medical Center institutional review board (IRB).

**Results:** This study showed that clinical acute hepatitis A is becoming common among children, adolescents, and young adults from relatively high-income families. Among patients with acute hepatitis, 89% were from middle and high-income families.

**Conclusion:** There is a need for the incorporation of hepatitis A vaccine in the Ethiopian EPI program.

## Real world clinical experience of chronic hepatitis B treatment in sub-Saharan Africa

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**Background:** About 350 to 400 million people are infected with chronic hepatitis B (CHB) worldwide and about 780 000 people die annually of its complications. Ethiopia is located in the region of hepatitis B hyper-endemicity ranging from 8–12%. However, up to 17% of HBV infected patients present for care late with cirrhosis in sub-Saharan Africa (SSA). Fortunately, antiviral therapy of CHB has shown to be effective in preventing complications and improving survival even at stage of early cirrhosis. Tenofovir disoproxil fumarate (TDF) is among the oral antiviral approved for the treatment of CHB. It has demonstrated efficacy in a wider pool of CHB populations and long-term treatment is associated with sustained virologic, biochemical, and serologic responses. The aim was to assess the outcome of TDF treatment of CHB patients at Adera Medical Center (AMC) in Addis Ababa, Ethiopia.

**Methods:** Hospital-based retrospective cross-sectional study was employed. The ethical clearance and approval were obtained from AMC institutional review board. 144 CHB patients on TDF treatment were enrolled. Sociodemographic, clinical, and laboratory parameters were collected. The data was entered and analyzed using SPSS Version 23.

**Results:** The mean age of the participants is $35.52 \pm 10.34$. 76.4% are male. Fifteen patients have progressed to decompensation at the end of the study period. 93.1% of the participants are HBeAg negative, while 5.6% have attained loss of HBsAg on TDF. A significant association ($p < 0.01$) between APRI improvement, with the duration of treatment, and baseline viral load was found. Paired sample t-test showed an improvement in the mean APRI score of 0.2 (CI: 0.07–0.367; $p < 0.01$).

**Conclusion:** TDF is safe and effective in reducing viral load and complications among our patients. Not only did it show benefits in improving liver parameters and suppression of viral load, but also it has attained a functional cure in some patients.

## A report of Kaposi sarcoma, jaundice and recurrence after treatment diagnosed by EUS-FNA

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**Introduction:** Kaposi sarcoma (KS) is a vascular tumour associated with human herpesvirus 8 (HHV-8) infection. Gastrointestinal involvement is the most common extracutaneous site. We present an unusual case of KS, presenting with jaundice and requiring endoscopic ultrasound – fine needle aspiration (EUS-FNA) of a mass lesion detected on computer topography (CT) scan post chemotherapy.

**Case report:** A 43-year-old man living with HIV, presented with cutaneous KS and obstructive jaundice. Transabdominal ultrasound and CT showed biliary dilatation, without pancreatic

duct dilatation and a mass in the pancreatic head region. Endoscopic retrograde cholangiogram (ERC) identified a distal biliary stricture, and a plastic stent was deployed to good effect. Raised erythematous gastric and duodenal lesions seen during ERC were biopsied and pathology confirmed KS. The mass lesion was suspicious for grossly enlarged lymph nodes. After six cycles of paclitaxel and three months after biliary stenting the total bilirubin (TB) declined from 250 ug/L to within the normal range. The biliary stent was removed after 12 weeks, and a balloon occlusion cholangiogram revealed stricture resolution. A CT scan at this time showed resolution of the mass. Six months later, a surveillance CT scan identified a 2 cm mass in the pancreatic tail region. EUS was requested to characterise this lesion. A 2.7 cm x 2.9 cm hypoechoic mass between the pancreatic tail and splenic hilar was seen. FNA with a 22 G needle was performed. Cytology confirmed KS. There was no recurrence of jaundice.

**Conclusion:** EUS guided FNA of an intra-abdominal KS lesion proved to be safe and diagnostic. To the best of our knowledge this is the first report of EUS-FNA of peritoneal KS.

## Surgery versus endoscopic therapy for Mirizzi syndrome (SEIZE)-study: a multi-centre international experience

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**Background:** The management of Mirizzi syndrome has been primarily surgical, although digital single-operator cholangioscopy (dSOC) now allows for endoscopic ductal clearance in patients with Mirizzi syndrome. There is however a lack of comparisons between surgical and endoscopic treatments. The objective of the current study is to compare the outcomes of dSOC-guided lithotripsy with the surgical approach.

**Methods:** A large multicenter international retrospective analysis was conducted on dSOC and surgical procedures in patients with type II-IV Mirizzi syndrome between January 2005 and June 2022.

Technical success was defined as the successful and complete clearance of the duct using either dSOC or surgery. The AGREE classification was employed for adverse event (AE) grading.

**Results:** In total, 290 patients were included, with 176 undergoing treatment with dSOC. At baseline, patients undergoing dSOC had higher scores on the Charlson Comorbidity Index and ASA scores ($p < 0.001$).

Technical success was lower in the dSOC group versus surgery (89.2% vs. 96.5%, $p = 0.025$). During follow-up, cholecystectomy was avoided in 115 out of 175 dSOC patients (65.3%), with similar need for reinterventions and median number of interventions after a median follow-up duration of 741.5 days (IQR 320–1 781). Overall adverse events (AE) occurred less frequently in the dSOC group (10.2% vs. 41.2%, $p < 0.001$), including mild AE (4.0% vs. 13.1%, $p = 0.008$), and severe AE (1.7% vs. 15.8%, $p < 0.001$). A lower need for hepaticojejunostomy was observed (6.6% vs. 26.1%, $p = 0.002$) in patients undergoing post-dSOC cholecystectomy vs. primary surgery.

**Conclusion:** Our study demonstrates that the use of dSOC for the removal of intraductal stones in Mirizzi syndrome is highly effective, showing superior safety despite treating patients with more underlying comorbidity. dSOC seems valuable in downgrading the extent of subsequent surgery, by potentially reducing the need for a HJ, and furthermore seems to prevent the need for subsequent cholecystectomy in two thirds of patients.

## Effects of supine and reverse Trendelenburg positions on central venous pressure (CVP) during Hepatectomy: a prospective randomised controlled trial

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**Background:** Hepatectomy is an operation which has potentially significant blood loss. The low central venous pressure (CVP) technique has been accepted as a method to minimize blood loss during hepatectomy. From previous studies, the reverse Trendelenburg position decreased CVP, however, no randomized control study has compared the effectiveness of these techniques in terms of reducing CVP and decreasing blood loss. This randomized controlled trial study aimed to demonstrate the benefit of reverse Trendelenburg position with reference to the lowering of CVP and blood loss compared to the conventional supine position during hepatectomy.

**Methods:** After approval of TCTR20210614001, the patients who underwent open hepatectomy were randomized into two groups, the supine position and the reverse Trendelenburg position groups. The primary outcome was CVP during liver resection and secondary outcome was blood loss and rate of blood transfusion.

**Results:** The 112 patients undergoing open hepatectomy between March 2021 to October 2023 were randomized into two groups. The 57 patients received the supine position while reverse Trendelenburg position was applied to 55 patients. There were no differences between the two groups in terms of patient characteristics. CVP after reverse Trendelenburg position decreased 1.6±2.6 cmH2O ($p = 0.000$) at 5 minutes after

position adjustment. However, CVP at 15,30, 45,60,75,90,105 and 120 minutes after reverse Trendelenburg position was not significantly different from the supine position group. There was no significant difference in blood loss and rate of blood transfusion during hepatectomy between two groups.

**Conclusion:** This study demonstrated the benefit of the reverse Trendelenburg position which reduced CVP at only first 5 minutes after position adjustment but no significant difference regarding the blood loss was found.

## Case report, Cannabinoid Hyperemesis Syndrome

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Cannabis use is legalised in many countries. We present a patient in their forties who complained of recurrent abdominal pain and associated nausea and vomiting. The patient was previously seen in various hospitals, treated symptomatically and discharged with a diagnosis of non-specific abdominal pain. The patient is a chronic smoker of cannabis, a cigarette smoker, and an alcohol drinker.

Abdominal examination revealed no masses, and CXR was normal. Blood tests and gastroduodenoscopy revealed no obvious aetiology. Intravenous fluids, together with antiemetics and proton pump inhibitors were administered. The patient also received counselling and was advised to stop cannabis use.

On discharge, the patient was stable and asked to come back for review in two weeks and monthly for a period of six months after stopping cannabis use.

The patient reported no recurrent symptoms despite continued cigarette and alcohol use. A suspected cannabinoid hyperemesis syndrome became a consideration. Awareness of cannabis-related disorders such as cannabinoid hyperemesis syndrome may assist in avoiding costly hospital workups.