UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

DISCIPLINE OF SURGERY

50TH SURGICAL RESEARCH SOCIETY OF SOUTHERN AFRICA RESEARCH SYMPOSIUM

13-14 JULY 2023

PROF BONGANI MAYOSI LECTURE THEATRE
NELSON R MANDELA SCHOOL OF MEDICINE
UNIVERSITY OF KWAZULU-NATAL

INSPIRING GREATNESS

Welcome message:

Dear colleagues

It's a great honour to welcome you all to the 50th Surgical Research Society of Southern Africa (SRSSA) Research Symposium. We are truly appreciative of the great opportunity to host you and we are humbled by the great support we have received from all of you. This research symposium serves as a great platform to showcase research conducted in Surgery, to advance & enhance the understanding and knowledge of wide range of topics which include, Education & Innovation in Surgery, Biomedical (cellular, molecular & genetic) & Clinical aspects of various surgical pathologies as well as improving access to care & various surgical techniques and the outcomes thereof. It also serves as a great opportunity to constructively engage & share ideas, network with colleagues to create, among other things, collaborative research opportunities with an aim of improving the accessibility, quality and the outcomes of surgical patient care as well as to shape the future of teaching & training in Surgery globally while still being relevant locally.

This symposium would not have been a great success it is without an amazing, hard & smart working, very supportive local organising committee (the A team), the Department of Surgery, UKZN' staff members, the School of Clinical Medicine as well as the SRS Executive Committee- A heartfelt thank you to you. We also thank our generous sponsors for their on-going support in making this symposium a success. Last but not least, thank you to all our presenters, the sessions' chairpersons and all attendees for partaking in this informative, beautiful event.

Enjoy your stay with us.

Kind regards,

Dr Boitumelo Phakathi

Chairperson: Local organising committee

Academic HOD: General Surgery

School of Clinical Medicine

University of KwaZulu-Natal

'Discipline of Surgery, UKZN: Inspiring greatness through excellence in translational research with a global impact, while being relevant to the communities we serve'.

Welcome message:

On behalf of the Surgical Research Society of Southern Africa (SRSSA), welcome to the 50th Annual Surgical Research Society meeting.

The primary aim of the society is "to provide for the interchange of information about research work related to surgery." We had over 90 abstracts submitted for this year's event and more than 70 will be presented over the next two days. All have been reviewed by the selection committee and the top 10 abstracts will be considered for the prestigious Bunny Angorn and Bert Myburgh prizes.

SRS has an international role and has links with sister organisations in US, Europe and the UK. We have the privilege of having Dr Rachel Hargest, well known to many in South Africa, as our visitor from Cardiff, UK.

The growth of generative AI has made the society's purpose more important. As clinicians, we see what is happening in our hospitals. We witness the surgical challenges we all face and can identify the areas that need to be researched. Unless we drive research based on our observations, AI will skew publications and research to accommodate commercial interests and publications from low middle income countries may fall behind. This will be detrimental to the care of millions of patients throughout the world.

Thank you to all of you for submitting your abstracts and coming to share your research with us. I look forward to seeing you all for what promises to be an excellent 2 days.

Kind regards,

Dr Jenny Edge

President: Surgical Research Society of Southern Africa (SRSSA)

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Dr I Buccimazza
Dr R Naidoo
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SURGICAL RESEARCH SOCIETY OF SOUTHERN AFRICA

50th SURGICAL RESEARCH SOCIETY OF SOUTH AFRICA (SRSSA) ANNUAL MEETING

Day 1: THURSDAY 13TH JULY 2023

Chair: Mr S Kader

07:30	**WELCOME**: **Dr Boitumelo Phakathi (UKZN)** Chairperson: LOC Academic HOD: General Surgery
07:35	**INTRODUCTION**: **Dr Jenny Edge- SRS President**
07:40	**OPENING ADDRESS**: **Prof N Dlova** (Dean & Head: School of Clinical Medicine UKZN)

SESSION 1: PRIZE SESSION BUNNY ANGORN AND BERT MYBURGH PRIZES (10+5 mins) *Chairs: Prof Navsaria & Prof Clarke* (07h45- 10h15)			
1	07h45-08h00	GL Chuma	Factors in the inter-hospital transfer of paediatric surgery patients that influence the short-term outcome
	08h00-08h15	S Le Grange	Late referrals of anorectal malformations: limiting the burden of a late diagnosis with outreach and education in Central South Africa
	08h15-08h30	A Akpabio	Variations Of The Hepatic Artery In A Sample Of The South African Population
	08h30-08h45	E. Nweke	Mass spectrometry-based analysis demonstrates proteomics signatures associated with pancreatic ductal adenocarcinoma in South African patients.
	08h45-09h00	N Nange	The Prevalence Of Asymptomatic Peripheral Arterial Disease And Associated Risk Factors In HIV Patients On Antiretroviral Therapy At A Tertiary Hospital In Pretoria Use of household items to augment (support) on-line basic surgical skills teaching Macrophages: investigating polarity as mechanism of plasticity
	09h00-09h15	S Ebrahim	The impact of COVID-19 pandemic on General Surgery Registrar training in South Africa
	09h15-09h30	T Augustine	Histomorphometry changes in the small intestinal epithelium and paneth cells of male Sprague Dawley rats exposed to combination antiretrovirial drugs
	09h30-09h45	M Motsei	A Novel Hands-On Technique to improve intracorporeal suturing in Minimal Access Surgery Training
	09h45-10h00	T Luvhengo	
	10h00-10h15	H Mangray	
	TEA BREAK (15 mins) 10h15-10h30		

SESSION 2: TRAUMA SURGERY (7+3 min) *Chairs: Prof S Moeng & Prof T Hardcastle* (10h30-12h30)			
2	10h30-10h40	T Govender	Management of combined civilian penetrating extraperitoneal rectal and genitourinary injuries
	10h40-10h50	K Rossini	A Pilot Study in the Review of Female Trauma
	10h50-11h00	N Amgla	Outcomes of Failure of selective non-operative management of penetrating abdominal trauma
	11h00-11h10	M Hannington	The impact of thromboelastography on patients with penetrating abdominal trauma requiring intensive care
	11h10-11h20	V Ntola	Epidemiology of vascular injury in Trauma-ICU patients over a decade - the KZN experience An update on civilian penetrating duodenal injuries: A single Centre Experience
	11h20-11h30	R Zoubi	A retrospective review of the management and outcome of patients with retained intrathoracic foreign bodies managed with video-assisted thoracoscopic surgery (VATS)
	11h30-11h40	B Manicum	The impact of colon injuries on the outcome of gunshot wounds to the abdomen
	11h40-11h50	Y Singh	The proportion of trauma patients with urological injury and their management at Steve Biko Academic Hospital Outcomes of trauma laparoscopy performed in a rural tertiary care facility, Limpopo Province
	11h50-12h00	H Amaambo	Safety Of Thoracoscopic Pericardial Window Using Single Lumen Endotracheal Tube In Penetrating Precordial Thoracic
	12h00-12h10	M Botha	Injuries At Dr George Mukhari Academic Hospital Traumatic limb amputations in polytrauma ICU admissions
	12h10-12h20	K Tuwani	
	12h20-12h30	N Gumede	
	12H30-13H15	LUNCH	LUNCH

SESSION 3: MEDICAL STUDENTS RESEARCH PRIZE SESSION **(10+5 mins)** ***Chair: Dr I Buccimazza & Prof D Montwedi*** **(13h15-15h15)**			
3	**13h15-13h30**	**D de Villiers**	The usability of a personal health record in the context of a Public Healthcare Facility in South Africa
	13h30-13h45	**N Parker**	An Analysis of Referral Patterns of Traumatic Brain Injury to Groote Schuur Hospital Trauma Centre
	13h45-14h00	**S Patel**	The microbiology and resistance profiles of diabetic foot sepsis at Charlotte Maxeke Johannesburg Academic Hospital
	14h00-14h15	**A Pullinger**	Validation of the usefulness of two risk scoring systems for predicting mortality due to upper gastrointestinal bleeding in a major Johannesburg Hospital
	14h15-14h30	**L Seedat**	The Perioperative Hospital stay and surgical complications in Cardiothoracic surgery patients during Covid-19 Outcomes of patients with adhesive small bowel obstruction at a central hospital in Johannesburg
	14h30-14h45	**S Smith**	Root cause Analysis of Mortalities Associated with acute Appendicitis at a Central Academic Hospital in Gauteng Province
	14h45-15h00	**V Taparia**	
TEA 15H00-15H30			
SESSION 4: ***Chairs: Dr Jenny Edge & Prof Koto*** **(15h30-16h10)**			
15h30-16h00			**INVITED GUEST: SOCIETY FOR ACADEMIC & RESEARCH SURGEONS (SARS)** ***Bi-directional Learning in Global Surgery*: Dr Rachel Hargest** ***Defining humanitarian surgery: An international Delphi process*** **Dr G McKnight**
16h00 – 16h10			**FEEDBACK: 2022 SCEALES ANTROBUS PRIZE WINNER** **Dr Thegesha Naidoo**

SESSION 5: PAEDIATRIC SURGERY & EDUCATION IN SURGERY (7+3 min) *Chair: Dr H Mangray + Dr S Ebrahim* (16h10-17h20)			
5	**16h10–16h20**	**A Ngobese**	A 10-year Review of Paediatric Laparoscopic Nissen Fundoplications
	16h20-16h30	**E Loko Loko**	Prevalence and factors associated with complicated acute appendicitis in children < 13. Two years retrospective study
	16h30-16h40	**D Corbett**	Tertiary level vs. secondary level intern training in the Cape West Metro
	16h40-16h50	**D Rutledge**	Progression from surgical medical officer to surgical registrar: experiences and barriers Research integrity in a South African Health Sciences institution
	16h50-17h00	**T Augustine**	The development of necrotizing enterocolitis in very low birth weight babies: Transfusion practices in two neonatal units in Bloemfontein, Free State
	17h00-17h10	**L Brits**	Biliary atresia: the profile, management and outcome of patients treated at a tertiary hospital in central South Africa
	17h10-17h20	**L Brits**	
17:20 – 17h50		**DJ DU PLESSIS LECTURE** **Introduction of the Guest Speaker: Dr Jenny Edge**	
		***Towards research with impact: Climate change, AI and surgical challenges of the future*. Prof E Steyn**	

17h50 – 18:30	**AGM**
19h00 for 19h30	**GALA DINNER**

Day 2: FRIDAY 14TH JULY 2023

SESSION 6: PRIZE SESSION SCEALES ANTROBUS PRIZE (10+ 5 mins) *Chair: Ms S Ismail & Ms R Naidoo* (07h30-10h15)			
6	**07h30-07h45**	**J Ducray**	The use of complimentary practices amongst female breast cancer patients treated at government and private facilities in eThekwini, KwaZulu-Natal
	07h45-08h00	**J Edge**	Primary endocrine therapy is as effective as primary chemotherapy lymph node burden
	08h00-08h15	**F Holst**	Associated changes to the viscoelastic profiles, platelet aggregates and fibrin networks in treatment-naïve early breast cancer patients
	08h15-08h30	**J Khan**	Oncoplastic Surgery for Breast Carcinoma in South Africa: an audit of outcomes from a single breast unit
	08h30-08h45	**L Lemmer**	Evaluating breast carcinoma biomarker immunohistochemistry performed on cell block and tissue block material and a comparison of the Robinson Grading system to the Nottingham Histological Scoring System
	08h45-0900	**L Martin**	Clinical breast screening of women working within the Cape Union Mart Group Histopathological analysis of breast cancer patient with HIV Infection at an Academic Hospital
	09h00-09h15	**M Nyembe**	Outcomes of breast conserving therapy recurrence imaging findings and histological correlation
	09h15-09h30	**M Sondezi**	Intratumoural heterogeneity in breast cancer: hormone therapy-mediated effects in a breast cancer cell line.
	09h30-09h45	**K Xulu**	Exploring immunosuppressive events associated with breast cancer progression: Key Factors in targeted therapy
	09h45-10h00	**B Damane**	Risk stratified clinical breast screening of HCWs at a tertiary hospital
	10h00-10h15	**J Edge**	The local control of T4 Breast Cancer Lesions at 5 years post treatment in the Free State. A Retrospective study from 01/01/2010 - 31/12/2014
	10H15-10H30	**D Grobler**	
TEA 10h30 – 10h45			

SESSION 7: VASCULAR SURGERY *Chair: Prof T Mulaudzi & Ms T Mbebe* (7+3 min) (10h30-11h40)			
7	**10h45-10h55**	**M Botha**	Outcomes of 17 consecutive aortic aneurysm and dissection repairs performed in a rural tertiary care facility, Limpopo Province.
	10h55-11h05	**G Padima**	Limb salvage rate of patients presenting with Chronic Limb Threatening Ischemia in Pietersburg tertiary hospital, Limpopo Province
	11h05-11h15	**C Khaeane**	Outcome of aorto bifemoral bypass for aorto occlusive disease: A retrospective cohort study
	11h15-11h25	**S Nkomo**	The comparison of duplex ultrasound and digital subtraction angiogram in patients with tibio-peroneal disease who need revascularisation: A Pilot Study: A retrospective cohort study
	11h25-11h35	**N Nange**	The Prevalence Of Asymptomatic Peripheral Arterial Disease And Associated Risk Factors In HIV Patients On Antiretroviral Therapy At A Tertiary Hospital In Pretoria
	11h35-11h45	**T Mokoala**	A retrospective study, to determine the average life expectancy of diabetes mellitus patients' post-lower extremity amputation at Leratong Hospital (LLA).
	11h45-11h55	**S Agbo**	Endovascular versus Open Surgical Repair for Infrarenal Abdominal Aortic Aneurysms: A Cost Analysis in a Central South African Tertiary Academic Centre

SESSION 8a: SURGICAL GASTRO-ENTEROLOGY & GENERAL SURGERY (7+3 min) *Chair: Mr L Ferndale & Dr J Devar* (12h0013h20)			
8A	**12h00-12h10**	**S Sithole**	Retrospective review of Histopathology results of patients who underwent Thyroidectomy in Pietersburg Hospital
	12h10-12h20	**G Padima**	The incidence of thyroid malignancy in patients presenting with goitre in Pietersburg Tertiary Hospital, Limpopo
	12h20-12h30	**E Kayombo**	The cut off age for gastroscopy in the management of dyspepsia patients in a tertiary hospital in central South Africa
	12h30-12h40	**V Khumalo**	Retrospective review of early Laproscopic transcholedochal bile duct exploration
	12h40-12h50	**J Musas**	Analysis of Cholecystectomies at Chris Hani Baragwanath Academic Hospital (CHBAH)
	12h50-13h00	**K Pillay**	Clinicopathological presentation of liver abscesses at two Johannesburg Academic Hospitals
	13h00-13h10	**N Osei-Kuffour**	Effect of the timing of Endoscopic retrograde cholangiopancreatography in patients with acute cholangitis at Steve Biko Academic Hospital
	13h10-13h20	**B Motaung**	Patient blood management: Assessment of Surgical, Medical and Anaesthetic specialist trainees' transfusion medicine knowledge at the University of the Free State
LUNCH: 13h20- 14h10			

SESSION 8b: SURGICAL GASTRO-ENTEROLOGY & GENERAL SURGERY (7+3 min) *Chair: Mr F Madela & Prof T Luvhengo* (14h10-			
8B	**14h10-14h20**	**N Tshuga**	The accuracy of White Cell Count (WCC) and C - reactive protein (CRP) in diagnosing Acute Appendicitis (AA) at a tertiary hospital
	14h20-14h30	**M Ramawela**	An audit on the use and outcomes of Bogota bag technique in the management of open abdomen at a regional hospital in Durban, South Africa
	14h30-14h40	**P Kgote**	Evaluation of stoma reversals at a tertiary academic institution
	14h40-14h50	**C Seakamela**	Laparoscopic hernia repairs at Pietersburg Hospital, Limpopo South Africa: implication for training
	14h50-15h00	**A Hirjee**	Incidence/spectrum of microbiological infection in surgical wounds at a South African quaternary hospital
	15h00-15h10	**S Parthab**	A scoping review of the corona mortis; its prevalence and variability bearing significance to the general surgeon.
	15h10-15h20	**K Dookhony**	Impact on SARS-COV2 pandemic on emergency surgical services at Groote Schuur Hospital
	15h20-15h30	**J Nanack**	Factors influencing outcome in patients with perforated peptic ulcer disease at a South African tertiary hospital
15h30-15h45		**PRIZE GIVING: Dr Jenny Edge** **CLOSURE AND ANNOUNCEMENT OF NEXT MEETING: Dr Jenny Edge**	

ABSTRACTS

SESSION 1: PRIZE SESSION- BUNNY ANGORN AND BERT MYBURGH PRIZES

SRS50-01

FACTORS IN THE INTER-HOSPITAL TRANSFER OF PAEDIATRIC SURGERY PATIENTS THAT INFLUENCE THE SHORT-TERM OUTCOME

GL CHUMA , PROF M BRAND

Affiliation: UNIVERSITY OF PRETORIA

Background: An inter-hospital transfer (IHT), also known as inter-facility or secondary transfer, is needed when the diagnostic and therapeutic facilities required for a patient are not available at the base hospital. IHTs are hazardous aspects of paediatric surgical care. In South Africa (SA) the risk of adverse events during transfer is especially high, as many base hospitals have limited resources and skills, and patients must travel long distances to reach a tertiary facility which can offer appropriate specialized care. This study was undertaken to evaluate IHT and their effect on the short-term outcomes of patients, in an effort to ensure safe and effective IHTs of paediatric surgery patients.

Method: This prospective study followed all patients with paediatric surgical emergencies who were transferred from peripheral hospitals to our unit over a one year period. The association between IHT and thirty day mortality was investigated. Upon arrival an emergency services checklist of the patient was completed to assess the transfer of the patient from the referral hospital, clinical status and PRISM (Paediatric Risk of Mortality) III score of patient on arrival, and delays to definitive management. Univariate logistic regression was used to obtain odds ratio and ninety five percent confidence intervals for the association between IHT factors and mortality.

Results: A total of a hundred and twenty-three patients were included, median distance travelled was a hundred and ten kilometres. The median PRISM score was four. Of the factors included in the study only patients without a functioning intravenous infusion (IVI) lines during their transfer had a significant increase in mortality. We observed that patients without functioning IVI lines had a significantly higher median PRISM score than the patients with functioning IVI lines.

Conclusion: For safe IHT it is imperative that each patient has a functioning IVI line throughout the transfer. There is also a need especially in our unit for protocols and guidelines to ensure safe transfer of patients. Furthermore, the PRISM scoring system may be used as an objective tool to triage patients before transfer from referring hospitals.

SRS50-2

Late referrals of anorectal malformations: limiting the burden of a late diagnosis with outreach and education in Central South Africa

H du Preez, S Dube, M Dyani, K Letsie, L Mofokeng, A Radebe, Z Shamase, SM le Grange

Introduction: Despite standardised screening during routine neonatal examinations, the diagnosis of anorectal malformations is often missed. This phenomenon is a global problem, as even in high income countries late diagnosis occurs in between 32 – 53 % of cases. Late diagnosis leads to significant morbidity and mortality. Our study aims to improve knowledge and diagnosis with a basic outreach education and training program.

Methods: A prospective study was done that included all healthcare staff working in labour and neonatal wards in the major referral centres in the Free State province. Participants underwent a baseline knowledge test regarding anorectal malformations. This was followed by an in-person training session by a paediatric surgeon. A post training questionnaire was done to measure their ability to diagnose anorectal malformations directly afterwards.

Results: Our study included 168 participants from primary, secondary, and tertiary level hospitals, spread across all levels of healthcare from nurses to paediatric consultant doctors. Only 78,2 % of our cohort had prior formal training on the first examination of the new-born and only 35,5 % had prior training in anorectal malformations. On subgroup analysis, only 47,8 % of nurses had formal training on performing the first examination on a neonate and only 25 % of our cohort in tertiary centres had any preceding training in anorectal malformations. The pre-training questionnaire revealed that 18 % of our cohort discharged infants prior to passing the first meconium. Vestibular and perineal anus was most frequently miss-diagnosed in the pre-training questionnaire (71 % and 77,6 %) but improved to 25 % and 36 % respectively. Other clinical signs of anorectal malformations such as flat buttocks were missed by 72,6 % of our cohort. Pre- and post-training test scores improved significantly (42 % vs 71 %).

Conclusion: Baseline knowledge of healthcare workers regarding the diagnosis of anorectal malformations is inadequate. Protocols that only use first passage of

meconium to exclude an anorectal malformation is inadequate, due to a high number of missed perineal and vestibular fistulas where passage of meconium is possible. Continued outreach and education are needed, with special attention given to nurses who do the majority of the first examinations of the neonate in primary and secondary level hospitals.

SRS50-03

Variations Of The Hepatic Artery In A Sample Of The South African Population

A Akpabio; I Sardiwalla, N Xhakaza

Affiliation: Sefako Makgatho Health Sciences University, Dept of General Surgery, Ga-Rankuwa, 0204

Introduction: Variations in the vascular configuration of the hepatic artery and its branches should be considered when planning surgical interventions on the liver, pancreas and gallbladder. Population-specific variations in vascular anatomy have previously been demonstrated in the South African population. However, with regard to the vascular anatomy of the hepatic arterial system, no data exist for the South African population. This study aimed to determine and describe the prevalence of hepatic artery variations in South African cadavers.

Method: 30 common hepatic arteries of 30 South African cadavers were dissected, and arterial patterns were classified according to the method described by Michels (1966). HREC number: SMUREC/M/185/2022: PG

Results: A total of 21 (70%) of the 30 that were studied were male. There were 21 (70%) Africans and 9 (30%) Caucasians. Michels's Type 1 was recorded in 16/30 (54%) cases. Types 5 and 9 were seen in 3/30 (10%) cases each. Two (6.7%) cadavers had Type 3. Types 2, 4, 6 and 7 accounted for 1/30 (3.3%) cases each. Type 8 was not observed in the current study. Two (2) of the 30 cases (6.7%) were Type 10 or unclassified patterns. Common hepatic artery (CHA) genesis was shown to stem from the celiac trunk in 26 (86.7%) cadavers. The right hepatic artery (RHA) originated from the proper hepatic artery in 24/30 (80%) cases and in 23/30 (76.7%) of cases involving the left hepatic artery. The RHA served as the source of the cystic artery in 29/30 (96.7%) cases.

Conclusion: According to the study's findings, the South African population has higher levels of anatomical variance than other populations. Our analysis showed that variations were present in 46.66% of the cadaver population that was analysed utilising Michels's categorisation as a reference. The two most common varieties were Type 5 (10%) and Type 9 (10%). While the current study's sample is not large enough for conclusive findings, the results reveal a trend towards a most likely hepatic artery variation in the South African population, being Type 5 and 9. Larger studies will need to be conducted for conclusive findings.

SRS50-04

Mass spectrometry-based analysis demonstrates proteomics signatures associated with Pancreatic ductal adenocarcinoma in South African patients

Ekene Emmanuel Nweke, Sindisiwe Buthelezi, Snegugu Dubazana, Previn Nacker, Nnenna Elebo, John Devar, Jones Omoshoro-Jones, Martin Smith

Affiliation: Department of Surgery, University of Witwatersrand, Council for Scientific and Industrial Research, 0001 Pretoria, South Africa.

Introduction: Pancreatic ductal adenocarcinoma (PDAC) is a devastating disease with almost an equal number of incidences and mortality annually. Patients of African ancestry have the poorest prognosis but are relatively understudied. A previous study in our laboratory showed proteomic signatures in tumour samples (Nweke et al 2020). In this study, we sought to apply a liquid biopsy-based approach to identify proteins in plasma associated with PDAC patients.

Method: Blood samples were obtained from 64 PDAC patients and 64 patients with benign biliary pathologies (as controls) who were admitted to Chris Hani Baragwanath Academic, Hospital, Johannesburg South Africa. A peptide amount of 0.5µg of each plasma sample was analysed with Evosep One coupled to AB Sciex TripleTOF 5600 MS in a SWATH acquisition mode. Acquired MS/MS data were processed using SpectronautTM 16. A student t-test was used to compare both groups and a minimum 1.5-fold change and FDR-adjusted p-value (q-value) ≤ 0.01 were applied. Pathway analysis was performed using REACTOME v3.7.HREC number: M220735.

Results: A total of 23 upregulated and 15 downregulated when comparing PDAC plasma samples to the controls. The proteins were mainly involved in pathways such as platelet degranulation, acute-inflammation response, and immune effector processes. Furthermore, we compared the expression of these dysregulated proteins to our previous study using tissue biopsies. Seven proteins were upregulated in both plasma and tissue samples, these included SAA4, APOL1, PON1, APOA1, APOA2, IGKV 1-5 and APOM. Four of the proteins were downregulated in plasma but upregulated in tissue samples including SAA1, SAA2, SERPINA3 and APOB.

Conclusion: The study identified proteomic signatures

in the plasma of South African PDAC patients. Some of these proteins have been associated with tumour progression and metastasis including SAA4, APOL1, PON1, and APOB. This helps our understanding of the disease progression in our population. Importantly, the proteins identified have potential utility as non-invasive biomarkers.

SRS50-05

The Prevalence Of Asymptomatic Peripheral Arterial Disease And Associated Risk Factors In Hiv Patients On Antiretroviral Therapy At A Tertiary Hospital In Pretoria

O Mongale; NJ Cloete; NC Kalenga

Affiliation: Sefako Makgatho Health Sciences University, Dept of General Surgery, Ga-Rankuwa, 0204

Introduction: HIV is a common disease in sub-Saharan Africa. In South Africa, there are 7.8 million people living with HIV and 72% are on HAART regimen. Antiretroviral therapy has significantly improved the life expectancy of HIV-infected patients. However, HAART also potentiates early atherosclerosis, which also leads to peripheral arterial disease. To evaluate the prevalence of asymptomatic peripheral arterial disease in HIV-infected patients on antiretroviral therapy.

Method: A prospective review of patients' records was performed from 11 November 2021 to 31 December 2022. All patients above 18 years of age who were HIV-infected on HAART were evaluated for PAD using an automated ankle brachial index measuring device. An Edinburgh claudication questionnaire was used to exclude patients with symptomatic peripheral arterial disease.HREC number: SMUREC/M/239/2021: PG

Results: Records of 100 patients with HIV on antiretroviral therapy were prospectively evaluated. Patients in this study were predominantly female (69%). The average age of the patients was 45 (± 13.31) years, with a range of 19 to 74 years. The majority of the participants (n = 93; 95.88%) had a normal ABI of 0.9–1.4. The mean ABI was 1.15 (± 0.1330) with a minimum and maximum of 0.97 and 1.9 respectively.

Conclusion: Our study did not show an increase in the prevalence of PAD in HIV-infected population on HAART. Therefore, routine surveillance of PAD in HIV-infected patients on HAART is not recommended and should be followed up as an HIV-negative population.

SRS50-06

USE OF HOUSEHOLD ITEMS TO AUGMENT (SUPPORT) ONLINE BASIC SURGICAL SKILLS TEACHING

Ebrahim S, Mewa Kinoo S, Naidoo M, Van Wyk JM

Affiliations: Department of Surgery, Nelson R Mandela School of Medicine, College of Health Sciences, University of KwaZulu-Natal, Durban, South Africa. Department of Clinical and Professional Practice, Nelson R Mandela School of Medicine, College of Health Sciences, University of KwaZulu-Natal, Durban, South Africa

Background: Due to the COVID-19 pandemic, all teaching and learning of final year surgery students was transitioned to an online teaching platform. Routine student evaluations found that students who had received only online teaching perceived themselves as having gaps in the acquisition of basic surgical skills. To address this immediate gap, an online knot-tying skill exercise was introduced.

Aims: We explored medical students' perceptions of their learning and engagement in a knot-tying skill video demonstration.

Methods: Students were instructed to view the recording and practice the skill using items available at home. They recorded their attempts and uploaded it onto Flipgrid. Completed attempts were scored using an adapted Objective Structured Assessment of Technical Skill (OSATS) validated tool. An online survey and a Focus Group Discussion (FGD) was conducted to get a deeper understanding of their experiences. Statistical data analysis was conducted in R Statistical computing software (R Core Team, 2020, version 3.6.3) and results presented in the form of descriptive and inferential statistics. Each video attempt was scored independently by two assessors; reliability was determined using interclass correlation; statistical tests were conducted at 5% level of significance. Responses to open-ended survey questions and qualitative data from the FGDs were analysed using thematic analysis. This study was approved by the Biomedical Research Ethics Committee of UKZN (BREC/00002686/2021).

Results: Seventy-one students participated in the exercise. 83.1% (59/71) of students were able to follow the steps in the video demonstration, and 91.5% (65/71) expressed confidence in their ability to perform the skill. Median number of times needed to practice before video submission was 7.0 (Q1-Q3: 5.0-10.0). Using the OSATS tool, scored out of 21 points; median (Q1-Q3) scores obtained were 19.0 (17.0-20.0) for assessor 1 and

18.0 (17.0-20.0) for assessor 2. The overall scores showed good reliability between assessors based on interclass correlation (0.86, 95% CI 0.79-0.90). Insights from the FGD on students' experience with the skills learning exercise were generally positive: "So for me this experience was quite pleasant, it was simple to do, simple to follow, it was quite enjoyable" and "I really enjoyed it, it was also fun to just do something different, as opposed to all usual learning methods". Challenges expressed were the need for in-person training and immediate feedback.

Conclusion: Basic knot-tying can be taught with acceptable efficiency and student satisfaction using online methods with items available at home.

SRS50-07

Macrophages: investigating polarity as mechanism of plasticity

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Introduction: Increasing evidence suggests that the innate immune system is a major player in modulating tumour progression. Macrophages are a dominant cell type in the tumour microenvironment, able to shape tumour progression. Depending on interactions with other cells and secreted factors, macrophages (M0) can be polarized into either an anti-tumorigenic phenotype (M1) or pro-tumorigenic phenotype (M2). We postulate that changes in polarization, rather than being a linear switch, reflect a mutable plasticity that can additionally be spatiotemporally defined.

Method: In the present study we set out to determine the response of RAW murine macrophages to in vitro culture conditions under major polarization inducers, IFN-γ, LPS and IL-4. Cells were monitored over 72 hrs to determine morphological changes using phase contrast microscopy. Functional assays included neutral red to determine phagocytosis potential and assessment of nitrite ions in lieu of nitric oxide production. Cells are being phenotypically analysed for macrophage markers including CD14, CD80, CD40, CD209 and CD23 to determine polarity, and whether this is indeed plastic. Lastly, we are preparing samples for proteomics analysis. HREC number: M190522.

Results: Preliminary results show traditional morphological presentation of M0 can, under standard culture conditions, alter to M1 and M2, although inducers of polarization do enhance the presentation of spindle-shaped (M1) or dendritic-shaped cells (M2). Immunophenotyping identified M1 polarisation; increasing over time. However, the population remains heterogeneous and plastic with respect to density and duration of culture. M2 immunophenotyping remains technically problematic, but nitrite ion detection was low, as expected in comparison to M1 cells. M1 phagocytosis capacity was further highlighted by the uptake of neutral red, with images showing cellular heterogeneity as well. Our results thus far indicate that RAW macrophages are highly susceptible to culture conditions, and while they polarize to M1 or M2 phenotypes, this is by no means a linear switch – considerable heterogeneity is present.

Conclusion: We postulate this represents the capacity for macrophages to retain plasticity linked to their evolutionary function in innate immunity. This plasticity by its very nature can then be subverted for tumour progression. Subsequent studies and results may bear out these postulations.

SRS50-08

The Impact of COVID-19 Pandemic on General Surgery Registrar training in South Africa.

Morakabi Jacob Motsei, Xan Swart, O.D Montwedi

Background: At the start of the COVID-19 pandemic, academic learning was paused, rotations put on hold, clinical and surgical exposure decreased, research paused, and exams postponed. Since then, activity to get things going started. Exams were written in a new format, academic learning continued on different platforms, adapted "socially distanced" research methods commenced, and clinical and surgical exposure also conformed to a COVID-19 environment. The coronavirus pandemic has affected medical training globally, including South Africa, specifically in the surgical disciplines. However, this has not been researched in South Africa. The project will help in identifying the positive and negative effects of the COVID-19 Pandemic on the training of general surgery registrars in South Africa.

Methods: A questionnaire was sent to a finite population consisting of 250 registrars from 8 universities with an average group size of 31 per university. This was a cross-sectional observational survey that included all University affiliated General Surgery departments in South Africa. Measuring Waves 1,2 and 3 of the COVID-19 from March 2020 to December 2021.

Results: We received 67 responses from a possible 250 surgical registrars in South Africa, equating to a

33.5% response rate. There was a statistically significant decrease in exposure to elective, emergency surgery, and surgical outpatient cases. A significant proportion of respondents, 62.7%, reported feeling more burned out during the COVID-19 pandemic as compared to before the pandemic. During the COVID-19 pandemic, 67.2 percent of respondents indicated that they had fewer educational didactics. 85.1% reported spending less time on research activities, and 68.7% reported spending less time with family/significant others.

Conclusion: The COVID-19 pandemic has had a negative effect on general surgery training in South Africa with regard to clinical exposure and academic teaching. The online didactics from the universities helped breach the gap in academic teaching and should be kept by the institutions going forward, to forge further collaborations between the universities, giving access to a wider range of information.

SRS50-09

HISTOMORPHOMETRY CHANGES IN THE SMALL INTESTINAL EPITHELIUM AND PANETH CELLS OF MALE SPRAGUE DAWLEY RATS EXPOSED TO COMBINATION ANTIRETROVIRAL DRUG (ATRIPLA) AND ALCOHOL

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Introduction: Alcohol intake disrupts ARV drug bioconversion and innate immunity of the gut. Paneth cells are the main regulator of innate immunity of the gut.

Objective: The study evaluated the appearances of Paneth cells and crypt-villous morphology in small intestine of rats exposed to alcohol and/or combination anti-retroviral therapy (cART).

Methods: Thirty-two adult male HIV naive Sprague-Dawley rats which were treated with normal saline, alcohol with or without cART were utilized. The animals were sacrificed after 112 days. Segments of small intestine were collected and studied. Morphology of Paneth cells, stem cells, crypt-villous axis and the muscular wall of the jejunum and ileum were assessed. Measurements were done using ImageJ software. Analysis used STATA SE 15 statistical software. Ethical clearance to conduct the study was obtained from the Animal Ethics Screening Committee (AESC) of University of the Witwatersrand (2018/011/58/C).

Results: Analysis showed significant ($p < 0.05$) reduction in villous height and width, crypt's depth and width, and villous stripping. Muscular wall thickness, number of stem cells and staining intensity of Paneth cell granules in alcohol + cART treated group were increased. All experimental groups showed increase in the number of villi. The shortest villi, shallowest crypts and the least number of crypts were seen in the ileum of the animals that had cART alone. The alcohol alone group had the least number of villi but the greatest increase in collagen content. Paneth cells were noted in the proliferation zone of the intestines following combined treatment.

Conclusion: Concomitant use of alcohol and cART led to thickening of the intestinal wall, villous shortening and/or stripping, crypt depth reduction, appearance of Paneth cells in the proliferation zone and an increase in intestinal stem cells. The structural changes in the small intestine and the Paneth cells may adversely affect the regulation of gut innate immunity. These findings are invaluable in the management of HIV patients considering the critical significance of innate immunity amongst HIV patients.

SRS50-10

A Novel Hands-On Technique to improve intracorporeal suturing in Minimal Access Surgery Training

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Introduction: We developed a minimal access surgery (MAS) intra-corporeal suturing (ICS) simulation technique that required daily use items and could be practised at home. We conducted a study with surgical trainees to investigate how this method impacted the training of MAS ICS.

Method: We developed a novel technique to simulate MAS intra-corporeal knot-tying. We used shoestrings as sutures, an arm of a kettle and fingers as the jaws of needle holders. Sixteen trainees were randomly allocated to two equal groups. The control group watched a video simulation and was tested over a period of time. The test group was tested, performed the novel simulation training and was retested. The time to completion of a loop of a reef knot and following a set of rules were documented. Ethics: BREC/0000/5035/2022.

Results: The control group's mean time improved after

two weeks from 200s to 85s. The test group had an initial mean time of 151s and a post-training mean time of 28.5s. This was statistically significant with the control group (P = 0.383) and the test group (P = 0.008). There was an improvement from the movement of both instruments to one instrument, the crossing of instruments and more horizontal movement of the instruments when forming loops after the novel simulation training.

Conclusion: We have developed a novel, cost-effective method of simulating MAS ICS using basic items and your hands. This technique is easily reproducible, and we hope that it can assist many more surgeons and trainees in improving their MAS ICS skills.

SESSION 2: TRAUMA SURGERY

SRSS2-01

Management of combined civilian penetrating extraperitoneal rectal and genitourinary injuries .

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Background:R ectal injuries are associated with significant morbidity. Primary repair of extraperitoneal rectal injuries, presacral drainage and distal rectal washout have become historical adjuncts.

Aim: A retrospective review was performed to determine the outcome of rectal injuries in an urban trauma centre with a high incidence of penetrating trauma where a simple surgical management approach to these injuries is practiced.

Methods: The records of all patients with a full-thickness penetrating rectal injury admitted to the Trauma Centre at Groote Schuur Hospital over an 8-year period (January 2012 – December 2019) were reviewed. Basic demographics, injury mechanism and perioperative management, anatomical site of the rectal injury, associated intra-abdominal injuries and their management were recorded. Infectious complications and mortality were noted. Intraperitoneal rectal injuries were primarily repaired, with or without fecal diversion. Extraperitoneal rectal injuries were generally left untouched, and a diverting loop colostomy done. Intraperitoneal bladder injuries were primarily repaired and extraperitoneal bladder injuries were repaired from within the bladder. Pelvic and spinal fractures were copiously lavaged. Presacral drainage and DRW were not routinely performed.

Results: One-hundred and four (101:LVGSW; 3:SW) patients with 134 rectal injuries [intraperitoneal (13), extraperitoneal (61), combined (30)] were identified. Transpelvic trajectory was identified in 75 (72.1%) patients. Associated lower urinary tract injuries [36 (34.6%)] included 29 (27.8%) bladder injuries [intraperitoneal (11), extraperitoneal (4), combined (14)] and seven (6.7%) distal ureter injuries. Fifty patients (48%) had associated bony injuries: sacrum (22), iliac (9), pubic ramii (5), coccyx (1), acetabulum (3), femur (6), vertebral fractures (3) and pelvic joints (5). Eight (7.7%) patients had 11 vascular injuries [EIV(2), IIV(2), EIA(2), IIA(2), brachial artery(1) and femoral vein(1)]. Two extraperitoneal rectal injuries were repaired. Ninety-one- diverting loop colostomies and three Hartmann's type procedures were done. None had presacral drainage/DRW. Nine (6.7%) fistulae were recorded: four rectocutaneous, three rectovesical, one small bowel cutaneous and one vesicocutaneous. There were 14 (13.5%) infectious complications: surgical site infection (13), iliac blade and sacral osteitis (2).

Conclusion: Extraperitoneal rectal injuries due to low-velocity trauma can be safely managed by fecal diversion without repair, DRW and presacral drainage with minimal morbidity. Concurrent extraperitoneal bladder injuries can be safely repaired from within the bladder.

SRSS2-02

A Pilot Study in the Review of Female Trauma

Kayla Rossini

Introduction: Trauma is a serious public health concern in South Africa. Within this epidemic there are subsets of vulnerable populations which are not as well studied. One of these vulnerable populations are women. This paper focuses on the spectrum of female trauma at a busy South African trauma center.

Method: The Pietermaritzburg Metropolitan Trauma maintains an Electronic Hybrid Medical Registry (EHMR). The first 190 female patients recorded on the EHMR were reviewed.

Results: 190 patients were reviewed. Median age – 26. 107 (56%) from rural base facilities and 83 (44%) from urban facilities. 46 (24%) presented with penetrating trauma, 128 (67%) with blunt trauma and 14 (7%) with other mechanisms. 48 (25%) were involved in motor vehicle accidents and 27 (14%) in pedestrian vehicle accidents. 22 (12%) had gunshot wounds and 19 (10%) were stabbed. 12 (6%) suffered snake bites. 68 out of 190 (35%) had injuries due to assault. 121 (64%) had CT scans,

80 (66%) were positive. 64 (34%) required operative care and 123 (65%) were managed conservatively. 19 patients (10%) required ICU care. The mortality rate was 3% (6 of 190).

Conclusion: Most females suffer blunt trauma – most commonly motor or pedestrian vehicle accidents. One third of the patients were assaulted which reflects the high rate of gender-based violence in South Africa.

SRSS2-03

Outcomes of failure of selective non-operative management of penetrating abdominal trauma

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Background: Selective nonoperative management (SNOM) of penetrating abdominal trauma (PAT) is routinely practised with strict protocols in our trauma centre. The aim of this study is to report the outcomes of patients who failed NOM.

Methods: All patients for the period (01 May 2015 – 31 January 2018) who presented with penetrating abdominal trauma were reviewed. The patients were categorised into two groups: immediate laparotomy (haemodynamic unstable, peritonitis, evisceration) and delayed operative management (DOM) (failed SNOM) groups. The outcomes of the two groups were compared in terms of postoperative complications as a primary outcome, with length of hospital stay and mortality as secondary outcomes.

Results: A total of 944 patients with PAT were managed over the 33-month study period. After excluding 100 patients undergoing initial damage control surgery; and 542 (52.4%) and 402 (47.6%) patients were treated with immediate laparotomy and NOM, respectively. In the NOM cohort, 359 (89.3%) were managed successfully without laparotomy. Thirty-seven (86.0%) patients in the DOM group had a therapeutic laparotomy and six (14.0%), an unnecessary laparotomy. Nine (20.9%) patients in the DOM group developed complications. There was no difference in the complication rates between the immediate laparotomy and DOM group. The hospital length of stay (LOS) was comparable between the two groups. There was no mortality reported in the NOM group.

Conclusion: Delayed laparotomy for PAT in patients initially selected for NOM, irrespective of mechanism, results in morbidity, mortality and hospital stay are comparable to those who underwent immediate laparotomy.

SRSS2-04

The impact of thromboelastography on patients with penetrating abdominal trauma requiring intensive care

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Background: Trauma induced coagulopathy (TIC) is a complex multifaceted process associated with higher mortality rates in severely injured trauma patients. Thromboelastography (TEG) is effective in detecting TIC allowing for goal directed therapy as part of damage control resuscitation. This retrospective study reviewed patients with penetrating abdominal trauma who required a laparotomy and admission to a critical care unit.

Methods: Patients over the age of 18 years, requiring a laparotomy for PAT (1 January 2016 to 31 December 2018) and transfusion of any blood products during the first 24 hours of injury were included. Patients with severe traumatic brain injury were excluded. Files of all eligible patients were retrospectively reviewed, and relevant data extracted. Two groups were analysed based on whether a TEG was done. Analysis included: demographics, admission vital data, 24-hour interventions, TEG parameters and 30-day outcomes.

Results: Eighty-four patients with a median age of 28 years were included. The majority (93%) suffered from a gunshot injury with 75% undergoing a damage control laparotomy. Forty-eight patients (57%) had a TEG done. Injury severity score, total fluid and blood products administered in the first 24 hours were all significantly higher in patients that had a TEG ($p < 0.05$). TEG profiles were: 42% normal, 42% hypocoagulable, 12% hypercoagulable and 4% with mixed parameters. Fibrinolysis profiles were: 48% normal, 44% had fibrinolysis shutdown and 8% had hyperfibrinolysis. Mortality rate was 5% at 24 hours and 26% at 30 days, with no difference between the two groups. High grade complication rates, days on a ventilator and intensive care unit length of stay were all significantly higher in patients who did not have thromboelastography.

Conclusion: Trauma induced coagulopathy is common in severely injured penetrating trauma patients. Thromboelastography did not impact on 24-hour or 30-day mortality but did result in a decreased intensive care stay and a decreased high grade complication rate.

SRSS2-05

Epidemiology of vascular injury in Trauma-ICU patients over a decade – the KZN experience

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Background: Vascular injuries are among the causes of preventable death and disabilities. Vascular injuries are observed in both the civilian and combat setting. The mechanism of injury can either be penetrating or blunt, the latter being associated with high mortality and morbidity. Younger patients, especially males, tend to be involved more frequently. The injured vessel, mechanism of injury, condition on presentation are important considerations prior to the management. Well experienced clinician is needed to achieve an early diagnosis and offering of prompt management.

Methods: This retrospective cross-sectional study included patients with vascular trauma requiring trauma-ICU admission between January 2013 and December 2021. The additional data was collected from January 2022 to December 2022, prospectively. All patients that were admitted in trauma ICU with vascular injury with or without other associated injuries were included in the cohort. Patients who died with the suspicion of vascular injury, prior the confirmation of the injury were excluded. Injuries were either confirmed by imaging or via exploration. Frequencies and percentages were calculated to summarize categorical data. Median, quartiles and rage were calculated to summarize numerical data.

Ethical clearance was granted by the University of KwaZulu-Natal BREC (BREC 0004353/2022) and the Department of Health. All data was de-identified in the data collection sheet.

Results: During the 10-year period a total of 2805 patients were treated at the Trauma ICU. A total of 153 (5.5%) patients had vascular trauma, with or without associated injuries met the eligibility criteria and were enrolled in the study. Among the total of 153 vascular trauma patients, 140 (91.5%) were males while the remaining 13 (8.5%) were females. Penetrating trauma accounted for 99 (64.7%) of the cases, which is significantly higher than the blunt trauma component of 54 (35.2%) cases. Of the penetrating injuries 51 (33%) were due to stab, 46 (30%) were due to gunshots, one (0.6%) was due to bush knife and one (0.6%) accidentally poked by a bicycle spoke. Among the blunt trauma cases 53 (34.6%) were due road traffic collisions, while one (0.6%) was due to self-inflicted hanging.

Conclusion: Vascular injury in patients requiring ICU admission may be associated with high morbidity, with significant associated injuries. Prompt diagnosis should be achieved to save life or to preserve the limb. The fact that the affected patients are young the morbidity in the form of limb loss reduces economic re-integration, relegating them to disability grant recipients. To deal with this devastating form of injury the department of health in collaboration with other relevant government departments needs to develop practical effective preventive measures to avoid these injuries.

SRSS2-06

An Update on Civilian Penetrating Duodenal Injuries: A Single Center Experience

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Background: Penetrating duodenal injuries are infrequent occurrences. The purpose of this study is to elucidate the surgical management of such injuries and to establish the rates of duodenal leaks, morbidity, and mortality.

Methods: A retrospective review was conducted on patients with penetrating abdominal trauma treated at Groote Schuur Hospital/Trauma Unit during the study period of 72 months (2014-2019). Demographic variables including age and gender were recorded, and pre-operative assessment and operative treatment as well as post-operative complications which were extensively documented using the Clavien-Dindo classification (CDG).

Results: Nine-hundred and seventy patients with penetrating abdominal trauma were managed during the study period. Forty-one (4.2%) male patients with a median age of 26 years had a penetrating duodenal injury. Thirty seven (90%) patients had a gunshot injury. Eighteen (43.9%) patients underwent damage control

surgery (DCS). Six (14.6) patients developed a duodenal leak (DL). All patients with DLs developed complications. Five (83.3%) patients with DLs died secondary to severe sepsis. Fifteen (36.5%) patients died.

Conclusion: Simple duodenal repair appears to be the best management option for penetrating duodenal injuries with similar outcomes to patients with complex duodenal repairs.

SRSS2-07

A retrospective review of the management and outcome of patients with retained intrathoracic foreign bodies managed with video-assisted thoracoscopic surgery (VATS)

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Introduction: The advancement in minimally invasive surgery has transformed thoracic surgery. Video assisted thoracoscopic surgery (VATS) in the acute setting has been used for a variety of indications however there is a paucity of data describing its use for the management of intrathoracic foreign body removal and comparing outcomes to open thoracotomy.

Methods: A retrospective chart review of patients requiring surgical management of a retained intrathoracic foreign body during the period of January 2005 to December 2021 by the Cardiothoracic surgical division at Inkosi Albert Luthuli Central Hospital was undertaken. HREC number: BCA207/09

Results: Forty-two patients requiring surgical removal of retained foreign bodies were identified. Of these 16 (38%) were pediatric patients and 26 (62%) adults. The average age was 24 years (range 6mnths – 69 years) with a strong male predominance, 33 (78.6%) male and 9 (21.4%) female. VATS was used successfully in 11 (26%) if these patients and 12 (28%) required conversion to thoracotomy. Hospital stay averaged at 9 days with most uncomplicated foreign body removals discharged within 1-2 days. Fourteen patients required post operative ICU admission, 50% being those post aspiration injury. Injury pattern was divided into aspiration 13 (31%), trauma 25 (60%) or iatrogenic 4 (9%) causes. Among the trauma patients 23 were adult and 2 pediatric. Of these, 8 were managed successfully with VATS and 12 required conversion to thoracotomy or sternotomy.

Conclusion: We consider VATS for removal of an intrathoracic foreign body to be safe and effective in the haemodynamically stable patient.

SRSS2-08

The impact of colon injuries on the outcome of gunshot wounds to the abdomen

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Introduction: Factors predicting morbidity and mortality in patients with colon-related gunshot injuries and the management of these injuries are not always straightforward. This study aimed to assess the impact of abdominal gunshot wounds (GSWs) with colonic injuries on patients' overall outcomes.

Methods: This prospective observational study included data from admission, theatre and postoperative care. Patients were followed up until death or 60 days after the injury. HREC: 789/2019

Results: Of 132 patients with abdominal gunshot injuries, 71 (54.0%) had colon injuries. The colon injury group had a higher incidence of laparotomy wound sepsis ($p<0.0001$), bullet exit wound infection ($p<0.0001$), tract necrotizing fasciitis ($p<0.0001$), relook laparotomies ($p<0.0001$), and a longer hospital stay ($p<0.0001$). At least one colon-related complication (CRC) occurred in 73.2% of patients. Septicemia ($p=0.002$) or anastomotic leak ($p=0.041$) was associated with a penetrating abdominal trauma index (PATI) ≥25. Most patients who developed tract necrotizing fasciitis did not have their tract debrided/ lavaged ($p=0.004$). The type of colon repair did not influence length of hospital stay ($p=0.688$) or developing a colon-related complication ($p=0.578$). Between 18-25 years ($p<0.0001$) and >2 organs injured ($p=0.018$) was associated with colon-related complications. Patients 18-25 years were 4.748 times more likely to develop a colon-related complication ($p=0.046$).

Conclusion: Gunshot wounds to the abdomen with associated colonic injuries had an overall worse outcome in terms of infection-related complications, number of relook laparotomies required and length of hospital stay. Associated colon injuries demonstrated a statistically significant increased risk of developing laparotomy wound sepsis, trauma wound infection and tract necrotising fasciitis. Some infection related complications are preventable and measures such as lavage/ debridements of GSW tracts and wounds should

strongly be recommended as standard procedure to decrease the high rate of colon-related morbidity. Different management methods of the actual colonic injury in this study showed no overall difference between length of hospital stay or development of a CRC. Patients between the ages of 18-25 years were 4.7 times more likely to complicate.

SRSS2-09

The proportion of trauma patients with urological injury and their management at Steve Biko Academic Hospital

Dr HTI Amaambo, Prof OD Montwedi

Background: Trauma remains a major cause of death and social problem all over the world. South Africa reports a high number of trauma cases. Among these cases are urological injuries which are often missed on initial presentation. This study aims to determine the frequency of urological trauma among other trauma to the torso, as well as to study the pattern and associations of these urological injuries at Steve Biko Academic Hospital.

Materials and Methods: The study was a cross-sectional record review of 310 patients who sustained trauma to the torso, assessed by the trauma and urology units between 2015 and 2018. The mechanism of injury, type of urological injury and severity were recorded. Characteristics of these injuries were further analysed to detect any significant pattern. The management and outcomes at 28 days were further assessed. Iatrogenic urological injuries were excluded in this study.

Results: 32 of 310 (10.32%) patients enrolled were found to have urological injuries. Of these urological injuries, 56% were to the kidney, 34% to the bladder, 16% to the ureter, 3.1% to the urethra and 3.1% to the scrotum. Majority of these urological injuries were a result of blunt trauma in comparison to penetrating trauma. The commonest grades of injuries recorded according to the AAST. 24 of the 32 patients who sustained urological injuries were further found to have associated solid organ injuries to either liver or spleen or both. Most of these patients with both urological injuries and associated solid organ injuries were found among patients who sustained blunt trauma to the torso. Most patients who sustained trauma to the torso suffered Serious and Severe trauma according to the Injury Severity Score. However, the odds of having a urological injury were 3.33 (95% CI: 1.34-8.30) if a patient had a Critical injury severity score.

Conclusion: 10% of patients with trauma to the torso had associated urological injuries. Renal injuries were by far the commonest, followed by bladder injuries. A Critical injury severity score and associated injuries to solid organs in blunt trauma to torso may aid the clinician to have a higher index of suspicion for a urological injury.

SRSS2-10

Outcomes of trauma laparoscopy performed in a rural tertiary care facility, Limpopo Province.

Botha MR, Latakgomo MN

Purpose: The management of abdominal trauma using laparoscopy is still a contentious issue. Laparoscopic Surgery is seen as a viable alternative to open surgery and there is no difference in incidence of missed injuries or mortality in abdominal trauma patients receiving laparoscopy or laparotomy. In South Africa, there are major proponents of Trauma Laparoscopy. Feasibility and safety of trauma laparoscopy for blunt and penetrating injuries, as well as retroperitoneal injuries, have been demonstrated. The purpose of the study is to highlight the potential benefit of trauma laparoscopy in settings other than high-volume urban trauma centres.

Methodology: Operative data from Polokwane Provincial Hospital, a rural tertiary level hospital, in the resource-limited Limpopo Province of South Africa was analysed. The time period under investigation was May 2022 to April 2023. All cases of blunt or penetrating abdominal trauma undergoing laparoscopy were retrospectively collected and analysed.

Results: In the study, a total of 15 patients were identified (male = 13, female = 2), with a median age of 26 (age range 16 - 38). 14/15 of the patients sustained penetrating trauma and 1/15 blunt trauma. 10/15 patients had stab wounds, 2/15 had a gunshot wounds (GSW) and 1/15 patient had an iatrogenic injury due to misplaced intercostal drain (ICD). The blunt abdominal trauma was secondary to a motor vehicle accident (MVA) (n = 1/15). There were 7/15 negative laparoscopies and 3/15 non-therapeutic laparoscopies. One cholecystectomy was performed for an AAST grade II gallbladder injury. 4/15 had diaphragm repairs. 2/15 were converted to laparotomy (repair of diaphragm). 1/15 was complicated by wound sepsis. There were no missed injuries. No patients required re-operation. The mean Operative Time was 137 minutes. The mean Length of Stay (LOS) was 6 days. Mean total hospital stay for patients with no injuries was 3 days.

Conclusion: Trauma laparoscopy is a feasible approach in a rural setting where skills and equipment are available.

SRSS2-11

Safety Of Thoracoscopic Pericardial Window Using Single Lumen Endotracheal Tube In Penetrating Precordial Thoracic Injuries At Dr George Mukhari Academic Hospital

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Introduction: The practice of thoracoscopic assisted thoracoscopic surgery (VATS) has become the procedure of choice for both diagnoses and management of diseases of the pleura and pericardial conditions. The study's aim was to evaluate the safety of thoracoscopic pericardial window using a single lumen endotracheal tube after penetrating precordial injuries at Dr George Mukhari Academic Hospital.

Method: This was single centre cross-sectional descriptive study with a prospective data collection procedure looking at all patients with a suspected penetrating cardiac trauma in an area limited by the clavicles superiorly, the costal margin inferiorly and the midclavicular lines laterally, mainly left anterior precordial area and haemodynamically stable presenting at George Mukhari Academic Hospital trauma unit from January 2018 t o March 2021.SMUREC/M/147/2019: PG

Results: 30 male patients with penetrating chest trauma within the cardiac box and were haemodynamically stable were enrolled in the study. There were relatively high number of cardiac injuries in this study at 23,3%. The participants' age ranged from 17 to 43 years, with a median of 28 years. The majority of cases (53%) were between twenty-six and thirty-five years of age. Thoracic gunshot wounds and stab wound from any weapon were regarded as penetrating operation injuries of the thirty-patient recruited in this study, twenty-nine (96,7 %) had sustained stab wounds and one (3,3%) had sustained gunshot wounds. Mechanism of injury was predominantly stab wound (96.7%). The fifth intercostal space was most commonly injured in the cases (30%) followed by second intercostal space eight cases (26,7%). The time to assess saturation however was variable and ranged from 5 to 30 minutes. All patients maintained hemodynamic stability and oxygen saturation throughout the procedure regardless of pneumothorax CO2 pressure used. Procedure were mainly performed by junior anaesthetist staff, 23 cases (76,7%) were done by medical officers. There was no morbidity or mortality related to the procedure.

Conclusion: Thoracoscopic pericardial window using SLET intubation is safe airway management as a diagnostic tool for occult cardiac injuries in stable patients with penetrating precordial trauma.

SRSS2-12

Traumatic limb amputations in polytrauma ICU admissions

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Introduction*:* KZN has a high trauma burden. Polytrauma patients may suffer either an immediate traumatic amputation from the injury itself or present with non-viable limbs that require early amputation. The Trauma ICU at IALCH manages such complex polytrauma cases.

Method: This is a retrospective observational study to identify and describe the spectrum of disease to detail the management and outcome in polytrauma patients from IALCH TICU. SPSS version 28 was used to analyse the data. Descriptive statistics were used to summarise the data. Ethics approval: BREC 00001929/20.

Results: Twenty-four amputees were included in the analysis. Their mean age was 34 years with a standard deviation of 13 years and a range from 5 to 70 years. The most prevalent mode of injury was MVC pedestrian (42%), followed by MVC passenger (12%). 79% of cases were early amputation. There was only one late amputation (4.2%). The most common site affected was left lower leg (62%) followed by right lower leg (58.3%). Median ISS score was 10 with a range from 5 to 24. The median score of the males was 10 and 20 for the females. Most patients were discharged to base (58%) while 25% were discharged to mortuary. Two were discharged to home and a further 2 to rehab.

Conclusion: While amputation is uncommon in polytrauma patients, either occurring at the scene or early in the course of the management of polytrauma, the late amputation rate is low and suggests these were "completion" procedures.

SESSION 3: MEDICAL STUDENTS RESEARCH PRIZE SESSION

SRSS3-01

The Usability of a Personal Health Record in the Context of a Public Healthcare Facility in South Africa.

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Introduction: The use of digital technology in healthcare is gaining momentum worldwide, however its implementation and usability in developing countries, such as South Africa, remains largely unexplored. This study aimed to assess the engagement and usability of an established personal health record (PHR) platform, Patients Know Best (PKB), among patients and clinic staff at a public tertiary hospital in South Africa.

Method: A prospective cohort study was conducted at the Breast & Endocrine Clinic of Tygerberg Hospital. Adult patients with an email address, proficient in Afrikaans, English, or isiXhosa, and able to provide informed consent were enrolled. Clinic staff working within the clinic were also eligible for inclusion. Demographic information and information technology literacy/access data were collected using a questionnaire. Participants were then registered on the PKB platform and given six weeks to utilize it. A second questionnaire was sent electronically to assess the platform's usability. PKB recorded the engagement of patients and clinic staff throughout the study period. **HREC number:** N22/08/092

Results: Between November 2, 2022, and March 3, 2023, a total of 89 patients were enrolled, with 85 providing valid demographic submissions, and 84 successfully registered for PKB. However, only 39.3% (33/84) of the registered patients completed the registration process and used the platform. Furthermore, only 39.4% (13/33) of those who used the platform completed the usability questionnaire, indicating positive feedback regarding PKB's ease of use, simplicity, learnability, and user confidence. Among the clinic staff, three doctors were registered to use PKB, all of whom had adequate access to computers, cell phones, and the internet.

Conclusion: The study findings suggest that implementing an PHR platform in a South African context presents challenges to successful adoption. Despite a well-designed platform, a significant proportion of registered patients did not engage with PKB. This highlights the presence of barriers that need to be identified and addressed to facilitate the inclusion of patients in digital-based healthcare innovations. Unless these barriers are mitigated, the potential benefits of such technologies will not reach the intended beneficiaries in South Africa.

SRSS3-02

An Analysis of Referral Patterns of Traumatic Brain Injury to Groote Schuur Hospital Trauma Centre

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Background: Resources available for injury care varies greatly at the different hospitals across the Western Cape, with CT scans only being available during the day (08h00 – 16h00) on weekdays at district hospitals. Resource availability impacts transfers, which leads to inefficiencies and delays to definitive treatment and unnecessary overcrowding of the Trauma Center at Groote Schuur Hospital (GSH) which offers a 24-hour CT scanning service. The aim of the study is to describe the referral patterns and outcomes of patients with traumatic brain injury referred to Groote Schuur Hospital Trauma Centre.

Methods: The medical record numbers of patients who underwent a CT scan for suspected traumatic brain injury was retrieved from the GSH Radiology Department digital records for the period 01 February 2022 – 31 March 2022. Demographic data (age, gender), mechanism of injury and GCS was recorded. Referral pathway was determined, and final disposition of patients recorded.

Results: A total of 522 patients had a CT scan for suspected brain injury. The median GCS was 15 at both referral facilities and GSH. Mechanism of injury: blunt 456 (87,5%), sharp 73 (14,0%) and gunshot wounds 19 (3,6%) patients. Three hundred [300 (59.1%)] patients were referred from another facility (133 [26.2%] district hospital; 167 [32.95%] community health centre. Two hundred and eight [208 (40.9%)] were brought from the scene by EMS. Two hundred and forty two [242 (47,67%)] patients had an abnormal CT scan, while 266 (52,4%) had a normal CT scan. The neurosurgery service admitted 54 (10.3%) patients and 48 (9,3%) patients underwent a neurosurgical procedure. Three-hundred and two [302 (58,6%)] patients were discharged directly from the Trauma Unit.

Conclusion: More than half (58.6%) of patients referred for a CT scan for head trauma are discharged from the trauma unit which indicates significant additional costs and inefficiencies in the system.

SRSS3-03

THE MICROBIOLOGY AND RESISTANCE PROFILES OF DIABETIC FOOT SEPSIS AT CHARLOTTE MAXEKE JOHANNESBURG ACADEMIC HOSPITAL

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Introduction: Diabetic foot sepsis (DFS) accounts for 80% of extremity amputations worldwide. Timely initiation of appropriate empirical antimicrobial therapy during management of DFS is critical.

Objective: To determine the main causative organisms and their susceptibility profile in patients who presented with DFS.

Methods: Prior permission to conduct the study was received from local ethics committee (M210943). The study A review of records of patients 18 years or older who were admitted and managed for DFS over a 3-year period was conducted. Data retrieved included demographic information, presenting complaint, duration of diabetes, co-morbidities, clinical findings, type of specimen collected and results of MC&S, treatment and outcome. Statistics and Data Science (STATA/SE) software version 17.0 was used for statistical analysis. A p-value of 0.05 was considered statistically significant.

Results: A total of 124 records were retrieved and 63.7% were of male patients. The mean age of males was 58.9 ±10.9 years compared to 60.6 ±10.6 years for females. The MC&S results were only found in 53.2% (66/124) of the records which 53% (35/66) was from tissue specimens and 15.2% (10/66) from pus swab. The top 3 cultured organisms were ***Enterococcus faecalis*** (16%), ***Proteus mirabilis*** (10%) and ***Staphylococcus aureus*** (8%). The most prescribed antimicrobial was Augmentin at 62.5%. Eighty-eight percent, 80% and 67% of ***Staphylococcus aureus, Proteus mirabilis and Enterococcus faecalis,*** respectively were resistant to at least one antimicrobial.

Conclusions: Diabetic foot sepsis is more common in males. Augmentin is the most preferred antibiotic and 47% of patients with DFS are treated with antimicrobials without prior collection of specimens for MC&S. ***Enterococcus faecalis*** and ***Proteus mirabilis are the two most frequently cultured organism in DFS. At least 67% of all organisms are resistant to at least one antimicrobial. Routine collection of specimens for MC&S should be encouraged.***

SRSS3-04

VALIDATION OF THE USEFULNESS OF TWO RISK SCORING SYSTEMS FOR PREDICTING MORTALITY DUE TO UPPER GASTROINTESTINAL BLEEDING IN A MAJOR JOHANNESBURG HOSPITAL

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Introduction: Upper gastrointestinal tract (UGIT) bleeding is a common surgical emergency worldwide. Complete Rockall Score and Glasgow Blatchford Score is useful for predicting mortality in patients with UGIT bleeding.

Objective: To validate the usefulness of the Complete Rockall and Glasgow Blatchford Score risk scoring systems for predicting mortality due to UGIT bleeding in a South African setting.

Methods: A retrospective longitudinal study of patients 18 years and older with UGIT bleeding was conducted. Data retrieved included demographic details, vital parameters on presentation, co-morbidities, initial laboratory results, endoscopic findings and outcome. Either chi-square and Fisher's exact test were used to compare categorical findings, and independent t-test and Mann-Witney test were used for continuous data. Multivariate logistic regression was done to determine the weighted of independent variables. Statistics and Data Science (STATA/SE) software version 17.0 was used for statistical analysis. A p-value of <0.05 was considered statistically significant. Permission to conduct the study was received from the local ethics committee (M210951).

Results: Overall, 517 records, of which 65% were of male patients, were found suitable for analysis. Thirty-two percent were over 60 years, and 45% had either minor or major co-morbidities. Peptic ulcers accounted for 71% of UGIT bleeding. The overall mortality was 3.48% and was significantly influenced by Complete Rockall Score (p-value <0.001) and age (p=value <0.01), admission

heart rate (p-value <0.02) and the existence of cardiac disease (p-value < 0.001). The area under ROC curve for CRS was 0.8026 (95% CI 0.709-0.896) compared to 0.638 (95%CI 0.516-0.760) for GBS, and the difference was statistically significant (p = 0.230).

Conclusion: Seventy-one of UGIT bleeding were caused by peptic ulcer disease. Mortalities occurred in patients above the age of 60 years who had higher Complete Rockall Score and GBS or pre-existing cardiac condition. Complete Rockall Score and not GBS was useful in predicting mortality in patients presenting with UGIT bleeding.

SRSS3-05

The Perioperative Hospital Stay and Surgical Complications in Cardiothoracic Surgery Patients During Covid-19

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Introduction: During the Covid-19 pandemic, hospitals across South Africa attempted to restrict exposure to Covid-19 and limit a backlog of services by reducing the length of hospital stays.

Method: A retrospective review collecting quantitative data was conducted. The pre-covid year (27/03/2019-27/03/2020;n=343) was compared to the first year of Covid-19 (27/03/2020-27/03/2021;n=232). Patients under the age of 18 were excluded. Data was analysed using Statistica software with non-parametric and bivariate tests applied.HREC number: M210931

Results: All time parameters were non-parametric. The median preoperative hospital stay was 4.04 days pre-Covid and 7.32 days during the pandemic (IQRpre-Covid=8.53;IQRCovid=14.76 days;p=0.37). The median ICU stay increased from 2.85 days to 4.03 days during Covid with a broader distribution of data (IQRpre-Covid=3.21 days;IQRCovid=4.21;p<0.01). This trend was again noted in the high care stay with an increased median stay from 2.04 days to 6.25 days during Covid, and increased spread of data (IQRpre-Covid=2.96 days;IQRCovid=5.21 days;p=0.01). The median post-operative hospital stay increased from 7.62 days pre-Covid to 10.69 days during the pandemic. Times were more widely distributed during Covid (IQRpre-Covid=7.52 days;IQRCovid=9.79 days;p=0.05). There were increased post-operative complications from 31.93% of procedures to 40.93% during the pandemic (p=0.04). The most common complications pre-Covid were wound infection (4.08%), atrial fibrillation (2.04%) and death (8.45%). This changed during the pandemic to mostly be wound infection (7.33%), coagulation disorders (5.17%) and death (6.47%).

Conclusion: Despite regulations during the pandemic aimed at facilitating shorter hospital stays, there was a greater distribution of pre-operative, ICU and high care stays during the pandemic. All components of the perioperative hospital stay had increased median lengths of stay during Covid, with the increased post-operative hospital stay correlating with the increased post-operative complications during the pandemic.

SRSS3-06

OUTCOMES OF PATIENTS WITH ADHESIVE SMALL BOWEL OBSTRUCTION AT A CENTRAL HOSPITAL IN JOHANNESBURG

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Introduction: Small bowel obstruction (SBO) accounts for around 20% of surgical emergency presentations with an abdominal cause. Adhesions are the leading cause of SBO.

Objective: To determine the factors that influenced outcomes in patients who presented with ASBO at a South African tertiary hospital.

Methods: A retrospective record review was conducted on patients who presented with bowel obstruction over a 3-year period. The demographic and clinical factors associated with outcomes were studied using univariate and bivariate analysis. Prior ethical clearance was obtained before the study commenced (M210927).

Results: A total of x records were found and 73.3% (90) were SBO. Sixty-six (73.3%: 66/90) of SBO were

due adhesions (ASBO) patients were included in the study. Forty-two (63.6%: 42/66) of patients who had ASBO were male. Thirty-three (50%:33/66) of ASBO patients had previous surgery. Forty-three (65.2%:43/66) required surgery managed surgically, and 7.6% (5/66) of the patients who had ASBO demised. There was no statistically significant difference in mortality between patients managed conservatively compared to those who underwent surgery [0% (0/25) vs 12.2% (5/41), (p=0.1478)], but all patients who demised were managed surgically. The median age of patients that demised was significantly higher than that of discharged patients [73 vs 43 years, (p=0.0011)]. The median age of presentation of females was significantly higher than that of males [50 vs 38 years, (p=0.0153)], and female gender was also significantly associated with mortality (p=0.0048). A higher median urea was found to be associated with a higher risk of death (p=0.0099).

Conclusions: Adhesive small bowel obstruction is the most common form of bowel obstruction and majority occur in males. Sixty-five of ASBO required surgical intervention. Mortality due to ASBO was higher in female, older age and patients who had elevated urea, Post-operative.

SRSS3-07

ROOT CAUSE ANALYSIS OF MORTALITIES ASSOCIATED WITH ACUTE APPENDICITIS AT A CENTRAL ACADEMIC HOSPITAL IN GAUTENG PROVINCE

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Background: Mortality due to acute appendicitis is less than 6% but is higher in patients with complicated disease or have comorbidities. The aim of the study is to determine factors associated with mortalities in patients with acute appendicitis.

Methods: Permission to conduct the study was obtained from the local ethics committee (M211041). We reviewed records of patients over 17 years old admitted with acute appendicitis over a 5-year period. Data retrieved included demographic information, co-morbidities, clinical and laboratory findings, surgical treatment and outcomes. We used Statistics and Data Science (STATA) software version 17.0 for statistical analysis. A p-value <0.05 was considered statistically significant.

Results: Two hundred and thirty-one records met inclusion criteria and 71% (164/231) were males. Their mean age of participants was 31 ± 12.2 years, and 69.3% were 20-40 years old. Twenty-nine (12.6%: 29/231) participants were HIV positive (12.6%), 82.8% (24/29) of whom were males. Fifty-eight (25.3%:58/231) participants had complicated acute appendicitis. Eighteen (7.8%:18/231) participants died and 83.3% (15/18) of the deaths occurred in males. Half of the mortalities (9/18) occurred in the 40-60 age group, and the influence of age was statistically significant (p-value = 0.000). Thirteen (72.2%) participants who died had presented more than 72 hours since the onset of symptoms. The median CRP of the participants who died was 247.5 mg/L compared to 99 mg/L for the survivors, and the difference was statistically significant (p-value = 0.014).

Conclusions: Around 25% of patients present with complicated disease. Mortality due to acute appendicitis is higher in males, in individuals above the age of 39 years and in patients who present after 72 hours following the onset of symptoms.

SESSION 5: PAEDIATRIC SURGERY & EDUCATION IN SURGERY

SRSS5-01

A 10-year Review of Paediatric Laparoscopic Nissen Fundoplications

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Introduction: With the development of minimal access paediatric surgery, laparoscopic Nissen fundoplication (LNF) has become the standard approach at many centres. We reviewed our 10-year experience in performing LNF at Grey's Hospital.

Method: This was a retrospective review of all LNF cases performed on children up to the age of 12 years at Grey's Hospital from January 2012 to December 2022. All medical information is recorded in a Hybrid Electronic Medical Registry (HEMR). We describe our approach to LNF. Data collection included demographic data, duration of operations, rate of conversion, reasons for conversion, rate of redo LNF and the complications and outcomes. BREC/0000/5035/2022

Results: We performed 282 fundoplications over the ten years. Eight cases were done as open procedures from the outset. There were 152 males and 116 females in the cohort. The mean operative time was 98 minutes. There were seven redo LNFs (2.5%) either due to recurrent hiatal hernias or a slipped wrap. Ten (3.6%) LNF cases were converted to open procedures for various reasons. Complications included bleeding, splenic injury and liver injury. The 30-day mortality post-LNF was 0.7%.

Conclusion: We have demonstrated that paediatric LNF can be safely performed at our institution with low redo and conversion rates. The morbidity and mortality rates of LNF are also low in our experience.

SRSS5-02

PREVALENCE AND FACTORS ASSOCIATED WITH COMPLICATED ACUTE APPENDICITIS IN CHILDREN OF ≤13: TWO YEARS RETROSPECTIVE STUDY

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Introduction: NMAH as a single Centre receiving patients from about 20 districts hospitals where populations are mainly poor and essentially represented by blacks. Appendicitis is the most common cause of acute abdomen in children as in adult worldwide. About 50% of patients admitted at NMAH paediatric surgery from appendicitis.

Method: A cross-sectional retrospective study was conducted on a convenient sample size of 310 patients collected from April 2018 to April 2019 using a chart review. SPSS 22 software was used for data analysis. Ethical considerations observed- HREC number: 013/2020.

Results: A total of 310 children were enrolled of which 137 (44.2%) were females and 173(55.8%) were males. The mean age of the study participants was 9.3 years (SD 2.4years) ranging from 2 to 13 years. Out of 277 cases, 210 (75.8%) were complicated vs 67 (24.2%) were uncomplicated appendicitis. Of 210 complicated appendicitis, 100 (47.6%) were perforated and 110 (52.3%) were non perforated whilst 67 (24.2%) uncomplicated appendicitis were non perforated histologically (Chi square=46.6; p<0.0001). 0f 310 cases 45 (14.5%) developed post op complications: 51.1% surgical wound sepsis, 22.2% abdominal sepsis, 17.8% surgical site infection and abdominal sepsis. 8.8% readmission rate. Patients who spent more than 24 hours from arrival at accident and emergency to theatre were high likely to develop complicated appendicitis as compare to those who spent less or equal to 24 hours (OR=1.9; CI: 0.7-5.6) but this difference did not achieve statistical significance (p=0.17).

Conclusion: There is a high rate of non-perforated appendicitis that are histologically perforated and time from A&E arrival to theatre is a key determine factor to complication. Patients arriving to A&E diagnosed with acute appendicitis should be taken to theatre within the 24 hours of arrival.

SRSS5-03

Surgical Intern Experience: Tertiary vs. Secondary Hospitals in Cape Metro West

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Introduction: There exists a perception, based on feedback of a general dissatisfaction with the General Surgery internship rotation at Groote Schuur Hospital. This study aimed to compare the experience of interns rotating through Groote Schuur, a tertiary level hospital, with that of three secondary hospitals in the Cape West Metro, examining their reported clinical exposure and perceptions of training.

Method: A self-administered survey was sent to interns who completed their general surgery rotations between April 2021 and December 2022 at Groote Schuur Hospital and its three satellite referring hospitals: Victoria, New Somerset, and Mitchells Plain. The survey tool was developed and validated with input from focus groups and expert panel review. HREC number: 609 – 2022.

Results: A total of 126 interns participated, with a response rate of over 60% at each hospital. Comparing the reported clinical exposure of tertiary and secondary hospital interns, significant differences were found in median hours spent in major theatre (2 vs. 4 hours, P=0.001), minor theatre (0 vs. 2 hours, P<0.0001), and surgical outpatient clinics (0 vs. 5 hours, P<0.0001). There were also significant differences in the median numbers of patients clerked by tertiary vs. secondary hospital interns on daily ward rounds (3 vs. 6 patients, P<0.0001) and on call (3 vs. 10 patients, P<0.0001). However, the median number of on-calls per month did not differ significantly between the two groups. Additionally, there were significant differences in interns'

perceptions towards the rotation. Tertiary hospital interns perceived their main duties as administrative, felt less valued as team members, considered their seniors less approachable, rated the quality of teaching poorer, and reported lower improvement in confidence to manage surgical patients. In contrast, secondary hospital interns had better perceptions of teaching quality, felt more valued as team members, found their seniors more approachable, and experienced greater improvement in confidence as junior doctors caring for surgical patients.

Conclusion: This study demonstrates significant differences in clinical exposure and training perceptions between a tertiary hospital and secondary level centers in Cape Metro West. The findings underscore the importance of ongoing evaluation and refinement of internship programs to adequately prepare junior doctors for their community service year and future careers.

SRSS5-04

Progression from surgical medical officer to surgical registrar: experiences and barriers.

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Introduction: Ninety percent of the population in LMICs do not have access to basic surgical care. This is also true for South Africa, with the specialist workforce density being far below what is required to deliver safe and timely surgical care. We also have an unequal divide between available services in the public and private health sectors. This study aims to quantify the interest in surgical careers among post-community service medical officers, to determine the interest in remaining in the public sector and to identify the perceived obstacles in obtaining surgical registrar posts.

Method: The population studied were medical officers working in surgical disciplines at 10 Northern- and Western Cape hospitals. A questionnaire containing the following questions: age, gender, race, current hospital and department, interest to specialise in a surgical discipline, the specific surgical discipline of interest, CMSA-examinations already written, already applied for a registrar posts, already interviewed for registrar posts, obstacles faced in the process of obtaining a registrar post, and intention to remain in state practice after specialising were distributed electronically. HSREC numbers:UFS-HSD2019/1557/2710 and N19/10/135_RECIP_UFS-HSD2019/1157.

Results: Seventy responses were received. Sixty-eight (97,1 %) plan to specialise in a surgical discipline. A total of 76,5 % (52/68) of respondents who plan to specialise thought the main obstacle to obtain a registrar post is the abundance of applicants compared to available posts, while 14,7 % (10/68) thought they didn't meet the minimum requirements and 7,3 % (5/68) thought they didn't have enough surgical experience as a medical officer. Sixty comma three percent (41/68) of respondents who plan to specialise in a surgical field plan to stay in the public sector, while 35.5% (24/68) will consider it and 4.4% (3/68) aren't interested. No statistically significant correlation was found between examinations written and being shortlisted for interviews (p=0.71).

Conclusion: This study found a significant interest in specialising in surgical disciplines among medical officers. It also found a good interest in remaining in the public sector after specialisation. The majority thought there are not enough training posts available. A need to do more research regarding the supply and demand of surgical registrar posts in the various centres were identified.

SRSS5-05

Research integrity in a South African health sciences institution

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Introduction: The impact of questionable research practices on societal perceptions of scientific research has been brought to the fore by popular media. Reported on more frequently by health science researchers in northern hemisphere countries, there is a need to unpack the experiences and attitudes of academic staff and postgraduate (Masters & PhD level) students to scientific misconduct in the southern hemisphere.

Method: An anonymous self-administered, structured questionnaire conducted online was addressed to academic staff and postgraduate students in the Faculty of Health Sciences, Wits University (Ethics number: M200202). Descriptive statistics were produced, and comparisons between postgraduate students and staff responses were made using Chi-square test or Fisher's exact test. Bonferroni correction was employed for multiple comparisons. HREC number: M200202

Results: While the response rate was low (11.4%), concerns were identified. Self-reported cases of fabrication, falsification, plagiarism, or presentation of results in a misleading way were low, but 9% of staff reported awareness of incidents where misleading results had been presented. Approximately 10% of all respondents witnessed misconduct. Authorship misconduct was red flagged, with 35.2% of staff and 8.8% of postgraduate students having experienced unethical pressure regarding inclusion or ordering of authors ($p<0.0001$). While low, the incidence of staff who self-reported data altering or who were uncertain about reporting scientific misconduct, was concerning.

Conclusion: Institutions should ensure that adequate training in research integrity is provided if the standard and veracity of its science is to be upheld, and if scientific contributions to society are to be trusted.

SRSS5-06

The development of necrotizing enterocolitis in very low birth weight babies: Transfusion practices in two neonatal units in Bloemfontein, Free State

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Introduction: Transfusion-associated Necrotizing Enterocolitis (TANEC) is a crippling, life-threatening disease with a rising incidence due to improved neonatal care. Two proposed risk factors are red blood cell transfusions (RBCT) and peri-transfusion feeding. Nevertheless, while some research has been conducted on TANEC causes, risk factors, and preventative clinical strategies, little is still known about the exact etiology of the disease. The study aims to evaluate the relationship between RBCT and peri-transfusion feeding practices and the development of TANEC in very low birth weight (VLBW) neonates over a five-year period.

Method: This is a retrospective analytical record review of all VLBW (1 000g – 1 499g) neonates admitted in PTH and UAH neonatal units, Bloemfontein, South Africa, between 1 January 2012 and 31 December 2016.UFS-HSD2017/0616

Results: The total study population (n1 426) had a median birth weight (BW) of 1 260g and a median gestation age (GA) of 30 weeks. RBCTs were given to 41.9%. NEC developed in 25.5% (n364) of whom 27.8% (n27.8) had an RBCTs (TANEC). 47.2% (n285) were kept nil per os (NPO) around the transfusion. No association was found between NPO status and TANEC development (24.1% NPO patients, 31,1% non-NPO patients, $p=0.0568$). A significant association was found between patients with a stable condition (31.1%) developing TANEC and those not in a stable condition (22.2%) ($p=0.0179$). No significant differences regarding Modified Bell's Staging were found between neonates who developed TANEC versus NEC.

Conclusion: RBCTs at high HCT levels in stable VLBW neonates may lead to the development of TANEC. Therefore, the implementation of an RBCT and feeding protocol is of paramount importance.

SRSS5-07

Biliary atresia: the profile, management and outcome of patients treated at a tertiary hospital in central South Africa

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Introduction: Biliary atresia (BA) is an obstructive inflammatory disease of the bile ducts. Without intervention, the disease rapidly progresses to liver cirrhosis and fibrosis, with end-stage liver failure and death occurring within three years of life. It is the most common indication for liver transplantation in the pediatric population. The management of BA in South Africa poses multiple challenges (e.g., late referrals and socio-economic burdens) with suboptimal outcomes. The study aims to determine risk factors and shortcomings that are detrimental to the outcome of this patient population by reviewing the profile, management, and outcomes of patients treated at the Universitas Academic Hospital Complex.

Method: This is a retrospective analytical record review of all patients diagnosed and treated with BA at the Universitas Academic Health Complex, Bloemfontein, from 1 January 2009 until 31 December 2019.**HREC number:** UFS-HSD2020/0654/3006

Results: In total, 67 patients were included; 74.6% were

female, and 86.6% were of African ethnicity. Most (62.7%) had isolated BA. A Kasai portoenterostomy (KPE) was performed in 32 (47.7%) patients. Five patients were referred for liver transplantation (LT) evaluation, of which two received it. The overall survival was 5.5% (n=3), and 94.5% (n=52) of the patients died or were palliated. Of the three patients alive, one had a KPE, and two had LTs.

Conclusion: Late presentation, cholangitis and cessation of bile flow after an initial successful KPE, and socio-economic challenges are issues of concern. These factors have a detrimental influence on the outcome of BA in our study population. Implementing screening measures and education programs at the primary health care level is essential to diagnose and refer BA patients timeously. Moreover, establishing support systems to help patients with socio-economic burdens will enable them to qualify for LT.

SESSION 6: SCEALES ANTROBUS PRIZE SESSION

SRSS6-01

The use of complementary practices amongst female breast cancer patients treated at government and private facilities in eThekwini, KwaZulu-Natal

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Affiliation: Durban University of Technology

Introduction: South Africa has a pluralistic medical landscape, offering the patient numerous options for healing. Cancer patients often turn to traditional, complementary, and alternative (TCAM) practices to alleviate side-effects, address unmet needs, and improve outcomes1, but many patients do not disclose their use of TCAM to their primary physicians2. Global data on TCAM use by cancer patients in lower-middle income countries reports usage figures averaging around 50%3, but there is a dearth of data on the use of TCAM practices by South African cancer patients.

Method: Patients were recruited at Albert Luthuli Central Hospital and from private clinics across eThekwini through snowball and convenience sampling. Data collection was done via digital and hard copy questionnaires, coded, and entered into SPSS28. Statistics included simple frequency runs, chi square, McNemar's, and unadjusted odds ratios. HREC number: DUT IREC 043/18.

Results: TCAM practices included use of dietary approaches and supplements (including cannabis); exercise and mind-body practices; emotional and spiritual support; and consultation with alternative practitioners. Data showed a disparity in TCAM use between private and government centres, with significantly lower levels of use in the government cohort for all practices except spiritual support and traditional healers. Disclosure of clinically important inclusions ranged between 0% and 67%.

Conclusion: Increased patient health literacy is needed on the benefits and risks of the many supporting practices on offer to the cancer patient.

SRSS6-02

Title: Primary endocrine therapy is as effective as primary chemotherapy in decreasing lymph node burden in selective luminal breast cancers.

Dr J Edge, Dr J Buitendag, Prof PT Schubert, Prof K Baatjes, Dr W Conradie, Dr L de Jager

Affiliation: Stellenbosch University

Introduction: Primary chemotherapy is traditionally considered more effective than endocrine therapy in treating node positive, hormone positive breast cancers. Comparisons were made between cancer subtypes and type of primary therapy received. Outcomes were determined by lymph node burden and deposit sizes present on operative specimens.

Method: All patients treated for breast cancer at Tygerberg Hospital Breast Unit between 2016 and 2019 were added to a retrospective database from pre-diagnosis clinic visits to post adjuvant therapy follow-up. Patients who did not undergo sentinel lymph node biopsy (SLNB) or axillary lymph node dissection (ALND) to evaluate lymph node (LN) count were excluded. Patients who underwent primary therapy, but where it was not stated whether endocrine or chemotherapy, were also excluded. **HREC number:** N19/04/049

Results: 577 patients (mean age: 53.6 years; 98% female) were included. Over 60% (353/577) received neoadjuvant primary therapy by means of chemotherapy (51.1%) and endocrine therapy (10.1%), while 224 (38.8%) did not. Patients who underwent endocrine therapy (0.7 ± 1.3) and chemotherapy (0.3 ± 2.4) had larger (not statistically significant) reductions in their surgical ER/PR Allred score compared to biopsy, than those who did not receive any primary therapy (0.1 ± 1.2, p=0.26). Two hundred and five (35.5%) patients underwent SLNB and 407 (96.7%) underwent ALND, including 35 (6.1%) who underwent both. During SLNB, a mean of 2.8 LNs was removed. Mean LN involvement was 28.2%. Patients who received chemotherapy (27.1% ± 39.2%) and endocrine therapy (27.3% ± 40.5%) had lower portions

(not statistically significant) of involved LNs than those who did not receive any primary therapy (29.3% ± 41.4%, p=1.00). During ALND, a mean of 12.3 LNs was removed. The mean number of LNs involved was 31.3%. Patients who received chemotherapy (31.1% ± 32.9%) had lower portions of involved LNs than those who did not receive any primary therapy, whereas patients who received endocrine therapy (33.1% ± 37.6%) had higher portions of involved LNs (p=0.97).

Conclusion: Findings showed no statistically significant difference in the LN burden or LN deposit size within the basins regardless of endocrine or chemotherapy. Endocrine therapy can be used, with similar effect as chemotherapy, in selective cancer subtypes.

SRSS6-03

Associated changes to the viscoelastic profiles, platelet aggregates and fibrin networks in treatment-naive early breast cancer patients

Dr F. Holst

Affiliation: Department of General Surgery, Steve Biko Academic Hospital.

Introduction: Breast cancer is the most common cancer affecting women worldwide. Hypercoagulability in patients with cancer is commonly responsible for thromboembolism. Thromboelastography (TEG®) is commonly used to assess the viscoelastic profile of a patient. Insight into the effects of breast cancer-associated inflammation and coagulation may aid in prognostication, prevention and management of thromboembolic complications. The aim of this study was to describe the viscoelastic and morphological profiles of red blood cells, fibrin networks and platelets of treatment-naive early breast cancer patients.

Method: A prospective cross-sectional study, investigating the viscoelastic profiles of treatment-naive early breast cancer patients compared to healthy participants, was performed. A subgroup analysis was also performed with regard to hormone receptor status, human epidermal growth factor receptor 2 (HER2) status, tumour grade and the stage of the breast cancer. Scanning electron microscopy (SEM) was used to examine the ultrastructural changes of red blood cells and formed clots, including fibrin networks and platelet aggregates. HREC number: 594/2018

Results: Thromboelastography revealed significantly increased maximum amplitude (MA) and total thrombus generation (TTG) in the breast cancer group. In the subgroup analysis, the alpha angle was significantly increased in the progesterone receptor positive group compared to the progesterone receptor negative group. The reaction time (R time) was significantly shorter with advancing tumour stage. Scanning electron microscopy revealed morphological differences, in the platelet aggregates and fibrin networks, in patients with breast cancer.

Conclusion: Breast cancer is associated with a hypercoagulable state that is detectable on TEG® and SEM. This study has shown that progesterone receptor positivity and advancing tumour stage are associated with a changed viscoelastic and morphological profile. These patients may benefit from thrombotic risk assessment and anticoagulation therapy.

SRSS6-04

Oncoplastic Surgery for Breast Carcinoma in South Africa: An audit of outcomes from a single Breast Unit.

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Affiliation: University of KwaZulu Natal

Introduction: Oncoplastic breast surgery permits tumours traditionally requiring total mastectomy to be excised with acceptable oncological and aesthetic outcomes. The purpose of this study was to evaluate outcomes following oncoplastic breast surgery in the Breast Unit at Inkosi Albert Luthuli Central Hospital in Durban.

Method: This was a retrospective analysis of patient records. Patients who underwent oncoplastic breast surgery with curative intent from 2011 and 2012 were included in this study. Male patients, those with contraindications to breast conservation, and those with metastatic disease were excluded. Demographic and tumour related data were collected and margin status, surgical site sepsis, recurrence and overall survival were recorded over a 5-year period starting from the date of presentation. HREC number: BREC/00004040/2022.

Results: Forty-five patients with 45 tumours were evaluated. The most prevalent tumour size at presentation was T2 (55.6%), and the most commonly performed procedure was a therapeutic mammoplasty. Twelve patients (27%) developed surgical site infection, eight of which were classified as deep SSI with wound breakdown. The resection margin was clear in 95.6%. Recurrence was noted in 8.9% of patients, with an overall survival of 91.1%.

Conclusion: Breast conserving surgery using oncoplastic techniques results in favourable oncological outcomes. in patients treated in a resource-constrained setting.

SRSS6-05

Evaluating Breast Carcinoma Biomarker Immunohistochemistry performed on cell block and tissue block material and a comparison of the Robinson Grading system to the Nottingham Histological Scoring System.

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Introduction: The diagnosis of breast cancer with fine needle aspirate biopsy (FNAB) and the use of cell block immunohistochemistry (IHC) are well-established at Tygerberg Hospital (TBH). However, a standard grading system is not routinely used.The purpose of this prospective study was to validate IHC performed on cell blocks as the fixative medium was changed and to compare Robinson's cytological grading to the Nottingham combined histological grade.

Methods: An FNAB and core needle biopsy (CNB) were performed after local anaesthetic administration. Eligibility for IHC analysis was determined based on whether criteria for a malignant (Yokohama category 5) diagnosis were met on RapiDiff and Papanicolaou- (PAP) stained smears, and grading was performed. Estrogen receptor (ER), progesterone receptor (PR), Human Epidermal Receptor protein-2 (HER2), and Ki67 IHC performed on cell and tissue blocks were compared by placing sections of the formalin-fixed paraffin-embedded cell block material and the tissue core(s) on the same slide.

Results: A total of 103 patients were recruited. Eighty-eight cases were diagnosed as malignant on histology and cytology. ER on cell block showed a sensitivity of 94.3% and specificity of 93.8% (k=0.87, P=<0.01). PR on cell block showed a sensitivity of 72.0% and a specificity of 82.6% (k=0.54, P=<0.01). Ki67 on cell block showed a sensitivity of 78.9% and specificity of 44.4% (k=0.21, P=0.20). HER2 on cell block showed substantial agreement with HER2 on tissue blocks (k=0.74, P=<0.01). The relationship between Robinsons cytological grading and the Nottingham combined histological grade showed disagreement (k=-0.02).

Conclusion: Pairwise comparisons between IHC performed on cell and tissue blocks showed statistically significant associations, and FNAB and cell block IHC can be interpreted as reliable and accurate diagnostic assays. Robinson's cytological grading system cannot currently be used as a surrogate to provide prognostic and predictive information.

SRSS6-06

Clinical breast screening of women working within the Cape Union Mart group: A follow-up study

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Introduction: In low- to middle-income countries, including South Africa, many women present or are diagnosed with breast cancer at a more advanced stage. South Africa has no state-run breast screening programme for women. As a means to address breast cancer burden, clinical breast examination (CBE) and breast health awareness are alternative strategies to mammography screening programmes established predominantly in higher-income countries. The aims of this study were to (1) offer a combined breast education session and risk-stratified CBE to women working within the factories of the Cape Union Mart group, and (2) compare the demographic and clinical data of those that took part in both the baseline and follow-up assessments.

Method: This was a prospective cohort study. On two occasions (2018/2019 and 2023), consenting women attended a breast education session and had their medical history taken, along with a risk assessment using the International Breast Cancer Intervention Study (IBIS) model that includes multiple breast cancer risk factors [e.g., age, body mass index (BMI), family history]. Eligible women underwent a CBE, performed by a trained breast nurse or medical doctor. Any woman with a suspicious change in their breast was referred for further investigation. HREC number: N18/08/086.

Results: Forty-four women were included in the study. Compared to baseline, those at follow-up were significantly older (median age in years: 51 vs 47, p<0.001) and had significantly higher BMI (mean BMI: 33.08 vs 31.59, p<0.05) and IBIS 10-year risk scores (mean scores: 2.14% vs 1.96%, p<0.05). No significant differences were evident in terms of current breast symptoms (e.g., mastalgia, skin problems, swelling, lumps), family history of breast cancer, and first-degree relatives with a history of breast cancer. In total, 41 (93.2%) women had a CBE at follow-up [vs 42 (95.5%) at baseline], with an abnormality detected in 1 (2.27%) woman [vs 3 (6.8%) at baseline] that warranted referral.

Conclusion: Both increasing age and BMI are well-

established risk factors for breast cancer. Given the high average BMI determined in this study, suitable strategies to address modifiable lifestyle factors, such as obesity, should be incorporated into breast health awareness and prevention interventions. The IBIS risk model can be used in conjunction with a clinical breast screening programme.

SRSS6-07

Histopathological Analysis of Breast Cancer Patients With HIV Infection at an Academic Hospital

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Introduction: The study retrospectively investigated the tumour biology of breast cancer patients who were HIV-positive and -negative over five years with invasive breast cancer. The aim was to analyse the histopathology of invasive breast cancer in HIV-positive patients to determine tumour biology and contrast these findings with HIV-negative patients.

Method: 222 patients with breast disease presented at the Breast Clinic between 2016 to 2020. Extracted data included histology and tumour biology. The study excluded male patients, benign breast disease, carcinoma in situ and patients with incomplete histology reports. HREC number: SMUREC/M/11/2022: PG

Results: Median age was 54.50 years. 50.44% were HIV-negative, 19.38% HIV-positive, 30.18% HIV-unknown. HIV-positive patients presented at a younger age compared to HIV-negative patients (p-value 0.000). Visceral metastases were equal in HIV-positive and HIV-negative patients, whereas bone metastases were more prevalent among HIV-negative patients. Ductal carcinoma not otherwise specified (NOS) was the most prevalent histology type in both HIV-positive (83.72%) and HIV-negative (87.50%) patients (p-value 0.716). Most of the tumours were ER-positive, 69.77% in HIV-positive, 64.86% in HIV-negative patients. HIV-positive patients had 20.93% HER2-positive tumours, 31.13% in HIV-negative patients. The majority of tumours in both HIV-positive and HIV-negative patients had a Ki67 index of ≤14%, namely 55.81% and 51.79 %, respectively (p-value 0.035). The most common molecular subtype in HIV-positive patients was Luminal A (37.21%), while in HIV-negative patients it was Luminal B (37.50%) (p-value 0.425).

Conclusion: Ductal carcinoma (NOS) was the most common histological type irrespective of HIV status. Patients with HIV had the greatest prevalence of ER-positive tumours. The majority of tumours in HIV-positive and HIV- negative patients had a Ki67 index ≤14%. There was a relationship between the Ki67 index and grade III tumours in HIV-negative patients but not in HIV-positive patients. There was no significant difference between the stage at diagnosis of breast cancer in HIV-positive and HIV-negative patients, however HIV-positive patients presented with breast cancer at a younger age. Patients with WHO HIV stage 4 had either locally advanced and or metastatic breast cancer.

SRSS6-08

Outcomes of breast conserving therapy: Recurrence, imaging findings and histological correlation

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Background: Breast conserving therapy (BCT) is the mainstay therapy in patients with early breast cancer and selected patients with locally advanced breast cancer. No formal audit has been performed on BCT at our institution.

Objectives: To determine the incidence and risk factors for ipsilateral breast tumour recurrence (IBTR). Study the imaging features of IBTR. Determine adherence to the proposed annual mammographic surveillance schedule.

Method: Clinical, radiological and histopathological records of patients who underwent BCT from 01 January 2011 to 31 December 2015 were reviewed. Patients were followed up for at least 5 years.

Results: Ninety-two patients were included in the study with a mean age of 54.3 years. Eighty of the 92 (87.0%) patients were imaged within 1-year post-BCT. Ipsilateral breast tumour recurrence was 6/92 (6.5%) with mean time to IBTR of 34.4 months. One of the 92 (1.0%) patients had a contralateral metachronous recurrence with no IBTR and 11/92 (12.0%) had distant metastases only. Pathological tumour size and extent (pT2) (68.5%) and pathological lymph node (pN0) (65.2%) were the most common locoregional staging. Infiltrating ductal carcinoma was the most common histological type

(88%). Age < 35 years was associated with breast cancer recurrence ($p < 0.01$). Imaging findings of recurrence were microcalcification (odds ratio [OR]: 4), asymmetric density (OR: 4) and skin thickening (OR: 2.5).

Conclusion: The occurrence of IBTR following BCT in our unit is acceptable and comparable to local and international units. The accuracy of assessing the post-BCT breast for IBTR is in keeping with international standards.

SRSS6-09

Intratumoural heterogeneity in breast cancer: hormone therapy-mediated effects in a breast cancer cell line.

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Introduction: Breast cancer is a heterogeneous disease due to the presence of subpopulation which display features of stemness1. CD44 and CD133 are expressed in cells which display stemness2. CD44 maintains multipotency in stem cells and mediates communication with extracellular matrix proteins. CD133 facilitates metabolic process associated with metastasis, stemness and drug-resistance2. Intratumoural heterogeneity is driven by the presence of subpopulations which mediate differential responses to treatment and drive tumour progression, treatment resistance and disease recurrence3. The tumour subpopulations in a hormone dependent cell line, T47D will be exposed to hormone therapy in order to characterise changes in the expression of oestrogen receptor variants (Erα & Erβ), proliferation marker Ki-67 and progesterone receptor (PR). The aim of this study was to investigate the direct effects of hormone therapy in intratumoural heterogeneity.

Method: T47D breast cancer cells were cultured using standard processes. Magnetic cell sorting was undertaken to isolate subpopulations displaying stemness; CD44+CD133+; CD44-CD133+; CD44+CD133- and CD44-CD133-. The subpopulations were propagated in essential 8 media in order to maintain their stemness features. Cells were seeded onto glass coverslips in 24 well plates and following adherence were treated with 2 µM Tamoxifen and 16,16 ng/ml Anastrozole for 24 hours. Thereafter immunocytochemistry was conducted in order to localise the protein expression of Erα, Erβ, Ki-67 and PR. The images were taken using an Olympus iX35 fluorescent microscope and an Olympus BX63 fluorescent microscope. Images will be qualitatively analysed using cell profiler and statistical analysis will be conducted using Statistica software. HREC number: W-CBP-210218-01.

Results: The qualitative findings show differential changes in the expression of Erα, Erβ, Ki-67 and PR following treatment with tamoxifen and anastrozole between subpopulations. The expression of these markers varied from the parent population thus suggesting that subpopulations respond differently to treatment. Qualitative analysis of these findings and statistical analysis is currently being undertaken.

SRSS6-10

Exploring immunosuppressive events associated with breast cancer progression: Key Factors in targeted therapy

Botle Damane, Chrisna Durandt, Taole Mokoena and Thanyani Mulaudzi

Affiliation: University of Pretoria

Introduction: Immunotherapy has been successful in treating cancers thus far. However, drug resistance and adverse events are still a major challenge. Immunosuppressive pathways involving regulatory T cells (Tregs) and macrophages are modulated by the tumor microenvironment to favor cancer progression, aggressiveness, and drug resistance. Current treatments are developed based on Western therapeutic discoveries. Commercial cell lines are mostly of European origin and South Africa (SA) has a diverse population with black patients presenting with aggressive diseases. It is thus important that we find ways to effectively interrogate cancer behaviour and its manipulation of immunosuppressive signaling pathways in SA population in order to achieve an efficacious therapeutic response, decipher drug resistance, and reduce adverse events.

Method: Samples were collected from 13 BC patients and 6 healthy controls. For macrophage morphological studies, CD14+ monocytes (98% purity) were isolated from PBMCs. Tregs and Teffs were sorted from CD4+ fragments. Tregs were identified as CD4+CD25+CD127 -/dim and macrophages with CD80+ (M1) and CD163+/CD206+ (M2) by flow cytometry. BC serum-primed monocytes were incubated at 37°C/5% CO2. Monocytes from healthy individuals treated with CSF-1, IL-4, IL-10, and IFN-γ, LPS for M2 and M1 macrophages respectively served as controls. Morphological studies were performed by means of PlasDIC microscopy. HREC numbers: 498/2017 and 282/2019.

Results: BC tissue was enzymatically digested and PBMCs isolated. Vybrant DyeCycle Ruby stain for assessment of cell cycle identified population to be used in downstream experiments. BC tissue macrophages

resembled M2 phenotype morphological features of healthy monocytes primed with BC serum and those treated with CSF-1, IL-4&10. Macrophages functional assays revealed reduced phagocytosis of leukemia cells and zymosan particles. Frequency of M2 macrophages was higher in BC compared to normal tissue assessed by flow cytometry. However, Treg frequency in BC differed among patients. Cytokine stimulation assay revealed that Tregs frequency can be affected by the expression of FoxP3 and Helios.

Conclusion: Efforts to deplete Tregs in an attempt to improve anti-cancer activities have not been successful as patients can develop autoimmunity which complicates clinical interventions. Autologous treatment with isolated tumor-specific T cells is also hindered by immunosuppressive signaling that persists as cancer continues to find ways to survive. Thus, accurate and effective methods for targeting immunosuppressive patterns start with not only their identification but effective means of isolating high-purity single cells, overcoming challenges that make it difficult to study rare cells like Tregs for therapeutic intervention. This also gives the opportunity to exclusively associate these cells with therapeutic resistance/response to specific drugs.

SRSS6-11

Risk-stratified clinical breast screening of health care workers at a tertiary hospital

Dr David Gorry, Dr Lindi Martin, **Dr Jenny Edge**

Affiliation: Stellenbosch University

Introduction: Mass population-based breast cancer (BC) screening has resulted in a reduction in BC-related mortality. Despite the benefits, this approach has limitations and has been associated with harm such as overdiagnosis. Consequently, there has been a global trend towards individualised risk-stratified screening. This study aimed to provide a combined breast cancer education and individualised risk-stratified BC screening initiative for nurses at Tygerberg Hospital (TBH). The feasibility of implementing such a program at a tertiary hospital was also assessed.

Method: Female nurses employed at TBH were invited to participate. Participants attended a BC education session, completed a questionnaire, and had their 10-year risk for developing BC calculated using International Breast Cancer Intervention Study (IBIS) calculator. A clinical breast examination (CBE) was offered to nurses with a 10-year risk of >1% and to those who requested a CBE. Those with an abnormality detected on CBE were referred for imaging. The proportion of nurses, as a percentage of the total number employed at TBH that attended the study, as well as the percentage of nurses with an IBIS 10-year risk of >1%, those with an abnormal CBE, and those referred for further imaging were assessed, amongst others, as a measure of feasibility of implementation. HREC number: S22/05/090.

Results: 206 female nurses attended the education and screening session, with 203 meeting inclusion criteria. The median age was 46 years. Most nurses worked in the surgical wards (33.5%) and theatre complex (13.8%). The median IBIS 10-year risk score was 2.0, with 163 (80%) nurses having a score of >1%. Seventeen (8.3%) nurses had an abnormal finding on CBE, requiring imaging. Twelve of 17 (70%) nurses had a mammogram and ultrasound. Fifty-two (25%) nurses attended on day 1, with an even distribution over the rest of the week (35, 32, 33, 30). The most popular time slot was 10:00-11:00 (39%), followed by 08:00-09:00 (19%).

Conclusion: The high percentage of nurses with an IBIS 10-year risk of >1%, yielding an abnormal CBE finding of <10% and no malignant features found on imaging, may suggest that the threshold for CBE be increased. Except for the lower than expected participation rate, the study met its feasibility indicators. By addressing the possible reasons for the low participation, an individual risk-stratified BC screening program can be feasible.

SRSS6-12

The Local Control of T4 Breast Cancer Lesions at 5 Years Post Treatment in the Free State. A Retrospective Study from 01/01/2010-31/12/2014

Dirk Coetzee Grobler, Dr M. De Kock, Prof A. Sherriff

Introduction: The 5-year outcome of patients in the Free State, South Africa with T4 (a, b, c) breast cancer and treatment they received.

Methods: 165 of 1652 patients fulfilled the inclusion criteria. Data sheets were completed with regard to tumour histology, treatment received and the clinical course of the patient during the 5-year follow-up period.

Results: The average age was 60.9 years. The majority had T4b (73.33%) lesions and ductal carcinoma. 69.9% were hormone receptor positive, 10.9% HER2 overexpressed and 16.3% triple negative. 75.15% were referred pre-mastectomy. 41.2% received multimodal therapy. Of these patients 31,2% had local/systemic events and 5 year outcomes were: 11.7% demised prior to the 5 year follow-up completion, 41.1% survived the 5 year follow-up and 58.54% were lost to follow-up. Compared to

patients that received surgery upfront which had 43.2% local/systemic events and 5 year outcomes of 13.5% demised and 24.3% survived and 62.1% was lost to follow up.The total lost to follow up rate was 58.54%.75% had R0 resection and the majority of lymph node harvest is between 5-15 which is suboptimal when compared to international literature as more than 16 nodes are regarded as sufficient.

Conclusion: Multimodal therapy had a superior 5-year outcome with regard to loco-regional disease and overall survival. The lost to follow up rate was high amongst the patients which is concerning. The hormone receptor positive subgroup had the best outcome. Our institutions free margin and lymph node harvest numbers are sub optimal in comparison to international standards.

SESSION 7: VASCULAR SURGERY

SRSS7-01

Outcomes of 17 consecutive aortic aneurysm and dissection repairs performed in a rural tertiary care facility, Limpopo Province.

Botha MR, Mogase LG, Ntshuti R

Purpose: It is postulated that patients in rural settings have less access to endovascular aneurysm repair (EVAR), vascular surgery specialists and high-volume treatment centres than in urban settings and this leads to inferior care for aortic aneurysms and dissections. The purpose of the study was to investigate the feasibility of performing complex aortic surgery in a rural tertiary facility.

Method: Operative data from Pietersburg Provincial Hospital, a rural tertiary level hospital, in the resource-limited Limpopo Province of South Africa was analysed. The time period under investigation was November 2021 to May 2023. All cases of abdominal aortic aneurysm (AAA), thoraco-abdominal aortic aneurysm (TAAA) and acute aortic dissection (AAD), that were managed with either endovascular or open surgery, were retrospectively collected and their medical records analysed. The main outcome evaluated was 30 day morbidity and mortality.

Results: In the study, a total of 17 patients were identified (male = 11, female = 6) with a median age of 62 (Age Range: 19 - 78). Eleven patients had AAA's (n = 11), five patients AAD's (n = 5), one patient had a TAAA (Crawford Type III)(n = 1). Of the AAA patients, 8/11 patients underwent EVAR and 3/11 had open repairs. The AAD's all underwent TEVAR (5/5). The TAAA patient had an open repair. 1/17 had emergency surgery (ruptured AAA). All other cases were performed on an elective basis (16/17). Overall 30 day mortality was 23% (n = 4). There were no mortalities in the EVAR group. 1/17 patient developed wound sepsis as a morbidity (Clavien-Dindo Grade 2). 1/17 patients developed acute kidney injury (AKI) requiring dialysis (Clavien-Dindo Grade 4a).

Conclusion: Complex aortic surgery is feasible in resource-limited settings where skills and equipment is available.

SRSS7-02

Limb salvage rate of patients presenting with Chronic Limb Threatening Ischemia in Pietersburg tertiary hospital, Limpopo province.

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Affiliation: University of Limpopo

Purpose: Limb salvage and restoration of function through the best revascularization strategy is the cornerstone of Chronic Limb Threatening Ischemia (CLTI) management. A Vascular Surgery unit in the rural setting sought to measure the limb salvage rate in patients who underwent revascularization in this unique setting.

Method: Retrospective, descriptive study, between the period 01 November 2021 to May 2023. All patients, both males and females, of any age, presenting with CLTI for revascularization, or minor amputation followed by revascularization, were included in the study. Those offered primary major amputation and those with missing files or poorly documented notes were excluded. Consecutive recruitment technique was used for file collection and data collected was transcribed into spreadsheet using Microsoft excel.

Results: Total of 28 patients presented with CLTI; 20 were males (71.4%) and 8 were females (28.6%). The most affected anatomical level was femoropopliteal segment, accounting for 57.4%, followed by tibio-peroneal at 32.1%, and aorto- iliac segment at 7.1%. 5 patients (17.9%) presented with Fontaine 4 and required minor amputation before re-vascularization. 23 patients (82.1%) presented with Fontaine. Of the 16 patients with femoro- popliteal disease, 12 were offered endovascular intervention in the form of conventional angiogram and angioplasty (75%) and 4 were offered open surgery (25%) in the form of by- pass. Amongst those offered endovascular intervention, 11 were salvageable (68,8%) and those offered by- passes, 1 (25%) limb was salvageable with 3 (75%) occlusions, resulting in above knee amputations. The overall limb salvage rate in patients with femoro- popliteal disease was 75%. 9 patients presented with tibio- peroneal disease. From those, 8 were offered endovascular intervention (88.9%)

and 1 offered open surgery (11.1%) in the form of by-pass. Amongst those offered endovascular intervention, the limb salvage rate was 62.5% (5/9) and failure rate was 37.5% (3/9), resulting in major amputation. No limb was salvageable in the 1 patient offered by- pass, resulting in above knee amputation. The overall limb salvage rate in those presenting with tibio- peroneal disease was 55.6% (5/9). 2 patients presented with aorto- iliac disease and both were offered endovascular intervention, with limb salvage rate of 100%.The overall limb salvage rate in our setting in patients presenting with CLTI from the period of November 2021 to May 2023 is 71%.

Conclusion: Limb salvage rate in our institution is comparable to the limb salvage rates worldwide, although as compared to other trials, our follow- up period was shorter.

SRSS7-03

Outcomes of Aortobifemoral Bypass for Aortoiliac Occlusive Disease: A Retrospective Cohort Study

CP KHAEANE ; Dr AF Malan

Affiliation: University of the Free State

Background: Peripheral arterial disease represents a significant global health burden. The advent of endovascular therapy has led to a shift in the management of aortoiliac occlusive disease, favouring less invasive interventions. This study aims to evaluate the outcomes of aortobifemoral bypass procedures, assessing the continued efficacy of this surgical strategy in the era of endovascular therapy.

Objectives: The primary objective was to determine the in-hospital and 30-day mortality and morbidity associated with aortobifemoral bypass procedures. Secondary objectives included assessing factors influencing the outcomes, identifying high-risk patient subgroups that may benefit more from less invasive approaches and exploring potential associations between patient demographics and surgical outcomes.

Method: This retrospective cohort study analysed the outcomes of aortobifemoral bypass procedures performed for aortoiliac occlusive disease at Universitas Academic Hospital between January 2014 and December 2019.

Results: A total of 82 patients met the inclusion criteria. With (80.5%) being male and (19.5%) female. The median age was 58 years. The majority of patients had hypertension (75.6%) and were known smokers (90.2%). Diabetes and renal impairment were present in 9.8% of patients each, while cardiac disease and chronic obstructive pulmonary disease (COPD) were observed in 13.4% and 15.9% of patients, respectively. Minor tissue loss was the indication for surgery in majority of patients at 41.5%. Repair was performed in 64.6% for TASC D lesions. The majority had associated femoropopliteal disease 25.6%. Infrarenal clamping was used in 41.4% of cases. Perioperative complications occurred in 52.4% of patients, with "Other" complications being the most common (24.3%), followed by pulmonary complications (13.4%). The median length of hospital and ICU stay were 11 and 4 days, respectively. In-hospital mortality was 15.9%, with a 30-day mortality rate of 13.4%.

Conclusion: The presence of peri-operative cardiac disease and chronic obstructive pulmonary disease showed a near-significant positive predictive value for developing cardiac complications. Age and gender did not have a significant impact on 30-day or in-hospital mortality. Patients with known renal impairment had a near statistically significant risk of 30-day mortality. These findings highlight the importance of tailored risk assessment and consideration of alternative approaches for patients with specific risk factors.

SRSS7-04

The comparison of duplex ultrasound and digital subtraction angiogram in patients with tibio-peroneal disease who need revascularisation: a pilot study.

Siphiwosethu R Nkomo, Thanyani V Mulaudzi, Samia Ahmad, Zarina I Lockhat

Affiliation: University of Pretoria

Introduction: Pre-interventional imaging in peripheral arterial disease has been a contentious topic over the last decade. The aim of this study is to improve the confidence in the use of duplex ultrasound as a pre-interventional imaging tool for patients with tibio-peroneal disease who need revascularisation with the secondary aim of replacing contrast-based imaging.

Method: 48 patients that presented with tibio-peroneal disease were enrolled in a prospective study done at Steve Biko Academic hospital. All patients were offered a duplex ultrasound before taken for endovascular revascularisation procedure. On the table a digital subtraction angiogram was done. The images of the two modalities were compared using five variables (disease detection, level of disease, degree of stenoses, type of lesion, blood flow). A total of 138 vessels were imaged and each vessel was compared separately using those five variables.The time it took for one patient to be imaged with a duplex ultrasound was also measured and

an average was calculated at the end.

Results: The results showed the duplex ultrasound was congruent with the digital subtraction angiogram 60.76 % of the time. Non-congruency was observed in 35.15 % and only 3.33 % of vessel images could not be compared. The average time it takes to image one leg in a patient with tibio-peroneal disease is 16.7 minutes.

Conclusion: The study shows that duplex ultrasound is not inferior to digital subtraction angiogram in tibio-peroneal disease. The disadvantages of CTA and MRA can be circumvented using a duplex doppler in tibio-peroneal disease provided it is done by an appropriately trained professional with experience in vascular ultrasonography. Therefore, it must be made readily available even in low volume centres.

SRSS7-05

The Prevalence Of Asymptomatic Peripheral Arterial Disease And Associated Risk Factors In HIV Patients On Antiretroviral Therapy At A Tertiary Hospital In Pretoria

O Mongale; NJ Cloete; NC Kalenga

Affiliation: Sefako Makgatho Health Sciences University, Dept of General Surgery, Ga-Rankuwa, 0204

Introduction: HIV is a common disease in sub-Saharan Africa. In South Africa, there are 7.8 million people living with HIV and 72% are on HAART regimen. Antiretroviral therapy has significantly improved the life expectancy of HIV-infected patients. However, HAART also potentiates early atherosclerosis, which also leads to peripheral arterial disease. To evaluate the prevalence of asymptomatic peripheral arterial disease in HIV-infected patients on antiretroviral therapy.

Method: A prospective review of patients' records was performed from 11 November 2021 to 31 December 2022. All patients above 18 years of age who were HIV-infected on HAART were evaluated for PAD using an automated ankle brachial index measuring device. An Edinburgh claudication questionnaire was used to exclude patients with symptomatic peripheral arterial disease. HREC number: SMUREC/M/239/2021: PG.

Results: Records of 100 patients with HIV on antiretroviral therapy were prospectively evaluated. Patients in this study were predominantly female (69%). The average age of the patients was 45 (± 13.31) years, with a range of 19 to 74 years. The majority of the participants (n = 93; 95.88%) had a normal ABI of 0.9–1.4. The mean ABI was 1.15 (± 0.1330) with a minimum and maximum of 0.97 and 1.9 respectively.

Conclusion: Our study did not show an increase in the prevalence of PAD in HIV-infected population on HAART. Therefore, routine surveillance of PAD in HIV-infected patients on HAART is not recommended and should be followed up as an HIV-negative population.

SRSS7-06

A retrospective study, to determine the average life expectancy of diabetes mellitus patients' post-lower extremity amputation at Leratong Hospital (LLA).

Thoriso MOKOALA

Background: Diabetes Mellitus has become so prevalent within our context, and it is consuming a significant portion of our health care budget. The occurrence of complications from Diabetes Mellitus gives insight into the inconsistencies in our provision of health care. Amputations being one of these, to which, Diabetes Mellitus being the number one cause of non-traumatic amputation worldwide. Writing its course, globally, on 60% of all amputations. Amputations are a life-changing event, implicating to one's life a drastic turnaround into their nature of living. According to literature, 50% of patients who have undergone some form of lower limb extremity amputation die within three years post-amputation. A great call of attention into this, alongside with, the propagation of a comprehensive healthcare strategic model to combat the plight of this disease.

Purpose: To determine the average life expectancy of Diabetes Mellitus patients who have undergone major or minor lower extremity amputation due to Diabetic foot sepsis at Leratong Hospital. This search aims to give us a vital scope into our general care of Diabetes, the effectivity of lower limb amputations in improving patient outcomes and what confounding factors correlate into the eventual demise of these patients.

Methods: A retrospective study, with data collection through hospital theatre and administration records of all Diabetic patients, who have undergone lower limb amputations at Leratong Hospital from 2016-2020. Occurrence of death confirmed by family through a structured questionnaire telephonically.

Results: A total of 197 entries were gathered within the study period. All subjects were Diabetes Mellitus type 2 patients with majority being male (58%). Mean age of sample being 60 years with the average age of onset of Diabetes being 42 years. 38 demised from the study affording a 19% mortality rate. The determined average life expectancy being 1250 days which relates to 3.4 years. Trends form the study translated most patients

who demised >65, majority demising within the first year.

Conclusion: The occurrence of Diabetic foot sepsis outlines to some degree a lack of quality in patient care. Though amputations in the acute setting do improve outcomes, however, in the preventative method there is needful attention of strategies to prolong life post-amputation in the high risk groups.

SRSS7-07

Endovascular versus Open Surgical Repair for Infrarenal Abdominal Aortic Aneurysms: A Cost Analysis in a Central South African Tertiary Academic Centre

Agbo SE, Malan AF

AFFILIATION: University of Free State, Bloemfontein

INTRODUCTION:The Vascular Surgery Unit at Universitas Academic Hospital, Bloemfontein, South Africa, perform both open surgical (OSR) and endovascular (EVAR) abdominal aortic aneurysms (AAA) repairs with no actual cost analysis to ascertain the actual cost to company. The study aimed to evaluate the actual cost incurred during the repair of infrarenal AAAs through either OSR or EVAR in a governmentfunded tertiary academic hospital in a low-to-middle income country.

METHODS: This was a retrospective analytical study of 79 patients that received either OSR or EVAR of elective or ruptured AAAs. Total mean and median costs were calculated based on the main cost drivers that included imaging costs, implants costs, theatre costs, cost of blood products used, cost of ICU stay, and cost of ward stay. Subgroup analysis of costs of ruptured AAAs was also performed. HREC: UFSHSD2020/0269

RESULTS: Total median cost of EVAR was more expensive than an open repair. This was significant for elective repairs (R144,295.67 vs R108,873.25, P=.02) but not for ruptures. The mean cost difference in the elective setting was merely R8,402.44, whereas the endovascular approach was R7,959.41 cheaper in the background of a rupture. ICU cost was the most important cost driver (46.6% of total cost) for open repair and implants costs (59.5% of total costs) for endovascular repair.

CONCLUSIONS: Despite increased median costs, there is minimal difference in mean cost between OSR and EVAR in the elective setting and decreased cost of EVAR for ruptures. EVAR remains a viable treatment option in the South African context.

SESSION 8: SURGICAL GASTRO-ENTEROLOGY & GENERAL SURGERY

SRSS8-01

Retrospective review of Histopathology results of patients who underwent Thyroidectomy in Pietersburg Hospital

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Affiliation: Department of General Surgery, Pietersburg Hospital and Faculty of Health Sciences, University of Limpopo, Polokwane campus, Limpopo Province, South Africa

Introduction: Thyroidectomy procedures are commonly conducted around the world and similarly at Pietersburg hospital. Different Thyroidectomy indications exist such as multinodular goitres (MNG), Graves' disease, thyroid malignancy, nodular hyperplasia, etc. Evaluation of these pathologies is important for a better understanding of the current local disease burden and the trend of disease over time.

Method: A four year (2017-2020) retrospective review was conducted. All thyroidectomies done on patients above 12years old at Pietersburg. Data was collected from theatre registry and National Health Laboratory Services (NHLS).

Results: The age range of the 53 patients was between 13 and 75, with average age of 48 years. The procedures conducted were mostly on women, with a male-to-female ratio of 1:9 (there were only six men out of the 53 patients). Majority of the patients had MNG, 69.8% (37 of the 53 patients). About 15% (8 of the 53 patients) had some kind of cancer, 5.6% (3 of the 53 patients) had nodule hyperplasia, 5.6% similarly had Thyroiditis. Remaining 3.7% (2 out of the 53) had Grave's disease.

Conclusion: Multinodular goitres are more prevalent in the thyroidectomy indications observed in Pietersburg hospital. There is a need for thorough investigation of MNG cases to check for possible missed malignancies.The dominant prevalence of the thyroidectomy indications in females that in males [4] warrants an investigation. There are less cases of follicular cancer attributed to iodine deficiency in the current study due to access to iodated salt.

SRSS8-02

The incidence of thyroid malignancy in patients presenting with goitre in Pietersburg Tertiary Hospital, Limpopo.

Padima MG, Jonas L, Phakula M.

Affiliation: University of Limpopo

Background: The incidence of thyroid malignancy is steadily increasing worldwide, with flexible clinical behaviour, ranging from slowly progressive tumours to highly aggressive tumours with high mortality rates. It represents 1- 4% of all malignancies and is the fifth common cancer in women. Thyroid malignancies histologically are either differentiated or undifferentiated, with the most common differentiated type being Papillary cancer, accounting for more than 90% worldwide and anaplastic cancer being the least common, at 2% worldwide. Other types are follicular at 10- 15% and medullary at 4%. Among other studies done in South Africa, Bhuiyan et. al reviewed 90 patients with nodular thyroid disease, 10 patients (11.1%) had malignant lesions, with the most common type being follicular carcinoma at 70%.

Rationale: To identify the most common type of thyroid malignancy occurring in our setting, Pietersburg Tertiary Hospital, which caters for the majority of Black population in Limpopo. Iodine deficiency predisposes to some malignancies, with the aid of iodination since 1995, we want to identify the changes in histology types.

Methodology: Retrospective, descriptive study of patients presenting with thyroid mass at Pietersburg Tertiary Hospital, between the period 01 January 2016 to December 2020. All patients, both males and females, of any age, presenting with thyroid mass amendable to operation with histology results were included in the study. Those with missing files or poorly documented notes were excluded. Consecutive recruitment technique was used for file collection and data collected was transcribed into spreadsheet using Microsoft excel.

Results: A total of seventy- six patients presented with goitre. Seven patients were excluded from the study as they had no documented histology results. From the remaining 69 patients, four (5.8%) were males and sixty- five (94%) were females. Total of five histology reports reported malignant goitre (7.2%); two anaplastic (40%) and three (60%) follicular carcinomas. Majority of specimen histology reported multinodular goitre; 48 patients (69.6%)

Other histology reported the following non- benign conditions; follicular adenoma (5.7%), graves' disease (2.8%), thyroiditis (2.9%)

Conclusion: In our setting, the incidence of malignancy in patients presenting with goitre between the 5 years period is 7.2%, with the common type being follicular carcinoma. These results correlate with the results from the previous study done in Limpopo.

SRSS8-03

The cut-off age for gastroscopy in the management of dyspepsia patients in a tertiary hospital in central South Africa

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Affiliation: University of the Free State

Introduction: Dyspepsia is a widespread condition affecting approximately 20% of the population; patients have a poor quality of life, but survival is not affected. In Central South Africa, dyspepsia is managed according to the American College of Gastroenterology and the Canadian Association of Gastroenterology (ACG/CAG). It does not recommend a gastroscopy in the initial management of patients younger than 60 without alarm symptoms. However, based on South African epidemiology, the risk of significant upper GIT pathology seems higher than in North America, and the cut-off age of 60 for gastroscopy may be inappropriate locally. This study aims to demonstrate a high prevalence of significant pathology on gastroscopy among young dyspepsia without alarm features and subsequently to motivate further studies and the review of the cut-off age in central South Africa.

Method: A retrospective record review of patients with dyspepsia without alarm signs, aged 18 to 59 years, who had gastroscopy in the central hospitals in central South Africa from 01/2018 to 31/08/2019. Data analysed was performed through frequencies and percentages for categorical data and percentiles for numerical data. HREC number: UFS-HSD2019/204.

Results: The study included 167 patients, of which 40,7% (68/167) of patients had significant pathology on gastroscopy. The overall median age of significant pathology (MASP) was 44,5 years; among blacks18,5% (31/167), the MASP was 44,5; whites 12,5% (21/167) had a MASP of 48; and coloured 2,9% (5/167) had a MASP of 39,5.Females;70,6% (118/167) had MASP of 46, and males, 29,3% (49/167) with MASP of 43; Of the 167, 41,3% (69/167) were HIV negative with a MASP of 44,5, and 10,7% (18/167) were HIV positive with MASP of 46.There was no statistical difference between races, HIV status and genders. Patients with benign gastroscopy represented 59,2% (99/167).

Conclusion: The study found that 40,7% (68/167) of

patients had significant pathology on upper endoscopy. The results support the theory of significant pathology among young dyspepsia patients without alarming features in Central South Africa. The cut-off age of 60 may be inappropriate for Central South Africa. Africa. We suggest further local studies and a review of the cut-off age.

SRSS8-04

Retrospective review of early Laparoscopic Transcholedochal Bile Duct Exploration experience at a South African Hospital

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Affiliation: University of the Witwatersrand, HPB, Johannesburg, South Africa

Background: Common bile duct stones are a common hepatobiliary condition. Arguably, the first choice in their management is ERCP. However, this approach may occasionally fail due to the inability to cannulate the biliary tree or extract stones. With the increase in laparoscopic skills and availability, laparoscopic bile duct exploration (LCBDE) has become a common procedure worldwide.

Objective: Retrospective review of transcholedochal LCBDE in a South African hospital with analysis of safety and efficacy of this technique.

Methods: We retrospectively analyzed data from all patients who underwent transcholedochal LCBDE for choledocholithiasis in our institution between September 2017 and November 2022. Data pertaining to patient demographics, operation time, length of stay, and post operative outcomes including complications were evaluated and reported.

Results: A total of 67 patients were included, 91% were females. The median age was 49 years (SD 12.95). Sixty six patients (98.5%) had one or more pre-operative attempts at ductal clearance at ERCP. All patients had transcholedochal exploration of their bile ducts, with a 98.5% duct clearance rate. The median total theatre time (push in to push out) was 317 minutes. There were 9 (13%) conversions to open surgery. The median length of stay was 6 days. A total of 6 (9%) patients had a Clavien Dindo grade 2 or 3 complicaton. These included pneumonia (n=6), liver abscess (n=3), bile leak (n=1), residual stones (n=1) and one port site hernia. There were no mortalities.

Conclusion: Our experience shows that LCBDE is a safe and effective treatment modality with acceptable morbidity for management of choledocholithiasis after failed ERCP.

SRSS8-05

Analysis of Cholecystectomies at Chris Hani Baragwanath Academic Hospital (CHBAH)

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Affiliation: University of the Witwatersrand, School of Clinical Medicine, Department of Surgery

Introduction: Cholecystectomy is a common operation worldwide with an ever increasing rate. This audit presents a 3-year review of cholecystectomies performed at a major South African academic institution.

Methods: Retrospective analysis of cholecystectomies at CHBAH form 2017 - 2019. Data was obtained from NHLS registry on submitted specimen and final histology. The annual cholecystectomy rate, any seasonal trend, age and gender distribution of patient and final histological diagnosis were analysed. Comparison with previously published studies is also presented. Ethics clearance was obtained from the Wits HREC: M200329

Results: Of the 649 procedures performed during the study period, a five-fold increase was noted in the annual cholecystectomy rate. Expectedly, more women (middle-aged) underwent cholecystectomy more than man (F:M = 8:1; p = 0.001). There was no significant seasonal difference during the study period. These confirms the increasing trends, albeit modest, of previous published studies of 1959 -1969 and 1983 - 1985 from same institution. The results are however in keeping with international trends.

Conclusion: A five-fold increase was noted in the cholecystectomies rate at CHBAH during the study period compared to previous studies, presumably due to increasing western life style and improved access to medical care by a previously disadvantaged segment of the society.

SRSS8-06

Clinicopathological presentation of liver abscesses at two Johannesburg Academic Hospitals

Dr Krevosha Pillay, Dr Zafar Khan, Dr Emmanuel Ekene-Nweke, Dr Jones A O Omoshoro-Jones

Affiliation: Department of Surgery, University of Witwatersrand

Introduction: Hepatic abscesses represent infection of the liver parenchyma from bacteria, fungi and parasitic organisms. Trends in both the microbiology and management of these have changed over the past decade. There is a paucity of published data regarding the clinicopathological features of liver abscesses in South Africa and Africa. The aim of this study is to evaluate the demographic, clinical, radiological and laboratory presentations of infective liver collections at two University of Witwatersrand referral institutions.

Method: Review and analysis of information accessed from electronic discharge summaries (EDS) of patients from two hepatopancreatobiliary (HPB) tertiary units (Chris Hani-Baragwanath Academic hospital (CHBAH) and Charlotte Maxeke Johannesburg Academic Hospital (CMJAH), of the University of the Witwatersrand, South Africa, from January 2016 to December 2020. All patients older than 13 years, presenting with infective liver collections (pyogenic, amoebic and hydatid) were included. Clinical findings, laboratory, microbiology and radiology results were collated and analysed. HREC number: M200245.

Results: There were 222 patients: 123 males (55.41%) and 99 females (44.59%), with a median age of 48. HIV (24.23%), hypertension (20.57%) and diabetes (16.83%) were the main comorbidities observed. The majority (74.77%) of abscesses were pyogenic, while amoebic and hydatid abscesses represented 16.22% and 9.01%, respectively. The predominant aetiology of the pyogenic liver abscesses (PLA) was biliary. White cell count (WCC) and CRP were expectedly significantly higher in the pyogenic group ($p < 0.0002$ and $p < 0.007$, respectively) as compared to the amoebic and hydatid groups. In patients with PLAs, organisms were cultured on blood (17.58%) and abscess fluid (56.6%). Klebsiella, Escherichia coli and Streptococci were the most cultured organisms. Sixteen percent of the cultures were polymicrobial. Seventy-six percent of patients requiring drainage had a percutaneous drain placed, while 8.76% required open surgery. The median length of hospital stay was 13 days. There was a mortality rate of 3.02%.

Conclusion: The commonest infective liver collection was pyogenic abscesses in middle-aged males. The microbiology was similar to the East and non-surgical management via percutaneous drainage was sufficient in the majority of cases. Uniquely, HIV occurred in about one-quarter of the group and was significantly higher in the amoebic and hydatid groups. Whilst this did not impact outcomes, further prospective studies are required to ascertain the impact of HIV in these patients.

SRSS8-07

Effect of the timing of Endoscopic retrograde cholangiopancreatography in patients with acute cholangitis at Steve Biko Academic Hospital

N Osei-Kuffour, MK Kgomo, OD Montwedi

Affiliation: University of Pretoria

Introduction: Acute cholangitis (AC) is a medical emergency resulting from bacterial infection of obstructed bile. Early diagnosis, fluid resuscitation, prompt antibiotics administration, and early biliary drainage reduces overall mortality rates. The Tokyo Guidelines (TG) are globally utilized in the management of AC. TG18 recommends biliary decompression within 48 hours; with first line being via ERCP. Many studies have tried to find the optimal timing of ERCP; to our knowledge, none have been done in South Africa.

Methods: A retrospective audit of patients **≥18** years old, meeting TG18 diagnostic criteria for AC, who had ERCP at Steve Biko Academic Hospital (SBAH)**.** 150 patients were included in the study. We analysed; patient comorbidities, severity of disease, timing of ERCP, aetiology of biliary obstruction, alive vs in-hospital mortality, 30-day mortality, and total length of stay.

Results: Our study showed a prevalence of patients who present to SBAH for ERCP mainly had AC secondary to a benign biliary obstruction (57.3%). Only the timing of ERCP in AC had a statistically significant influence to predict staying in hospital for < 24 hours or > 24 hours. There is a statistically significant association between severity of disease and in-hospital mortality. A statistically significant association exits between severity of disease and in-hospital mortality. Early ERCP reduced 30-day mortality, and mild AC reduced 30-day mortality vs moderate AC. AC secondary to benign biliary obstruction reduced 30-day mortality vs malignant biliary obstruction, and patients with AC secondary to benign biliary obstruction stayed in hospital for a fewer number of hours vs malignant biliary obstruction. Aetiology of biliary obstruction had a statistically significant influence to predict in-hospital mortality.

Conclusion: Emergent ERCP is associated with better outcomes in patients with AC at SBAH. The appropriate time point for ERCP drainage to satisfy clinical success rates is ≤ 24 hours.

SRSS8-08

Factors influencing outcome in patients with perforated peptic ulcer disease at a South African tertiary hospital

NANACK JJ

BACKGROUND: Perforated peptic ulcer (PPU) is associated with significant morbidity and mortality, particularly in low-middle income countries. This study aimed to scrutinize the clinical course of patients diagnosed with PPU and identify modifiable factors to improve outcomes.

METHODS: A retrospective review of the hybrid electronic medical record (HEMR) database at Grey's Hospital was performed. All patients diagnosed with PPU between January 2013 and December 2020 were entered in the study. The variables collected include age, ethnicity comorbid profile, Boey score, type of surgery performed and complications. These factors were analysed using various statistical tests in order to reveal the main determinants of morbidity.

RESULTS: One hundred and ninety-four patients were diagnosed with PPU during the study period. Six patients were treated non-operatively, all of whom survived. In the surgically treated group, omental patch repair was performed in 159 (84.5%) patients, and primary closure in 26 (13.8%) patients. The leak rate was 32% in the cohort that that underwent relaparotomy and the overall mortality was 14%. There was no significant relationship between the type of repair performed and outcome. All patients had a Boey score of 1 or more. The following factors were found to increase the probability of in-hospital mortality; Age>40years (OR: 8.49, 95% CI 2.46-29.29 p<0.01), female gender (OR: 2.509, CI 0.98-6.37, p=0.048), need for relaparotomy (OR: 0.398, CI 0.17-0.91, p=0.027) and Boey score >1 (OR: 46.437, CI 6.13-350.28, p<0.01). A Boey score >1 was only variable that increased the likelihood of finding a leaking repair at relaparotomy. (p<0.01).

CONCLUSIONS: The Boey score was a significant predictor of mortality and leak rate in our patients with PPU. Adding age as a variable may improve the ability to predict mortality in our setting, while the impact of gender and ethnicity needs further investigation.

SRSS8-09

The accuracy of White Cell Count (WCC) and C - reactive protein (CRP) in diagnosing Acute Appendicitis (AA) at a tertiary hospital.

N Tshuga , VC Ntola, Naidoo R

Background: Appendicitis is the inflammation of the vermiform appendix. One of the common non-trauma surgical emergency that may be mimicked by various other pathologies with increased morbidity if the diagnosis is delayed.

Methods: This is a retrospective cross-sectional study that assessed the reliability of inflammatory markers in diagnosing acute appendicitis (AA). The study was conducted at King Edward Hospital (KEH) from January 2020 to June 2021. Data was collected on all patients with AA who underwent appendicectomy. Variables of age, sex, histology, length of stay, C-Reactive protein (CRP), white cell count (WCC) surgical treatment and outcome were collected. Stata V17 statistical software was used to capture and analyse data. A P- value of <0,05 deemed as statistically significant.

Results: A total of 150 patients were included in the study. The cohort was made up of 92(61.3%) males and 58(38.7%) females. A total of 47(31.3%) patient did not have a CRP. A total of 33 (22%) patients had a normal appendix off which 73% of them had a normal WCC. Majority of patients 67(44.7%) presented with ruptured appendix. A total of 5(7,4%) patients had ruptured appendix with normal WCC and 15(26%) had inflamed appendix with normal WCC.

Conclusion: Combination of WCC & CRP tests improve the diagnostic accuracy. There is a correlation between CRP and ruptured appendix. All patients with suspected AA should have both biochemical markers tested. In our setting AA likely to present late once it has already ruptured.

SRSS8-10

AN AUDIT ON THE USE AND OUTCOMES OF THE BOGOTÁ BAG TECHNIQUE IN THE MANAGEMENT OF THE OPEN ABDOMEN, AT A REGIONAL HOSPITAL IN DURBAN, SOUTH AFRICA

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Background: The open abdomen (OA) is a surgical technique applied in the emergency setting for both trauma and non-trauma indications. The Bogotá bag technique is a commonly used method to achieve temporary abdominal closure (TAC). It is readily available in operative room at a very low cost to the health budget, hence its frequent use in resource constrained settings such as South Africa. The aim of the study was to explore the indications and outcomes of Bogotá bag use in TAC at a regional hospital in Durban, South Africa.

Methods: A retrospective clinical audit was conducted between 2019 and 2021. The study population included all consecutive patients admitted to Addington hospital who underwent emergency surgery with the TAC

technique using a Bogotá bag. Data was extracted from surgical theatre and hospital records. At one-year follow-up post-surgery, additional information was collected on outcomes related to definitive repair of the ventral hernia, receipt of disability/social grant and the employment status of the patient. All data was entered and managed using the Microsoft Excel programme. Descriptive data was entered and analyzed in SPSS version 25. Descriptive statistics such as frequencies and percentages were used to summarize categorical variables. Central tendency and dispersion of data was measured using means and standard deviations for normally distributed variables and medians and interquartile ranges (IQR) for skewed variables. This study was approved by the Biomedical Research Ethics Committee of UKZN (BREC/00000959/2020).

Results: We identified 48 patients that met the inclusion criteria for the study. Most were males (77.1%, 37/48), median age was 31 years (IQR: 24.0-41.3). The most common indication for TAC was penetrating abdominal trauma (35.4%,17/48). Eighteen patients (37.5%) had primary abdominal closure, 11 patients died (22.9%), one patient (2.1%) had a delayed ventral repair, 14 (29.2%) are awaiting definitive surgery and four (8.3%) were lost to follow-up. Of the 14 patients awaiting ventral hernia repair, all were unemployed at 1-year follow-up and only four (28.6%) had received a social grant.

Conclusion: The COVID-19 pandemic impacted on data collection, hence the small patient numbers in the study. Our study showed that a low number of patients that received definitive repair at one year post index surgery. Persistent ventral hernia after Bogotá bag use is associated with a negative socioeconomic impact.

SRSS8-11

Evaluation of Stoma Reversals at a Tertiary Academic Hospital, Pretoria, South Africa

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Introduction: The creation of stomas has proven to be life-saving and can also be used as a temporising measure until healing of distal anastomosis has occurred. The study aimed to evaluate the stomas that were reversed at Dr George Mukhari Academic Hospital (DGMAH) in a three-year period.

Method: A descriptive retrospective study of 40 patients who had their stomas created and were due for stoma reversal at DGMAH from January 2019 to December 2021. The medical records were perused to determine the duration between stoma creation and stoma reversal. SMUREC/M/379/2022: PG.

Results: Majority of the patients were males (80%). Median age was 40.17 (±2.48) years. Most stomas reversed were created for benign surgical conditions, namely 37 (92.5%) vs 3 (7.5%) for malignant conditions. Trauma-related injuries resulted in more stomas at 7 (17.50%), followed by large bowel volvulus and small bowel obstruction at 6 (15%) and 5 (12.50%) respectively. Colostomies and ileostomies were more commonly created at 47.5% and 42.5% respectively. End ileostomies and Hartman's colostomies contributed to the bulk of stoma types reversed for the period of the study at 35% (n = 14) and 27.50% (n = 11). Loop colostomies and loop ileostomies contributed 20% (n = 8) and 7.5% (n = 3). Furthermore, the study revealed ultra-long mean waiting periods between stoma creation and reversal of 591.53 days (+/- 76.67 days). Despite these long waiting periods, the mean LOS post reversal of stomas was 11.25 days (+/- 2.36 days) with the shortest time being 4 days and the longest time being 75 days. The study also demonstrated that complication rates were 22.5% (n = 9), with SSI occurring commonly at 44.44%. The mean procedure time was 159.25 minutes (+/- 11.51 minutes).

Conclusion: From this study, patients wait for a considerable amount of time to get their stomas reversed. Despite this long wait, complication rates were not alarmingly high. Also, the operative times were not prolonged; however, more prospective studies are needed to quantify how the delayed reversal of stomas compares with early stoma reversal in our institution.

SRSS8-12

Laparoscopic hernia repairs at Pietersburg hospital, Limpopo South Africa: implication for training.

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BACKGROUND: More than 1.2 Million hernia repairs in US, annually. No published data in RSA regarding Hernia repair rate in RSA. HerniaSurg and Hernia interest group recommends laparoscopic hernia as procedure of choice for repair. Only 15-20% of repairs are done laparoscopically in USA, and worldwide.

Objective: The adequacy of trainees exposure to laparoscopic hernia repair at Pietersburg Hospital, Limpopo. RSA.

METHODS: Retrospective, All adult patients underwent hernia repairs (inguinal and ventral) from June 2021 until May 2023 at Pietersburg hospital, Limpopo, South Africa.

Collected parameters includes age, gender, procedure, open or laparoscopic approach.

RESULTS: One hundred and forty four (n=144), inguinal hernia (n=80(55.5%)) and ventral (n=64/(44.5%)), open repairs (83.9%)inguinal (n=65(45.8%)) ventral (n=55(38.1%)). Laparoscopic repair (n=24/15.9%). Inguinal hernia (n=15(9.7%), ventral hernia (n=9(6.25%)) the total number of hernias done. Age(mean 52,8 years, lowest 14years oldest 100 years) gender(males 81 females 63), emergency vs elective (elective:56, emergency 88)

ANALYSIS OF RESULTS: Laparoscopic repair (n=24/15.9%). Inguinal hernia (n=15(9.7%), ventral hernia (n=9(6.25%)) the total number of hernias done. For inguinal hernia n=80 laparoscopic repair n=15 (18,75%). For ventral hernias n=64 laparascopic repairs n= 9 (14.06%)

CONCLUSION: Both ventral and inguinal hernias are primarily repaired by open repair at Pietersburg hospital. The rate of laparoscopic repairs is similar to that in other centres locally, in USA and worldwide.

SRSS8-13

Incidence/spectrum of microbiological infection in surgical wounds at a South African quaternary hospital

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Introduction: Surgical site infections (SSIs) are a significant cause of morbidity and mortality worldwide, particularly in resource-limited settings. This study aimed to describe the incidence and spectrum of microbiological infection in surgical wounds of patients attending a South African quaternary hospital.

Method: A retrospective database analysis of admissions of patients who had surgery between 2012 and 2016 was performed. High volume specialties were studied (Vascular; Orthopaedic; General; and Gynaecologic surgery). As per the Centres for Disease Control definition, patients were monitored up to 30 days postoperatively for SSI. Pus swabs from suspicious wounds were processed. Patient demographics, selected surgical variables, and microbiological data was descriptively analysed. BREC/00005098/2022.

Results: Of 6620 patients, 609 developed an SSI (incidence rate = 9.2%). Overall, the most common micro-organisms were Staphylococcus species and culture negative SSI. For each speciality, the important micro-organisms were: Orthopaedic (Culture negative, 45.2%), Gynaecology (culture negative, 29.4%), Vascular (Staphylococcus species, 30.1%), General (Staphylococcus, 36.2%).

Conclusion: We highlight the high incidence of SSIs (especially culture negative) in resource-limited settings. Improved preventative and diagnostic strategies are needed to reduce the burden of SSIs.

SRSS8-14

A scoping review of the corona mortis; its prevalence and variability bearing significance to the general surgeon.

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Background: It is well established that the Corona Mortis (CMOR) may be injured during common pelvic surgeries such as pelvic fracture repair and acetabular surgeries. A precise knowledge of the anatomy of the CMOR is of paramount importance to create awareness of the possibility of injury to the CMOR, and may aid in reducing haemorrhagic complications during surgery, minimise iatrogenic injury, and reduce hospital stays. This study aims to explore the prevalence of the CMOR and its clinical significance to the general surgeon.

Methodology: This scoping review comprised of studies published on the CMOR and on complications of laparoscopic inguinal hernia repairs. The literature search was conducted using the following databases: PubMed/ MEDLINE and Google Scholar, for articles pertaining to the CMOR, between 2000 and 2021. The basic structure of the search included keywords 'corona mortis', 'circle/ crown of death' and 'laparoscopic inguinal hernia complications.' The types of studies included in the search were qualitative, quantitative or mixed-methods studies. The data extracted was summarised to the prevalence, anatomical variations, and nomenclature of the CMOR.

Results: Twelve studies were included in the final analysis. Of these twelve studies, seven studies evaluated the presence of the CMOR radiologically, whilst five studies assessed the presence of the CMOR on cadavers. The prevalence of the CMOR ranged from 14% to 51% in

radiological studies and in relation to cadaveric studies, the prevalence of the CMOR ranged from 45% to 80%.

Conclusion: The possible presence of the CMOR, or crown of death, should be appreciated during the inguinal hernia repair procedures, considering its prevalence and anatomical variations. The CMOR can be arterial or venous, as well as bilateral or unilateral in nature. Most studies in this review have described the arterial variant and therefore this is more commonly referred to when discussing the CMOR.

SRSS8-15

Impact of SARS-COV2 pandemic on emergency surgical services at Groote Schuur Hospital

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Background: An international survey (98 collaborators from 31 countries) on the impact of the SARS-CoV-2 pandemic on emergency surgery services revealed an 87.8% decrease in procedures. The aim of the study was to determine the impact of the Covid-19 pandemic on the number of emergency surgical operations performed at Groote Schuur Hospital, Cape Town, South Africa.

Method: The study was a retrospective cross-sectional study, comparing the number of emergency surgical operations performed before the COVID-19 pandemic to those performed during the COVID-19 lockdowns. Data was retrieved from Web Surgibank and Clinicom databases.

Results: The total number of surgeries performed during the study period (March 2019 – April 2021) was 25958. The most frequently performed procedures were by orthopaedics (18.5%), hands surgery (16.6%), acute care surgery (15.9%), neurosurgery (10.7%) and trauma surgery (9.2%). There was a 19.5% statistically significant reduction in the number of procedures during Covid era ($p=0.02$). The mean number of surgeries during the pandemic was less compared to the pre COVID-19 period ($p<0.001$). The patterns in the types of surgeries performed were similar before and during the various levels of the pandemic. There was a statistically significant difference in the number of surgeries performed across the various stages of the alcohol lockdowns. The increases and decreases varied across different conditions. From the first full alcohol ban (March to May 2020) to the first and 2nd alcohol partial ban (June to July 2020) – the numbers of emergency surgeries in thirteen out of the seventeen types of conditions continued to decrease while they increased in three conditions: trauma (increased by 70.4%), ENT (increased by 41.1%), eyes (increased by 68.5%) and hands (increased by 3.4%).

Conclusion: Covid-19 has significantly impacted the number of surgeries performed during the pandemic. In addition, alcohol ban has also significantly impacted the pattern of surgeries performed. This overall reduction, however, was less compared to international centres. The lesser reduction is due to high incidence of trauma in South Africa as well as local hospital policy to avoid total collapse of the surgical system.

SRSS8-16

Patient blood management: Assessment of Surgical, Medical and Anaesthetic specialist trainees' transfusion medicine knowledge at the University of the Free State

BB Motaung, CB Noel

Objective: To assess the level of knowledge in transfusion medicine, using the validated BEST Tool questionnaire, amongst specialist trainees from the departments of General Surgery, Anaesthesia and Internal Medicine.

Method: Setting: Universitas Academic Hospital; University of the Free State, Bloemfontein, South Africa. Participants: Health Professions Council of South Africa (HPCSA) registered specialist trainees from the departments of General Surgery, Anaesthesia and Internal Medicine. A total of 56 participants were included. Main outcome measure: To determine the level of transfusion medicine knowledge amongst specialist trainees. Secondary outcomes: Identifying areas of shortcoming in transfusion medicine knowledge, determining the difference in transfusion medicine knowledge amongst the three specialist training groups and comparing self-perceived knowledge with actual level amongst specialist trainees.

Results: There was no statistically significant difference in transfusion medicine knowledge amongst trainees from the three specialties, with a mean result of 41.9% for Surgical trainees, 41.5% for Internal Medicine trainees and 44.2% for Anaesthesia trainees ($p>0.05$). The knowledge regarding transfusion reactions and its management were areas that needed improvement. The mean on these questions was below 25%. Readiness amongst trainees for formal training on transfusion medicine was seen in 83.9%, with 57.1% indicating that they were aware of their inadequate knowledge. Misperception around transfusion knowledge was apparent with 42.3% of trainees reporting self-perceived knowledge to be

good or very good. The mean of transfusion knowledge in this subgroup was 45.3%.

Conclusion: The lack of formal training in transfusion medicine contributes to poor knowledge among the trainees. Multiple studies from around the world have shown that there is limited knowledge on transfusion medicine amongst treating physicians, despite the proven benefits for the patients and the positive implications on the health care system. Patient blood management produced evidence-based recommendations that guide doctors' transfusion practices both with regards to patient safety as well as cost saving measure. Formal training and continuous assessment of the doctors is of outmost importance moreover, with the trainees having shown readiness

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