ABSTRACTS

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GS024: - Advancing SOTA Care in Rural Communities

In North Kivu Province of eastern DR Congo, it is known that in 35% of households surveyed in 2 health zones, at least one person required a surgical procedure in the preceding 12 months. SOTA care is therefore a critical part of primary health care. Most surgery in the region is performed by general or family doctors as the SAO ratio is only 0.4/100,000 population. 25% of those requiring surgical care did not attend hospital because of a prior bad experience. Their views are valid, as no morbidity and mortality data exist and only 30% of health centers use a WHO surgical safety check list. Also, in the past 5 years the tertiary referral HEAL Africa Hospital (HAH) has been referred over 180 cases of abdominal catastrophe or uretero-vaginal fistulae, many resulting from poorly performed C-sections, most in a rural setting.

To overcome this poor quality of surgery, a Diploma in SOTA Care Course (DISC Course) was begun in early April 2023. 4-5 general doctors from rural hospitals and health centres spend 2 months at HAH participating in practical SOTA care skills and knowledge training, including a Basic Surgical Skills Course, Trauma Course, as well as undergoing teaching in Safe Surgery, WHO Principles, Safe Anaesthesia, Obstetrics Training, Neonatal Care, Fistula Prevention and Care and intensive basic applied Anatomy and Physiology

Permission to conduct the course and ethics approval were obtained from Provincial Health Authorities. Data is collected from participants by pre and post testing of knowledge by Multiple Choice Questions and each participant is asked to rate their surgical skills confidence on a 0 to 10 numerical rating scale (NRS) before and after the course.

Results: In 2023, 4 cohorts will have completed the DISC Course. Preliminary data shows an average improvement in knowledge from 56% on pre-testing to 80% on post-testing. Overall average skills confidence rose from a mean of 5.6 prior to the course to 7.8 at the completion. For Bellwether procedures, the skills confidence mean increased for each of 3 procedures (Laparotomy 5→ 8.25; C-section 7.3→ 9; Management of an Open Fracture 3.25 → 6.5). Other resuscitative skills were also assessed. Participant surveys revealed that most rural doctors performing surgery had not been specifically trained in the basics of surgical care or patient safety.

The aim of this structured practical skills-based upskilling for rural doctors, is to reduce morbidity and mortality from surgery and improve clinical outcomes. Also, the course aims to increase use of WHO protocols. While trialling in DR Congo, it is possible that a structured practical (hands-on) based curriculum like this is required throughout rural Sub-Saharan Africa. Data will continue to be collected to demonstrate the effectiveness of this very practical training.

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GS025: - Title: Endoscopic Surgical Innovation in Rural Zambia Through Partnership

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Introduction: Surgical technologies and innovations, such as laparoscopy and endoscopy, are not routinely accessible in much of sub-Saharan Africa. As connectivity and training expands throughout the continent, access to these modalities has improved. We aimed to describe the initiation and experience of a novel endoscopy program at a rural surgical training program built in partnership with a knowledgeable university-based team.

Methods: Partnership with an existing university surgical program assisted in training surgeons and staff in techniques and use of endoscopes. Training was completely on-site for all staff. A review of cases was performed after initiation of an endoscopy program. Age, sex, endoscopy modality, anatomic location, intervention and findings, and adverse events were recorded. All cases performed were examined.

Results: Thirty-four patients underwent endoscopic procedures. The most common procedure was upper endoscopy on 27 (79.4%) patients. Colonoscopy was performed in 3 (8.8%) patients. Combination upper and lower endoscopy was performed in 3 patients (8.8%) while cystoscopy was performed in 1 (2.9%) patient. The most common indication was reflux symptoms in 18 (52.9%) patients. Gastrointestinal bleeding accounted for 7 (20.6%) patients. Biopsy was performed in 4 (11.8%) patients. Diagnostic findings were visualized in 21 (61.8%) of patients. There were no adverse outcomes appreciated.

Discussion: Introduction of an endoscopy program is feasible in the context of rural sub-Saharan Africa. This may be assisted through partnership with programs already experienced in these innovative modalities. Training on location at the hospital provided less loss of work hours throughout the week for a large cohort of providers. Benefit is immediately realized through diagnostic yield to guide further therapies for patients, particularly without requiring travel to higher levels of care.

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COESCSA 1:- Title: Specialist Surgeon Workforce in COSECSA Affiliated countries

Background:
Africa has quarter of the global burden of disease but only 3% of the world's health workforce. These numbers are also reflected within the surgical workforce. Lack of adequate key personnel in surgical specialties is one of the major hindrances to accessing appropriate surgical care. COSECSA since its establishment in 1999 set out to increase the number of surgeons within the region, bridging the gap between the need and available workforce. It also identified key sub specialties previously unavailable in most member countries and introduced local training. One of the aims of the study was to see the number of surgical specialties in the COSECSA affiliated countries, their ratios and trends in the numbers.
Methodology:
A cross-sectional analysis of the specialist surgical workforce in 12 of the 14 COSECSA countries was undertaken with data collection undertaken from May 2021 to November 2022. The primary source of information was an existing COSECSA capsule database. This was then edited using information from direct contact with the specialists, Hospitals and regional COSECSA country representatives. The information was validated using a minimum of two credible independent sources.
Results:
2555 surgeons were confirmed to be working in the region, 82% of whom trained with COSECSA. General surgeons constituted the majority of specialists at 47%, followed by orthopedic surgeons at 20%. Neurosurgery had the largest increase of 93%. Maxillofacial surgeons comprised 2.7% of the specialists and were one the smallest groups and also had the least increase of 30%.

Conclusion:
COSECSA has made great strides towards increasing the number of Surgeons within its region and introduced diversity of specialties. More partnerships are needed for better funding and sponsorship of key sub specialties. Improved utilization of available technology and telemedicine may improve training and availability of other specialties.

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GS061: - Sharing Innovations in Non-technical Skills Training Across African Contexts: Pilot Implementation of Rwanda Training Tools in Nigeria

Authors: Barnabas Alayande, Paul Kingpriest, Abebe Bekele, Robert Riviello

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Introduction

Up to 50% of intraoperative errors are traceable to deficiencies in non-technical skills. Deficits have been identified in non-technical skills training for surgical teams in the West African sub region. Multidisciplinary surgical teams at 5 facilities in North-Central Nigeria were trained using the Non-Technical Skills for Surgery in Variable Resource Contexts (NOTSS-VRC) curriculum, which was designed and implemented in Rwanda and assessed the trainings on the first two Kirkpatrick levels.

Methods

Following ethical approval and written informed consent, we conducted in-person training for multiple surgical teams at 5 facilities (including a public and a private teaching hospital, a non-teaching tertiary federal medical center, a private tertiary hospital, and a not-for-profit secondary facility) across 3 North-Central Nigerian states.

Multidisciplinary team perception and knowledge gain were assessed using pre and post course tests, structured questionnaires on Likert scales, and free text responses, followed by focus group discussions. Knowledge gain was assessed using Wilcoxon rank test. Perceptions of the course assessed on Likert scale, and via thematic analysis.

Results

Across the facilities,162 multidisciplinary participants with median age of 39 years, and a male to female ratio of 1.7:1 consented to take the assessment. Cohorts included surgical trainees, perioperative and anesthetist nurses, general practitioners, interns, consultant anesthetists and surgeons among others. There was significant knowledge gain following training as average percentage test scores increased from 47% to 57% (W 2336.500, $p<0.05$). Almost all could effectively discuss situation awareness, decision making, teamwork, communication and leadership following training. 95% enjoyed the sessions and recommended training for all operating room staff, 87% were motivated to attend further training, and saw it as a tool to improve patient outcomes. Group discussions and simulation videos were the most helpful components of the curriculum. Participants suggested the use of contextualized local videos, practical non-simulated operating room sessions, frequent training, expansion of the participants, and licensing the training for Continuing Medical Education.

Conclusion
Implementing NOTSS-VRC Training from Rwanda in Nigeria was feasible, relevant, and well received, resulting in significant knowledge gain based on first and second level Kirkpatrick assessments. NOTSS training innovations can be cross-fertilized across these African contexts. Training materials are being contextualized for wider National implementation, prior to assessment on higher Kirkpatrick levels.

Assessing Pilot Implementation of Non-Technical Skills for Surgery Training in North-Central Nigeria

Introduction: significant gaps have been identified in non-technical skills training in the West African sub region. Up to 50% of intraoperative errors are traceable to deficiencies in non-technical skills. We trained multidisciplinary surgical teams at 5 facilities in North-Central Nigeria using the Non-Technical Skills for Surgery in Variable Resource Contexts curriculum, which was designed and implemented in Rwanda and assessed the trainings on the first two Kirkpatrick levels.

Methods: Following ethical approval and written informed consent, we conducted in-person training for multiple surgical teams at 5 facilities across 3 North-Central Nigerian states, including a public and a private teaching hospital, a non-teaching tertiary federal medical center, a private tertiary hospital, and a not-for-profit secondary facility. Trainings were assessed on levels of perception and knowledge gain using pre and post course tests, structured questionnaires on Likert scales, and free text responses. Knowledge gain was assessed using Wilcoxon rank test. Perceptions of the course assessed on Likert scale, and via thematic analysis.

Results:
Conclusion: Non-Technical Skills for Surgery Training in North-Central Nigeria was well received and effective on the first 2 Kirkpatrick levels. Training materials are being contextualized for wider National implementation.

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GS006: - Integrating Surgery & Industrial Engineering: An Innovative Approach to Improve Blood Transfusion Processes in Constrained Resource Settings

Authors: Jana B Macleod, Yiqi Tian, Jay Rajgopal, Bopaya Bidanda, Bo Zeng, Mark Yazer, Gatwiri Murithi, Cindy Mical, Robert Kamu, Tecla Kivuli, Linda Barnes, Pratap Kumar & Juan Carlos Puyana.

Introduction: Blood product administration is an essential component of the treatment of many surgical conditions. However, timely access to blood products is often delayed or insufficient in resource-limited settings due to a supply and demand mismatch. Optimal blood product management is complex and requires a multi-faceted, inter-connected and intricate system. An innovative approach using industrial engineering-based methodology to create a process map model of the blood supply, delivery and utilization system was developed to enhance our understanding of the blood continuum (from vein to vein) in constrained settings.

Methods: The qualitative and quantitative data used to develop the simulation model was collected from three geographically diverse Kenyan counties. Qualitative data from interviews conducted with system-users and quantitative data collated from the hospital blood transfusion requisition forms were used. Several components of the blood transfusion system were linked with complex logic and various input parameters to mimic multiple interrelationships. After the maps were validated through Kenyan stakeholders' iterative input and evaluations, a discrete event simulation model designed to simulate the process of blood supply and demand throughout the spectrum from blood drives, to blood banks and hospitals was developed. This model allows users to create 'what-if' scenarios and to test various input parameters and potential processes changes. Two examples of "what-if" scenarios were created by clinicians and introduced into the model to generate a diverse set of potential results

Results: We introduced 3 scenarios with varying proportions of emergency cases requiring a blood transfusion:(a) predominantly non-emergency patients (b) approximately equal proportions of emergency and nonemergency patients; and (c) predominantly emergency patients. The model demonstrated that when the proportion of emergency patients increases from 10% to 50% to 90% of the patient mix, the fraction of all patients with blood demand satisfied decreases; (from 26% to 23% to 21%, respectively). A separate "what-if" scenario in this case comparing when blood is sent from the blood bank only when requested by a clinician, versus a process change where a weekly replenishment system of proactively shipped blood that is stored for anticipated future needs is introduced, the percentage of patients having their demand satisfied increases from 23% to 30%. Interpretation of the numeric output of the model varies with the pre-determined input values from the context-specific local data, allowing for various iterations that could inform potential solutions for diverse scenarios.

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Conclusion: We present an engineer-based strategy that allows us to assess process changes in the blood continuum. It illustrates the capacity of a discrete-event simulation tool to assist clinicians in decision-making through weighing multiple scenarios. These scenarios could potentially identify bottlenecks, allow testing of possible solutions, and play a role as an adjuvant tool to assess context driven interventions aimed at improving the efficiency of the blood continuum system in the future.

Acknowledgements: This study is part of The Pathways for Innovation in Blood Transfusion Systems in Kenya (PITS-Kenya) project, which is funded by the US National Institutes of Health, under the Blood Safe Program of the National Heart Lung & Blood Institute.

GS057: - Title: Impact of adapting a surgical safety checklist training to a virtual platform in Ethiopia

Authors: Maia R. Nofal, Tihitena Negussie Mammo, Sara Taye Haile, Nichole Starr, Matiyas Asrat, Natnael Gebeyehu, Assefa Tesfaye, Habtamu Wolde-amanuel, Mekdes Daba, Thomas G Weiser,

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Introduction:

Using the WHO Surgical Safety Checklist (SSC) reduces morbidity and mortality from surgery, though uptake in many settings is challenging. The SSC has been successfully implemented through in-person trainings as part of a quality improvement program in Ethiopia with a 50% increase in proper checklist use. During the coronavirus pandemic, SSC workshops were adapted to a virtual platform. We aimed to evaluate the impact of these virtual SSC workshops.

Methods:

From January-September 2022, nine Ethiopian hospitals participating in a quality improvement program received virtual SSC training. Checklist utilization was measured through direct observation of behaviors in the operating room. Using statistical process control methodology, we performed a time series analysis using population-averaged generalized estimating equations Poisson regression. We calculated incidence rate ratios (IRR) of proper checklist use pre- and post-intervention and predicted the change in average monthly compliance before and after the training.

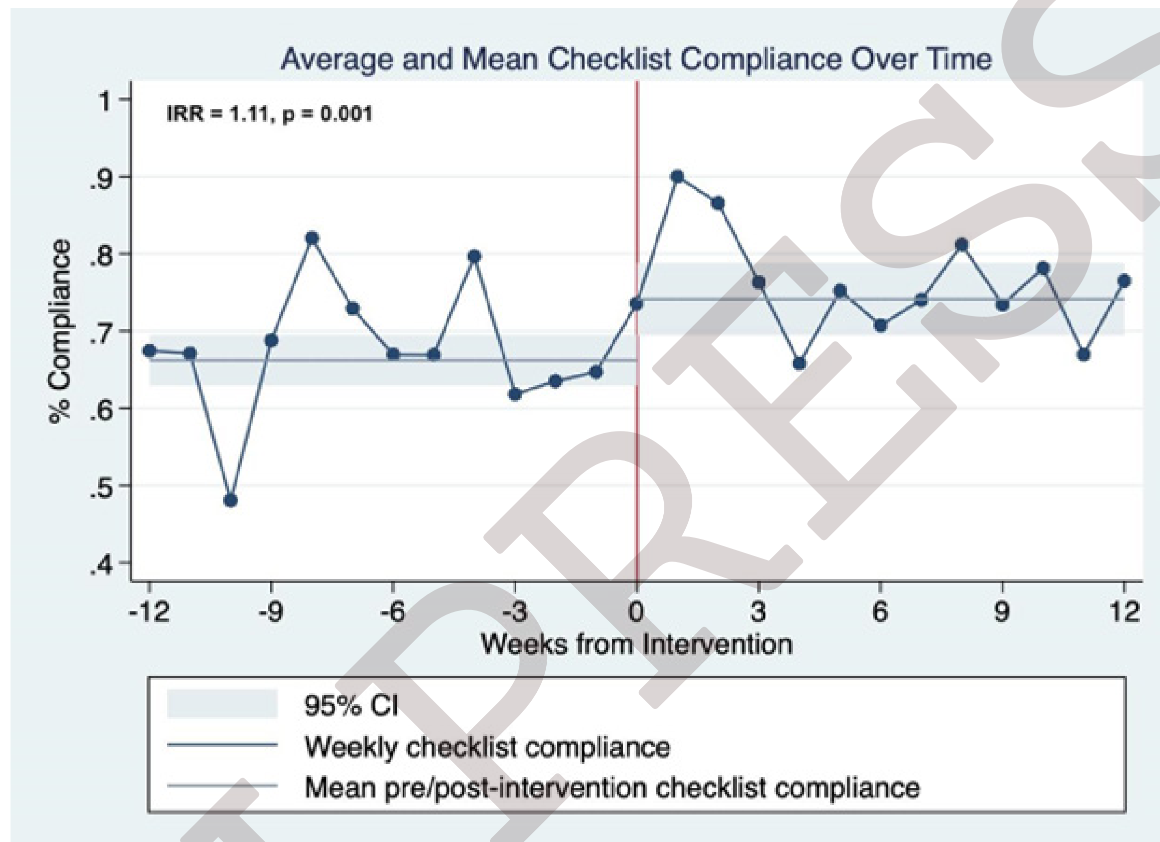
Results:

We observed and captured checklist compliance from 9,408 operations, 5,700 (60.6%) pre-intervention and 3,708 (39.4%) post-intervention. Average monthly checklist compliance improved from 66.2% to 74.1% (IRR=1.11, p=0.001; Figure 1). Statistically significant improvements were noted in all nine hospitals.

[PAGE NUMBERS NOT FOR CITATION PURPOSES]

Discussion:
Virtual SSC workshops improved checklist use and compliance but to a lesser degree than prior in-person workshops. Virtual training can improve access for LMIC clinicians that are often far from educational hubs and allow training programs to scale where travel is expensive or inefficient. A better understanding of how to best adapt training to virtual platforms is needed.

Figure 1. Average and mean checklist compliance over time



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GS033: - Title: Low-Cost Innovative Simulation Models for Soft-tissue Procedures for Medical Student Education in Rwanda

Authors: Rachel E. Wittenberg, Natnael Z. Shimelash, Ornella Masimbi, Mayte Bryce-Alberti, Madeleine Carroll, Sarah R. Nuss, Matthew T. Hey, Rashi Jhunjhunwala, Callum Forbes, Barnabas Tobi Alayande, Abebe Bekele, Robert R. Riviello, Geoffrey A. Anderson

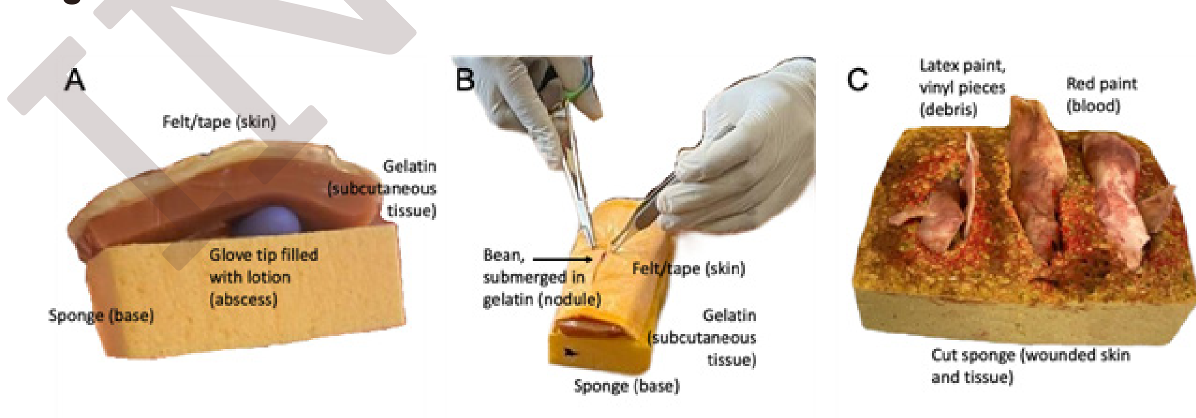
Introduction: Simulation-based training (SBT) enhances medical education but is often limited in low-resource settings. We developed, implemented, and assessed three low-cost, medium-fidelity SBT models of soft-tissue lesions for medical students beginning their general surgery clerkship in Rwanda.

Methods: Models were designed for three common procedures identified by clerkship operative logs and a Delphi process identifying priority procedures for medical students: (1) abscess drainage with/without ultrasound guidance (Fig.1A); (2) biopsy/excision of subcutaneous mass/nodule (Fig.1B); and (3) wound debridement (Fig.1C). The nodule and abscess models were practiced with/without portable ultrasound. Nearly all materials were locally-sourced and included items such as sponges, gelatin, felt, and pieces of latex gloves filled with lotion. The curriculum was implemented via partnership between U.S. and Rwandan healthcare providers. A short lecture preceded guided simulation in pairs. Pre- and post-assessments using Likert scales assessed students' exposure, interest, and confidence in these skills.

Results: Of the 18 medical students who participated, few had previously observed nodule excision (6%), abscess drainage (6%), or wound debridement (24%), and 0% had performed any of these procedures. 88% had practiced ultrasound prior to the session. >80% reported being "very interested" in each procedure. On a five-point scale, student confidence in skill performance improved +1.85 ($p<0.001$) for wound debridement, +1.72 ($p<0.001$) for nodule excision, and +1.31 ($p<0.001$) for abscess drainage and was >4.1/5.0 for all procedures post-session. Most students rated the models "somewhat representative" and strongly agreed that the models were useful (94%) and anticipated using these skills in future training/practice (75%). 100% reported enjoying the session. The nodule excision model was most popular. Cost/unit was $1.19 for the abscess, $1.07 for the nodule, and $1.17 for the wound debridement models.

Conclusions: Simulation using low-cost, locally-sourced models increased student confidence in three common procedures for soft-tissue lesions. SBT can augment medical training in low-resource settings. While designed for a general surgery clerkship, these models could be utilized for training in a variety of procedural settings and adapted to target diverse learners with varied skill levels.

Figure 1:



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PLR1: - Title – Conventional suction machine assisted Liposuction and Periareolar excision for Gynecomastia

Author – Bereket Atnafu Worku

Introduction – Although there are a variety of advanced liposuction techniques for body contouring, they are not available in most hospitals in developing countries due to cost and lack of hospital investment. And using portable suction and wall suction systems is reported as not only cost cost-effective and convenient treatment but also as safe and satisfying technique for gynecomastia patients.

Case Presentations – We have treated close to 15 patients in the last 2 years, most of them are young adults in their 20s. For all of them we did Suction Assisted Liposuction with different size liposuction cannulas ranging from 2.5mm to 5mm and different hole pattern (Mercedes, Three-hole, Two hole and One hole) cannulas. The suction source we used in all patients is a portable suction machine except for one with a wall suction system. We have also done lower peri areolar incision and excision of the remaining glandular and fibrous tissue in all patients. The lipoaspirate ranges from 500m to 1500ml. Majority of them was made under Tumescent anesthesia alone with minimal sedation, while two of them required total conversion to General anesthesia with intubation and another two required significant sedation with inhalational agents with an airway mask without intubation.

we have used a locally made compression garment in all patients mostly starting from immediate postop. We did not encounter any major complications of hematoma, infection or nipple areolar necrosis. We have seen a few epidermal necrosis around the incision site in a few patients that was healed completely. Self-reported patient satisfaction was great in all patients in the first few weeks and months of follow up. Depression of the nipple areolar area have been seen in most patients in the first few weeks of follow up except in those who are physically fit with a good pectoralis muscle bulk. This was a concern to a few patients and to the surgeon

Discussion – our case series demonstrates that using available suction systems with proper cannulas and techniques is a safe and cost-effective treatment for patients with gynecomastia.

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PLR0008: - Short Term Impact of Team Training: Team Cleft Pilot Course

Author: Getaw Alamne

Background: Orofacial clefting constitutes the most common congenital craniofacial malformations. A multifaceted and interdisciplinary team with enhanced interdisciplinary communication and teamwork is needed to ensure safe, timely, and effective delivery of cleft lip and cleft palate (CLP) care. The objective of this study is to determine the impact of multidisciplinary teams involving

intensive CLP curricula on team dynamics involved in surgical management of such patients. The other important objective of the study is to assess the immediate impact of team cleft curricula on the behavior of cleft care providers.

Methods: Team Cleft is a pilot program developed by Smile Train-Lifebox Safe Surgery and Anesthesia Initiative that consists of a two-day workshop focused on techniques for improved communication between surgeons, anesthesia providers, and nurses in the perioperative field and during sentinel events. The course was taught by local providers who were trained as facilitators. Completed pre- and post-course assessments, safety attitudes questionnaires, OR processes questionnaires, and course feedback questionnaires.

Results: A total of 55 participants selected from Smile Train partner hospitals (four in Ethiopia, four in Uganda and two in Kenya) attended a two-day course in their country.
In total, 33 nurses, 13 anesthesia care providers, 8 surgeons and 1 theater assistant attended the course. From a total of 55 participants, 51 participants (92.7%) took pre and post-test knowledge assessments. 45 participants (82%) had an improved pre vs. post course test score. There was an 11% increase in pre vs. post course score. 97% of team members showed confidence in their OR saying they would feel safe if they needed to be treated in the unit they are working as a patient.
Implementation of safety practices was reported to be weak, with 37% of trainees using team briefs. 80.5% of participants are extremely likely to recommend this course to a colleague.

Conclusion: Given the interdisciplinary nature of CLP care, it is essential to facilitate improved communication between team members. The Team Cleft pilot study indicates that intensive curriculum with a team-based approach can improve cleft lip and palate care knowledge. And this course improves the attitude of the providers on the impact of pre-operative team discussion on safety of cleft lip and palate patients. More importantly, these courses may enhance surgical safety, leadership skills, conflict resolution, and communication techniques that may optimize team dynamics; hence most of the participants recommend the course for colleagues.

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PLR0001: - Patterns of Adult Burns in Yekatit 12 Hospital Medical College Burn Unit

Tewodros Melese MD, Mekonen Eshete MD

Background: Burns are a global public health problem, accounting for an estimated 180 000 deaths annually. The majority of these occur in low- and middle-income

countries and almost two thirds occur in the WHO African and South-East Asia regions. Non-fatal burns are a leading cause of morbidity, including prolonged hospitalization, disfigurement, and disability, often with resulting stigma and rejection.

Objective: To assess the patterns of burn injuries in adult patients at Y12 HMC burn unit.

Subjects and Methods: Retrospective descriptive analysis of burn injuries at Yekatit 12 Hospital Medical College was done. The data of all patients who visited the emergency department after sustaining burn injury and treated at Yekatit 12 Hospital Medical College Burn Unit from September 11,2015 to September 10,2018 was assessed.

Results: During the study period a total of 297 victims of burn injury were treated. 42.4% of the patients were males and 57.6%, were females. The median age of the patients was 26 years with inter-quartile range of 20 years to 35 years. About 77.9% of the patients were from Addis Ababa. About 12.1% of the patients had varieties of medical co-morbid illnesses. The burns were accidental in 98% of the patients and deliberate in 2% of the patients. The majority of the patients were injured at home 71.4% and 27.6% were burned at workplace.
The most common causes of burn injury were scald 44.7%, followed by flame 36.9% and electricity in 16.9% of the cases. The commonest burned parts of the body were upper and lower limbs in 19.2% of the cases Most of the patients (74.2%) had 2nd degree burn, 17.6% had mixed 2nd and 3rd degree burns, and 6.4% had 3rd degree burn. Only 1.7% had first degree burn.

Conclusion And Recommendation
The burn injury was more common in females and occurred at home this is probably because of the unprotected cooking method which is popular in this part of the world. A significant proportion of male patients sustained electric burns which occurred at workplaces. This is most probably because of the lack of safety protocols at most workplaces in resources constrained countries. We recommend educating community on practicing protected cooking method and to introduce safety regulations in all working places.

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PLR0005: - The Outcome of secondary alveolar bone grafting in patients with cleft lip and palate at a tertiary cleft care centre in Addis Ababa Ethiopia.

Authors: Tewodros Melese MD, Fikre Abate MD, Abiye Hailu MD, Shiferaw Degu DDS, M Phil Dent, Mulatu Zewude DDS,MSc, Getachew Kifle DDS, MSc, 1Mekonen Eshete MD, PhD.

Objective: To assess the outcome of secondary alveolar bone grafting (SABG) in cleft lip and palate patients.

Subjects and Methods: This study was done to assess the outcome of secondary alveolar bone grafts performed at Yekatit 12 Hospital Medical College between July 2016-September 2022. During the study period 24 patients 12 males and 12 females were operated. Seventeen (70.8%) patients had unilateral cleft lip and palate four (16.7%) had bilateral cleft lip and palate and three (12.5%) had unilateral complete cleft lip only. The mean age at the time of operation was 9.38 years. Orthopantomogrphs were taken to assess the outcome of the surgery using previously reported criteria.

Results: The results of alveolar bone grafting carried out at Yekatit 12 Hospital Medical College between 2016-2021 was assessed. Cancellous bone from the iliac crest was harvested and grafted to alveolar cleft defects in 24 cleft patients (12 males and 12 females) The majority of the patients had left side cleft lip and palate 11 (46%), six (25%) had right side cleft lip and palate, six (25%) had bilateral cleft lip and palate and one (4%) had right side complete cleft lip only. Radiographs were taken and the success rate of the SABG was assessed. The clinical acceptability of the bone graft was assessed using Bergland et al. criterion It was found that 66.7% percent were clinically successful (Type I and II). Five (20.5 %) had less clinically acceptable results (type III). Few cases 3 (12.5% failed.

Conclusion: Secondary Alveolar bone graft is one important part of cleft care. The findings of this study indicates that it can be done successfully in resource constrained centres with limited experience.

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GS053: - WALANT; A Potential Pillar to Universal Access to Surgery In Africa.

Author: Dr. James Kariuki

Background: One of the main factors stated for failure of UHC is cost of medical care. One example of reform that aims to improve access to surgery is the use of the novel Wide Awake Local Anesthesia no Torniquet (WALANT) technique, a game changer in surgery that has contributed to significant cost reduction and improved access to surgery while also providing increased patient comfort and safety. We aim to show the distinct advantages of using the WALANT technique in terms of cost reduction at a tertiary hospital in Africa over a period of 12 months.

Methods: We present an economic analysis involving 136 patients who underwent various surgical procedures using the WALANT technique in a tertiary hospital in Kenya. We compared the cost of surgery incurred to the patients and compared this with the cost of similar procedures undertaken using the more conventional general and spinal anesthesia. Results: The results revealed a 3-fold reduction in the cost of surgery when these procedures were performed in the ambulatory setting under the WALANT technique.

Conclusion: Our study suggests that the use of the WALANT technique in surgery results in significant cost reduction and conversely more access to surgery among patients. We therefore recommend the adoption of the WALANT technique of surgery in hospitals across Africa to drive down the cost of healthcare and improve access to surgery especially in the rural populations where resources are scarce

IN PRESS

ORT0002: - Children living in rural areas are at highest risk of severe infections and complications following traditional bonesetter treatment in Ethiopia

Authors: Ephrem Gebrehana, Papa K. Morgan Asiedu, Mengistu G. Mengesha, Chen Mo, Sintayehu Bussa, Eden Alemu, Yishak ZerihuN, Habtamu T Derilo, Mahamed Areis, Kaleab T Reda, Wubshet A. Workneh, Bahru A. Shiferaw, Moa C. Jira, W. J. Harrison9, Claude Martin Jr, Kiran J. Agarwal-Harding

In Ethiopia, where modern orthopedic services are limited, Traditional Bone-Setting (TBS) remains commonly used to treat children for various musculoskeletal complaints despite a poor understanding of the complications and risk factors. Our study sought to identify risk factors for complications in children presenting for Orthopedic care after initially receiving TBS over 15 months, we enrolled

460 children who received TBS before presenting to 8 tertiary hospitals across Ethiopia. Patient demographics, injury and TBS-treatment details, and complications including bone complications (malunion, non-union, delayed union, avascular necrosis), severe infection (chronic osteomyelitis, septic joint, septic chronic dislocation, septicemia) and severe complications (missed compartment syndrome, Volkmann's contracture, gangrene) were analyzed. Bivariate and multivariate analyses were subsequently performed to identify risk factors for complications. Median age was eight, 75% were males, 52% urban residents and 69% impoverished. 75% were injured after falling. Injuries were soft tissue only (15%), closed fractures (79%), or open fractures (6%). Children were immobilized (76%) and/or massaged (59%) during TBS treatment.

Bone complications were most common (37.6%), followed by severe infection (13.9%) and severe complication (11.3%), with 26 children requiring major amputation. Bone complications were commonest after wrist injuries (OR 3.43; 95% CI 1.12 - 10.52) and delayed presentation: 31-60 days (OR 11.78 95% CI 6.15-22.54) and greater than 60 days (OR 11.94; 95% CI 6.78-21.03). Severe infection odds increased with rural residence (OR 5.51, 95% CI 1.97-15.39), visiting health facilities before TBS (OR 3.24 95% CI 1.24-8.45), soft tissue injuries without fracture (OR 6.01 95% CI 2.11-17.10). Severe complication odds increased with rural residence (OR 3.85, 95% CI 1.90 -7.78), soft tissue injuries without fracture (OR 2.77; 95% CI 1.23-6.26).

Overall, our study findings show that Ethiopian children from rural areas were at highest risk of severe infections and complications after TBS. Measures should be explored to understand the underlying reasons and protect this vulnerable segment of the population.

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ORT0008: - Characteristics and 30 days outcome of War Injury Patients managed at Hawassa University comprehensive specialized Hospital: A Prospective Observational study

Authors: Mengistu G Mengesha, Ephrem G Adem, Lewam Mebrahtu, Andualem Yehualashet, Sintayehu Bussa, Zinaye Wude, Yisihak Zerihun, Israel Wakjira, Zuber Hussen, Tumsa Beyene, Mesele Matusala

War-related injury is a major public health concern where it causes 16% of all disabilities reported globally. WHO reported the burden of war related injuries prevalence of 15% in 1990 and 20% in 2020 worldwide which is the leading cause of mortality and morbidity. The burden is high in LMICs due to lack of post war rehabilitation centers and limited resources allocated. Here we are presenting observational prospective study on the characteristics of war related injuries with short term outcome assessed at 30 days of follow up.

A total of 506 war related injury patients were included from November 2021 to April 2022, 98.8% were male with mean age of 25 +/- 7.86 years. The most common mechanism of Injury was bullet in 70% followed by blast injury in 22.3%. Majority of the patients (54.3%) were presented after 14 days and only 20.2% presented within 5 days of sustaining the injury.

The most commonly affected body part was upper extremity in 29.8%, lower extremity in 24.7%, ophthalmologic injury in 21.5% and facial injury accounting 13%. From the fracture, 60% were comminuted and 35.9% were simple fracture pattern. More than 67% of patients with long bone fracture were managed with open reduction and internal fixation after doing systematic debridement. Around 13.2% of the patient were having major nerve injury and 2.4% were having vascular injury at presentation. Seventy-four patients (14.6%) were having established infection during initial presentation and 18% of them need more than two operations. At 30 days of follow up, around 90% were having good to excellent outcome and only 3.2%) were having deep infection which need admission and operative management.

In our observational study, limb injury was the most common presentation after war related injury and patients were having satisfactory 30- days functional outcome with reasonable rate of infection as it was expected due to delayed presentation. We advocate to do early aggressive debridement and definitive fixation for war related injuries.

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ORT0010: - Sociodemographic Predictors of Patient Preference for Orthopedic Management by Traditional Bone Setters in Ethiopia

Authors: Mengistu G. Mengesha, Abdoulie O. Njai, Ephrem Gebrehana, Chen Mo, Sintayehu Bussa, Eden Alemu, Yishak Zerihun, Habtamu T Derilo, Mahamed Areis, Kaleab T Reda, Wubshet A. Workneh, Bahru A. Shiferaw, Moa C. Jira, Kiran J. Agarwal-Harding, Claude Martin Jr, W. J. Harrison

Background: There is growing concern about complications and associated disability that may result from treatment of musculoskeletal injuries by traditional bonesetters (TBS). In Ethiopia, we sought to identify risk factors for patient preference for TBS over modern orthopedic care.

Methods: The Bone Setting Associated Disability (BOSAD) Study prospectively enrolled 1,243 adults who presented to 8 tertiary hospitals across Ethiopia for management of a musculoskeletal injury previously managed by TBS over 9 months. Sociodemographic factors, injury characteristics, perception of TBS, patient knowledge, and reasons for TBS preference were analyzed.

Results: Participants were predominately male (67.6%) and lived in urban areas (52.9%), with most having an education level of grades 1-8 (41.6%). Most injuries were closed fractures (92.7%), most commonly of the arm, forearm, and hand. Almost all patients (98.2%) learned about TBS from family or friends/neighbors and patronized TBS without visiting a formal health facility (70.6%). Preference for TBS as first choice after injury was associated with informal education (OR 1.30, 95% CI 0.50–3.30) and family or relative previously treated by TBS (OR 2.19, 95% CI 1.48-3.24). Patients primarily preferred TBS because of its accessibility (65%) and pressure from friends and relatives (59%). Most (66.4%) believed that TBS should be allowed to treat simple fractures with training and a scope of practice, while 30.2% thought TBS should be banned completely.

Conclusion: This study emphasizes the high prevalence of TBS use across a diverse range of patient demographics. Addressing the use of TBS requires a multifaceted and diverse approach to effectively tackle this pervasive issue.

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Methods:
Through a snowballing method, we distributed a survey that captures information on five key sectors of an integrated civilian-military trauma system: patient care, education/training, formal partnerships, global health engagement, and communication. Based on expert consensus, we created a standardized scoring system to quantitatively measure levels of integration within each of these five key sectors. Through this scoring system, we were able to categorize integration type depending on the number of sectors that demonstrated integration. "Type I" integration was defined as cooperation in one sector or less, "Type II" integration was defined as cooperation in less than three sectors, and Type III" integration was defined as civilian-military cooperation in three or more sectors.

Results:
To date we have received responses from 71 individual countries and 203

participants. Of the 71 countries, 14 countries were from the WHO African Region. 89% of respondents from the African region endorsed some form of military-civilian trauma system integration, either partial or full integration. Botswana and the Democratic Republic of Congo were categorized as having Type I integration. Burundi, Cameroon, Ghana, Kenya, Madagascar, Mali, Nigeria, and South Africa were categorized as having Type II integration. Ethiopia, Malawi, South Sudan, and Togo were categorized as having Type III integration. Our quantitative analysis has yielded 92 indicators of feasibility and access (optimal point of entry) for military-civilian trauma system integration. These indicators allow for a dimensional analysis of the five key sectors of integration. For example, when highlighting the communication sector; 44% of respondents within countries demonstrating Type III integration noted existing military-civilian patient-records transfer methods whereas no respondents within Type II integration noted this exchange. This information can be paired with underlying capacity data collected from the survey such as 44% of respondents in countries with Type III integration noted the presence of electronic health records compared to 31% of those in countries with Type II integration.

Conclusion:

Our comprehensive dataset allows us to differentiate countries based on integration levels and identify entry points for further integration. Whilst most nations desire some form of civilian-military trauma systems integration, exactly what model yields the greatest universal benefit is yet to be established.

Of the 49 member states within AFRO, 14 are represented in our survey data. Achieving a higher level of engagement with healthcare professionals in the AFRO region is essential, to ensure a representative dataset is complied. Moving forward, our group aims to build an adaptable framework for implementation of trauma system integration that can significantly reduce the burden of traumatic disease globally, and especially in low- and low middle-income countries.

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ORT0007: - Treatment Of Patients with Skeletal Metastases at A Specialized Cancer Treatment Hospital in A Resource Limited Setting.

Abstract

The skeletal system is a common site for cancer metastases, leading to significant morbidity and impacting patient prognosis. However, in resource-limited settings like Zambia, access to specialized healthcare and cancer screening tools is restricted. This study aimed to investigate the treatment modalities for skeletal metastases in patients identified by scintigraphy at the Cancer Diseases Hospital in Zambia between January 2017 and December 2018.

This study aimed to investigate the common primary cancers in patients with skeletal metastases and the treatment modalities for skeletal metastases in patients identified by scintigraphy at the Cancer Diseases Hospital in Zambia between January 2017 and December 2018.

The study followed an explanatory sequential approach with quantitative data collected and analyzed first to determine the common primary cancers in patients who had skeletal metastases detected by scintigraphy followed by qualitative data to determine the systemic and local treatment approaches to these patients and the challenges associated with treatment.

309 bone scans were analyzed for the study period and findings are that 68 of them were positive for skeletal metastases, representing 22.0% of the total scans. Out of the positive scans, 70.6% belonged to male patients and 29.4% to female patients. The average age of the patients was 65.5 years. The most common indication for the scans was prostate cancer, accounting for 69.1% of the cases, followed by breast cancer at 25.0%. The treatment approaches for skeletal metastases included systemic therapy, localized or bone-targeted therapy, surgery, radiation therapy, and supportive care. Specific treatments were employed based on the primary cancer, such as androgen deprivation therapy for prostate cancer and hormone therapy for breast cancer. However, the study identified several challenges in treatment, including limited availability of radiation therapy and inconsistent supply of consumables.

Skeletal metastases were detected in a significant percentage of bone scans during the study period. Prostate and breast cancer were the most common primary cancers associated with skeletal metastases. The treatment strategies involved various modalities to address the specific needs of patients. However, challenges related to the availability of radiation therapy and essential supplies need to be addressed to improve the management of skeletal metastases in resource-limited settings.

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CRS0010: - Comparing Complete Mesocolon Excision Versus Conventional Colectomy for Colon Cancer: Systematic Review and Meta-Analysis of Randomized Control Trials

Authors: Atalel Fentahun Awedew, MD, MPH, Zelalem Asefa

Background: There are limited high level evidences that compare complete mesocolon excision and conventional colon excision. Therefore, this met-analysis of randomized control trials conducted to answer the efficacy of complete mesocolon excision for management of colonic cancer

Objective: To compare postoperative morbidity, survival, intraoperative blood loss, and the number of lymph nodes harvested between complete mesocolon excision and conventional colonic resection.

Methods: systematic review and meta-analysis was carried out in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement. We searched for relevant studies using the PICOS (Population, Interventions, Comparison, Outcomes, and Study) approach. Relevant articles were searched on PubMed, Embase, Google Scholar, SCOPUS, ScienceDirect, Cochrane library, Web of Science, and ClinicalTrials.gov between the inception and April 19, 2023. RevMan 5.4 software with a fixed -effect Mantel-Haenszel model and Stata version 14 were used to analyze the data.

Results: We found five randomized control trials which consists 2560 patients, one of which was classified as high risk. There was statistical significance difference between CME and NCME in total number of lymph node harvested (MD= 4.01 (3.16, 4.87), P < 0.00001), duration of operation time (MD= 8.84 (7.01, 10.68), (P < 0.00001), and intraoperative blood loss (MD=-15.47 (-21.07, -9.88), p= (P < 0.00001). However, there were no statistical significance difference between CME and NCME in postoperative morbidity (RR=1.04(0.91,1.18), p=0.49,) and overall survival at maximum follow-up (RR=1.03 (0.98, 1.080), p=0.27.)

Conclusion: Even though it takes a long time to operate, complete mesocolon excision had a high ability to harvest lymph nodes and a decreased intraoperative blood loss. Between conventional colonic resection and complete mesocolon excision, there is no discernible difference in postoperative morbidity and survival.

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CRS0014: - TITLE: Adult Intussusception: Pattern of Presentation, Etiology and Management in Jimma University Medical Center, South West Ethiopia

Ijigu Regassa Debelo, M.D, Wongel Tena Shale, MD, Tilahun Habte Nureta, MD, Tadesse Girma Moges, MD

Background: Adult intussusception is a rare clinical condition worldwide. Few studies have been conducted in low- and middle-income countries (LMICs) (Wismayer, 2021). We hypothesized, based on several data, that the illness is not uncommon in developing countries, notably Africa when compared to Western countries. It accounts for roughly 5% of all obstruction cases (Ongom et al., 2014). In Ethiopia, we set out to conduct the second review study of adult intussusception. The aim of this study was to determine a 5 years pattern of presentation, clinicopathological characteristics, and surgical therapy of adults with intussusception.

Methods: A retrospective descriptive cross-sectional study was conducted at Jimma University Medical Centre. We reviewed files of patients with a postoperative diagnosis of intussusception that were treated from June 2017 to May 2022. Data on clinical presentation, diagnosis and diagnostic characteristics, and their management were collected.

Results: There were a total of 68 patients with intussusception operated over that duration. The mean age of presentation was 40 (range: 15 to 75) years. Of these 54% (37/68) had sub-acute presentation. 67/68 presented with abdominal pain, whereas one patient was asymptomatic. Only 7.35% (5/68) patients experienced the classic pediatric triad of abdominal pain, palpable abdominal mass and bloody stool. A lead point was present in 51.47% patients (35/68). All of the leading points identified were tumors. 77.14% (52/68) were benign, the remaining were malignant. Lipoma was the commonest lead point identified. The commonest procedures were right hemicolectomy in 42.64% (29/68) and segmental bowel resection 29.4% (20/68). Among those who underwent resection, 14(20.59%) underwent partial (pre resection) intussusception reduction. The mean length of hospital stay was 8 days.

Conclusion: Despite the fact that only a few studies have been conducted in Ethiopia, intussusception is not uncommon. Investigations are frequently used to diagnose patients. Benign tumors as lead points are the most common triggering lesions, the most prevalent of which are lipomas. The majority of patients required surgical resection. We believe that making perioperative colonoscopy available will reduce the amount of resection needed for benign intussusception cases.

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CRS0006: - Clinical, radiological and histopathologic correlations of surgically treated intra-abdominal masses in St Paul's Hospital Millennium Medical College Addis Ababa, Ethiopia

Kassahun Mitiku, Meseret Shibeshi, Biniyam Yohannes, Goytom Knfe ,Mahteme Bekele Muleta

Background: Intra-abdominal masses encompass a diverse range of medical conditions exhibiting distinct clinical, radiological, intraoperative, and histopathologic characteristics. Majority of these conditions need surgical intervention for definitive management. Before determining suitable management strategies for these diverse pathologies, it is imperative to comprehensively evaluate their clinical and radiological attributes, along with accurate intraoperative assessments. Hence, this study aimed to investigate the clinical, radiological and histopathologic correlations of intra-abdominal masses managed with surgery.

Methods: An institution based cross-sectional study was conducted among 105 patients who underwent surgical intervention for intra-abdominal masses by

reviewing patient registries over a period of 7 years. A six-section data collection tool was developed and the collected data was cleaned and entered into Epi info version 3.5.1 and exported to SPSS Version 25 for further analysis. Receiver Operating Characteristics (ROC) curve analysis tool was used to compare accuracy of abdominal physical examination, ultrasound and computed tomography scan by taking intra-operative anatomic finding and post-operative histopathologic result as a gold standard. Statistical significance was determined at a p-value of < 0.05.

Results: Out of the total 105 patients, 72 (68.6%) were female, with a mean age of 41.26 (+/-15.5) years at presentation. The most frequent presenting symptom was abdominal pain in 87 (82.9%) patients, while 86 (81.9%) had a palpable abdominal mass. Among patients, 61 patients (58.1%) displayed intra-peritoneal origin during intra-operative assessment, 48 patients (45.71%) underwent complete mass resection without involving adjacent organs, and histopathology findings unveiled that over half (55.24%) of the cases indicated benign masses.
The accuracy of abdomino-pelvic ultrasound in detecting intra-abdominal masses was 96.7%. The area under the curve (AUC) for abdomino-pelvic ultrasound (0.989) surpassed that of physical examination (0.921). The AUC for CT scan in distinguishing intra-peritoneal from retroperitoneal masses was 0.771, while for ultrasound, it was 0.714. In predicting the pre-operative malignancy nature of abdominal masses, AUC values were 0.72 for abdomino-pelvic CT scan and 0.60 for ultrasound in relation to biopsy results.

Conclusion: The accuracy of identifying intra-abdominal masses compared to intra-operative assessment ranked as follows: physical examination (81.9%) < ultrasound (96.7%) < CT scan (99%). The diagnostic accuracy of abdomino-pelvic ultrasound (AUC=0.714) and CT scan (AUC=0.771) in distinguishing intra-peritoneal from retroperitoneal masses was comparable and acceptable. However, abdominal ultrasound's accuracy (AUC=0.60) in differentiating malignant from non-malignant lesions based on post-operative histopathology results was poor, whereas CT scan (AUC=0.72) exhibited fair accuracy. Neither ultrasound nor CT scan accurately predicted the specific histopathology of the lesion. These findings highlight a similar advantage of abdomino-pelvic CT scan and ultrasound in stratifying masses by malignancy and intra-peritoneal versus retroperitoneal location. Therefore, when abdominal ultrasound is already performed, selectively ordering abdomino-pelvic CT scans for certain patients is warranted. Notably, significant diagnostic discrepancies emerged between pre-operative and post-operative diagnostic tools, underscoring the need for careful evaluation and improved diagnostic sequences.

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CRS0001: - Perioperative Adverse Outcome and Its Predictors after Emergency Laparotomy among Sigmoid Volvulus Patients: Retrospective Follow-up Study

Author: Tilahun Deresse

Background: Acute sigmoid volvulus is a surgical emergency with closed-loop obstruction of the colon that often requires emergency laparotomy, which is associated with a multitude of post-operative complications. Although sigmoid volvulus is the main cause of intestinal obstruction in Ethiopia, local studies of its management outcomes are limited.

Objective: To assess the magnitude and predictors of adverse perioperative outcomes of emergency laparotomy for acute sigmoid volvulus in the Debre Markos Comprehensive Specialized Hospital (DMCSH), Amhara region, Ethiopia in 2023.

Methods: This was a retrospective follow-up study. Descriptive statistics were used to measure perioperative outcomes and other study variables. Bivariable and multivariable logistic regression models were used to identify the predictors of adverse surgical outcomes. Associations were considered significant at $p < 0.05$ (95% confidence interval).

Result: In total, 170 study participants were enrolled, with a response rate of 91.4%. Forty nine patients (28.8%) developed perioperative adverse outcome. Pneumonia (29 patients, 28.1%), surgical site infection (19 patients, 18.4%), and wound dehiscence (10 patients, 9.7%) were the most common complications. Pre-operative shock [AOR: 3.87 (95% CI: (1.22, 12.28))], pus or fecal matter contamination of the peritoneum [AOR: 4.43 (95% CI: (1.35, 14.47)], and a higher American Society of Anesthesiologists (ASA) score [AOR: 2.37 (95% CI: (1.05, 5.34))] were identified as predictors of perioperative adverse events.

Conclusion: The perioperative adverse outcomes in this study were higher than those reported in Ethiopian national and global reports following emergency laparotomies. Hypotension at presentation, pus and/or fecal matter contamination of the peritoneum, and higher ASA scores are strong predictors of increased perioperative adverse outcomes. Therefore, healthcare providers and institutions involved in the delivery of emergency surgical care should emphasize the importance of early surgical intervention, adequate resuscitation, and patient monitoring to improve perioperative outcomes.

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CRS0012: - Patterns of Colorectal Cancer Presentation, Treatment and Outcomes in Hawassa, Ethiopia

Authors: Tamirat Ayalew, Taylor Jaraczewski, Nabeel Zafar, Belay Mellese Abebe, Antenehe Gadisa

Introduction: According to the global cancer observatory colorectal cancer (CRC) is the 5th most common cancer worldwide. While incidence and mortality of CRC have decreased in many high-income countries, an increase has been occurring in low- and middle-income countries (LMICs). However, granular data on the characteristics of CRC in LMICs is sparse. The objective of this project was to assess the patterns of presentation, treatment, and outcomes of CRC at Hawassa University Comprehensive Specialized Hospital (HUCSH) in Hawassa, Ethiopia.

Methods: Following institutional ethics approval all patients diagnosed with CRC at HUCSH between 2018-2021 were included. Variables collected included demographics, cancer characteristics, workup, treatment, and outcomes. Data is presented as percentage (N).

Results: A total of 58 patients were included. The average age was 43.9 +/- 14.4 with 58.6% (N=34) females. Patients came from a mix of urban (58.6%, N=34) and rural (41.4%, N=24) environments. The most common presenting symptoms were rectal bleeding (37.9%, N=22) and abdominal pain (34.5%, N=20) with 25.9% (N=15) of patients having a mass on digital rectal exam. Of all patients 63.8% (N=37) underwent colonoscopy. The most common histology was adenocarcinoma (60.3%, N=35) with a well differentiated grade (41.4%, N=24). In terms of stage of diagnosis 46.6% (N=27) presented with stage IV disease. A total of 72.4% (N=42) underwent surgery and 69.0% (N=40) underwent chemotherapy. CAPOX was the most common chemotherapy regimen (72.5%, N=29).

Further, 53.4% (N=31) of patients received both chemotherapy and surgery. Of those patients who underwent surgery, 64.3% (N=27) of the cases were performed for curative intent compared to 28.6% (N=12) for palliative intent. Few complications arose in the surgical patients with 2 (4.8%) surgical site infections and 1 intraabdominal abscess (2.4%). At the 1-year mark 56.9% (N=33) were alive, 13.8% (N=8) were dead, and 29.3% (N=17) were unknown. When patients with stage IV disease were excluded, there were 2 (6.5%) mortalities, 22 (70.9%) living, and 7 (22.6%) unknown. Further, recurrence free 1-year survival was 83.3%.

Conclusion: This study adds to a growing body of literature on clinical characteristics, treatment types, and outcomes of CRC in LMICs. Our findings show a high rate of stage IV disease at diagnosis. Patients without metastatic disease had encouraging 1-year survival rates. This work highlights the need for initiatives focused on increasing awareness of health-seeking behavior in communities and mechanisms for early diagnosis.

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CVS 0001: - Chest Trauma in Hawassa, Ethiopia: Patterns and Predictors of Mortality

Authors: Abdulkadir Ali Dahir, Siyasebew Mamo, Taylor Jaraczewski, Christopher Dodgion, Syed Nabeel Zafar, Antenehe Gadisa, Belay Mellese Abebe

Introduction: Trauma is a major cause of morbidity and mortality accounting for around 6 million deaths per year. Approximately 25% of traumatic deaths are secondary to thoracic injury. Few studies have been published that assess patterns and outcomes of chest trauma in Ethiopia. The objective of this study was to assess patterns of chest trauma and predictors of mortality at Hawassa University Comprehensive Specialized Hospital in Hawassa, University (HUCSH).

Methods: This study was a retrospective cross-sectional study of patients who presented with chest trauma at HUCSH from October 2021-August 2023. Variables collected included demographics, medical history, nature of injury, treatment, and postoperative outcomes. Patterns were assessed by evaluating frequencies. Univariate associations between predictors and mortality were analyzed using chi-square and Student T test where applicable. Multivariate analysis was performed using predictors that were statistically significant on univariate analysis in a multiple logistic regression model. Multivariate findings presented as adjusted odds-ratio (aOR). Statistical significance was set as P < 0.05.

Results: A total of 111 patients were included in the study, with 74.8% (N=83) males. Age ranged from 3-85 with an average age of 35.7 +/- 15.9. Comorbidities were rare with 5.4% (N=6) having diabetes and 2.7% (N=3) have cardiovascular disease or asthma. Blunt trauma (77.5%, N=86) was the most common type of injury with road traffic crash (59.5%, N=66) being the most common mechanism. Hemothorax (62.2%, N=69) was the most common injury followed by pneumothorax (37.8%, N=42), and rib fracture (35.1%, N=39). Most patients received a chest tube (79.3%, N=88), with few requiring thoracotomy (1.8%, N=2). The most common complications included atelectasis (12.6%, N=14) and pneumonia (11.7%, N=13). A total of 11.7% (N=13) of patients died.

On univariate analysis age (P=0.293), diabetes (P = 0.003), asthma (P<0.001), blunt mechanism (P=0.039), pneumothorax (P=0.013), flail chest (P=0.021), pulmonary contusion (P=0.014), development of sepsis (P=0.044), and development of pneumonia (P<0.001) were associated with death. Both blunt trauma and asthma were excluded from multivariate analysis as they were perfectly predictive. In the logistic regression model diabetes (aOR=34.6, P=0.04), development of sepsis (aOR=248.0, P=0.18), and development of pneumonia (aOR=60.0, P=0.001) were found to be significant predictors.

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Conclusion: This study highlights patterns of chest trauma and predictors of mortality in a single institution in Hawassa, Ethiopia. Overall, most injuries were in males, due to blunt trauma and from road traffic crashed. Mortality was found to be 11.7%, which is on the lower end of global estimates. Both patient factors and post injury complications were found to be independently predictive of mortality. Other similar studies have found a constellation of factors predictive of mortality including age, severity of injury, and blunt trauma. In our study all mortalities were secondary to blunt trauma. These findings will help inform management of patients who present with thoracic trauma and provide a source of prevention strategies.

CVS0002: - Factors Associated With 3-Months-Arteriovenous Fistula (AVF) Patency at Benjamin Mkapa Hospital, Dodoma Tanzania: A Cohort Study.

Author: Edward Ketson Msokwa, Masumbuko Mwashambwa

Background: The recent increase in the number of patients on maintenance hemodialysis has increased the need for arteriovenous fistula (AVF) as the safest and most reliable permanent vascular access. AVF is underutilized due to higher primary patency loss. We report the AVF patency rate and its predictors at Benjamin Mkapa Hospital, central Tanzania.

Method: A prospective study enrolled 86 patients with chronic kidney disease (CKD) who underwent the first AVF creation at Benjamin Mkapa Hospital, between December 2021 and June 2022. Clinical assessment and standardized ultra-sonographic vascular mapping were done at baseline. The primary fistula patency which is defined as the duration of time from its creation to when it thromboses or fails to provide adequate blood flow for hemodialysis, whichever comes first was recorded. Kaplan-Meier survival analysis was used to estimate the patency rate, the univariate and multivariable Cox regression analysis was performed to identify the predictors of patency.

Results: A total of 86 arteriovenous fistulas were created during the study period. None of the participants lost or withdrew from the study. The mean age +/- SD of participants was 52 +/-13 years. Sixty (60) (70%) fistulas were created in males and 26 (30%) in females. A radio cephalic fistula was the most common type (68.8%). The three-month fistula patency rate was 63.3%. Patient's advanced age (> 50 years), venous diameter of less than 2mm, and surgeon's experience were significantly associated with an increase in fistula failure (AHR = 3.143, 95%CI: 1.324–8.012)($p<0.05$), and (AHR = 3.262, 95%CI: 1.324–8.041) ($p<0.05$) respectively.

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Conclusion: One out of three fistulae would have failed by week 12 of its creation. Whereby, patient age > 50 years, venous diameter < 2mm, and limited surgeon experience were found to be the independent predictors. Although, these findings reflect the reality of the study area, a multicenter prospective study is unavoidable for it to be generalizable.

CVS 0003: - A snap shot survey to establish the vascular disease burden in Nairobi, Kenya.

Authors: Mustafa Musajee, Mohammed Noor, Brian Ruhiu, Obed Morara

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Background:
Sub-Saharan Africa is facing a transition due to progressive urbanisation. There's an increase in cardiovascular disease and associated risk factors recently. Burden of vascular diseases in Kenya remains poorly defined. The aim of this preliminary study was to assess the volume and nature of vascular disease in Nairobi.

Methods:
This was an observational study, conducted as a snapshot prospective audit across 3 centres in Nairobi, spanning both government and fee paying sectors. Data was prospectively collected over three months and included patient demographics, diagnosis at presentation, interventions if performed, reasons for no intervention if applicable, and funding of care.

Results:
Ninety patients who presented with a vascular diagnosis to 3 health centers between January-June 2022. Fifty patients were female (55%) and 40 (45%) were male. Vascular diagnoses were infrarenal aortic aneurysm 25 patients (28%) chronic limb threatening ischemia 12 patients (13%) carotid body tumor 10 patients (11%), traumatic vascular injury 11 patients (12%), acute limb ischemia 3(3%), chronic venous disease 11 patients (12%), vascular access related complications 4(4%), aortic dissections 2 patients, chronic iliofemoral DVT 2 patients, lymphoedema 2 patients, other vascular conditions 8 patients. Seventy patients (77%) were offered an intervention the remaining 23% were managed conservatively.

Conclusion:
This preliminary data suggests a complex varied burden of vascular disease presenting to hospitals in Nairobi, 77% of patients benefitted from surgical intervention. Further work is needed to assess the pattern of disease in detail and understand the training and resources to provide comprehensive vascular surgery care in this region.

CVS 0004: - Chronic Venous Insufficiency and Venous leg Ulcers: - Current innovations and advances in management.

Authors: Mustafa Musajee, Obed Morara

Background:
Chronic venous disease and venous leg ulcers has a great impact on patient's quality of life associated with considerable health care costs. Management of varicose veins and venous leg ulcers has progressed in the past 2 decades with dramatic changes in treatment with the introduction of percutaneous endovenous ablation techniques.

Methods:
This is an ongoing observational study, conducted at a single private healthcare facility in Nairobi. Data has been prospectively collected over the last three months and includes patient demographics, diagnosis at presentation, interventions performed.

Results:
Over a period of 3 months, we have treated 20 patients with chronic venous disease at a single center between October to December 2022. Thirteen patients were female (65%) and 7 (35%) were male. Eleven patients (55%) had varicose veins associated with skin changes classified as C3 whilst 9 patients (45%) had an active or recently healed venous leg ulcer C5/6 as per the CEAP classification. All patients had an intervention with 85% having radiofrequency ablation and 15% had foam sclerotherapy. 3 of the patients had combined RFA and FS. 80% of the procedures were done under local anaesthesia.

Conclusion:
Treatment of superficial vein reflux has been shown to greatly decrease recurrence of venous leg ulcers, with the current advances in endovenous surgery and the outcome of the landmark trial of early endovenous ablation in venous ulceration, endovenous ablation techniques should be widely used in management of chronic venous disease.

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EBS 0002: - Long Term Survival Outcomes -Post-Breast Cancer Treatment at a Tertiary Referral Hospital in Kenya

Introduction: Timely diagnosis and comprehensive breast cancer management is key to optimizing breast cancer outcomes. Survival data after breast cancer diagnosis is sparse in Sub-Saharan Africa. We seek to understand the sociodemographic patterns of women presenting with breast cancer to a tertiary referral hospital in Kenya, and determine their outcomes after treatment.

Method: A retrospective cohort study of breast cancer patients diagnosed at Kijabe Hospital between January 2010 and December 2021 was performed. Data on demographics, clinical characteristics, treatment modalities and outcomes were extracted from the hospital pathology database, patient chart and through patient phone calls. Kaplan-Meier and relative survival functions were utilized to determine survival rates at 5 and 10 years.

Result: A total of 898 patients were included in the study cohort, with 555 who had a known outcome. Invasive ductal carcinoma was the most common histology (86.7%). Median age at diagnosis was 49 years (interquartile range 40–60 years). Early stage and later stage were 52% and 48% respectively. 79% of patients with non-metastatic cancer received all the recommended treatment but only 38.3% with metastatic cancer received the best supportive care. At 5 and 10 years, breast-cancer-specific survival was 76.5% and 75.5% respectively. Early stage had a 5- and 10-year survival of 90% and 80%, while stage III, 71% and 70% survival respectively. None of stage IV patients lived past 5 years. When considering treatment completion, patients with non-metastatic breast cancer who received the recommended treatment, had a 5-year survival rate of 96.87% while those who did not complete treatment had a 5-year survival of only 67.52%

Conclusion: Completion of recommended treatment directly affected survival rate. Relevant strategies should be put in place to ensure all breast cancer patients receive and complete recommended treatment to ensure better survival.

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EBS 0003: - Trend and management outcome of using neo-adjuvant chemotherapy for Locally Advanced Breast Cancer at St. Paul Hospital Millennium Medical College

Authors: Netsanet Tesfaye, Goytom Knfe

Background: Locally advanced breast cancer refers to a diverse range of breast tumors, and in the latest AJCC staging system, all stage III cases are classified as locally advanced. They constitute up to 20% of breast cancers in medically underserved populations in the United States and up to 75% of breast cancers in developing countries. Breast cancer care should be individualized for each patient using a multidisciplinary strategy including surgery, radiation, and neoadjuvant and adjuvant systemic therapy. Hence, the aim of this study was to investigate the trend and management outcome of using neoadjuvant chemotherapy in locally advanced breast cancer patients.

Methods: An institution based comparative cross-sectional study was conducted among 60 locally advanced breast cancer patients treated with Neo-adjuvant chemotherapy at St. Paul millennium medical college oncology center between January 1 2019 G.C to December 30 2020 G.C. Sociodemographic, clinical and histopathologic data was collected and was cleaned and entered in to Epi info. SPSS version 26 was used for further analysis. Descriptive analysis was done using mean and SD.

Results: There were 60 stage 3 female patients with a mean age of 45±12 and mostly from urban areas (76.7%). Most common presenting symptom was breast lump (91.7%) and presentation occurred at 13±9 months on average. Of the patients, stage 3A made up 38.3%, stage 3B 60%, and stage 3C 1.7%. Neo-adjuvant chemotherapy was only given to 33.3% of the patients and over the 3-year period, the trend of neoadjuvant chemotherapy use for LABC patients has decreased from 55% to 25%.

Ductal histologic types comprised 88.3% of all cases. Eighteen-point three percent of the patients exhibited triple-negative status, while 26.7% showed positive hormone receptor (HR) results. On average, 8 lymph nodes were discovered during surgery, with 2.77 being positive. Margin positivity was observed in 12 patients and 11 of them were not subjected to neoadjuvant chemotherapy and out of the 47 patients with negative margin, only 38.3% took neoadjuvant chemotherapy. Down staging on pathologic result was noted in 60% of patients after neoadjuvant chemotherapy.
In total, 55% of patients achieved did not have recurrence, 41.7% experienced recurrence, and 3.3% succumbed to the disease. Among the 20 patients who underwent neoadjuvant chemotherapy, 11 experienced recurrence (55%), while among the 40 patients without preoperative chemotherapy, 14 had recurrences

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(35%). Chi square test indicated that clinicopathological variables, such as tumor margin and nodal status, did not have association with patient outcome.

Conclusion: Our research has unequivocally demonstrated that urban-dwelling women diagnosed with stage 3 breast cancer frequently present late with breast lump and we have poor lymph node yield. Although neoadjuvant chemotherapy utilization has decreased, it is essential to note that approximately 60% of patients who receive this treatment undergo down staging. In patients who do not receive neoadjuvant chemotherapy, recurrence rates are higher; however, our analysis found that clinicopathological factors do not affect patient outcomes. To enhance patient outcomes, we recommend expanding the use of neoadjuvant chemotherapy and examining a wider range of patient molecular, genetic, and clinical profiles using established prognostic and predictive methods.

EBS 0005: - Sentinel Lymph Node Biopsy: An Initial Experience from Ethiopia

Authors: Yisihak Suga, Berhanetsehay Teklewold, Abraham Ariaya, Bereket Berhane, Engida Abebe

Background: Over the years, breast cancer surgery has had tremendous advance. The norm of maximal operative intervention has now changed to minimal only necessary surgery. Sentinel lymph node biopsy (SLNB) is a technique that has the potential to avoid axillary dissection and its associated complications in clinically node negative breast cancer.

Methods: A collaborative multidisciplinary breast cancer management team was established at our institution. We injected a methylene blue dye in intra-tumoral and peritumoral location. The sentinel nodes were mapped and harvested in 40 patients. The nodes were sent for frozen section, in accordance with the pathology result we either avoided or proceeded with an axillary dissection.

Results: We performed 40 SLNB in a period of two years. We were successful in identifying the sentinel nodes in all cases. In 32 (80%) of our patients the SLNB turned out to be negative, thus we were able to avoid axillary dissections in those group of patients. For the remainder, we proceeded with axillary dissection.

Conclusion: Our initial experience at St. Paul's has shown that SLNB is feasible and successful in resource limited tertiary setups of developing countries. This procedure is a preferred alternative to the commonly used routine axillary dissection.

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EBS 0001: - The Role of SLNB in Up-staging Early Breast Cancer: Preliminary Results of a Single Institutional Experience in Ethiopia

Background: Sentinel lymph node biopsy (SLNB) is the standard of care for axillary staging in breast cancer (BRCa). The practice of SLNB in BRCa is limited in Ethiopia as well as in the Eastern part of Africa. This study aimed to review the experience of a single institution in Ethiopia on its practice regarding SLNB using only Methylene blue dye.

Method: A retrospective review was done on all patients who were diagnosed with invasive BRCa and had undergone SLNB from October 2020 to July 2023. SLNB was performed using only Methylene blue dye with intradermal, sub-areolar, and peri-tumoral injections. SLNs were ultra-staged by multi-level sectioning; the remaining specimens were examined by conventional methods. The success rate and outcomes of the procedure were analyzed.

Results: Nineteen female BRCa patients with clinically unremarkable axilla had Sentinel lymph node mapping (SLNM). ALND was performed on all patients. The median age was 45.89 years ± 12.85. The success rate of the procedure was 100%, identifying 1 to 6 SLNs, and an average of 13.9 total LNs. Pathologic evaluation revealed metastases in a total of 7 patients (36.8%). Four of these patients (57.1%) had metastasis only to SLNs. The other 3 patients (42.8%) also had metastasis to non-SLNs. There was no skip metastasis.

Conclusion: The use of blue dye alone in SLNB in our institution was successful. Even though SLNB didn't eliminate the need for ALND (due to the lack of frozen section technology and the scarcity of radiation therapy in our country), our study showed that SLNB could accurately identify LN metastasis that might have been missed with a conventional examination of ALNs. This suggests that multiple sectioning of SLNs is extremely valuable to determine axillary metastasis, which has a direct impact on subsequent management in resource-limited setups.

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EBS 0007: - Innovation for thyroidectomy wounds requiring drainage in low resource contexts: a pilot randomised control study comparing low-cost, improvised, negative-pressure closed tube drains and Redivac drains

Authors: Barnabas Tobi Alayande, Emmanuel O. Ojo, Bashiru O. Ismaila, Mercy W. Isichei, Abebe Bekele, Robert R Riviello, Augustine Z. Sule

Background: While the technological simplicity of an improvised thyroidectomy drain constructed from a 500ml infusion bag and an intravenous fluid giving set is apparent, its biomechanical efficiency and cost effectiveness has not yet been validated against the standard Redivac drain.

Objective: To compare the efficiency and outcome of an improvised, negative-pressure, closed tube drain with a custom-made Redivac drain in the management of thyroidectomy wounds at the Jos University Teaching Hospital. Specific objectives were to compare length of time it took for drain insertion, complication rates, drain costs and hospital bills, residual fluid volume in the thyroid bed following drain removal and postoperative pain scores.

Patients and Method: This is a hospital based, prospective, comparative study that recruited patients requiring drainage following thyroidectomy. Randomisation into either an improvised drain arm or a Redivac drain (control) arm was effected, and appropriate drains were inserted. Allocation concealment was maintained till after haemostasis had been achieved and just before wound closure. Postoperative pain assessed by visual analogue scale, drain complications, cost of the drain and hospital discharge bill were all obtained on a structured proforma. Volume of residual fluid in the thyroid bed following drain removal was assessed by a blinded radiologist using B-mode ultrasound scan with linear frequency of 7.5 megahertz. Statistical analysis was done using Statistical Package for Social Sciences (SPSS) version 16 statistical software. Appropriate statistical tests were used with p-value < 0.05 considered as significant.

Results

Eighty-six patients achieved the primary end point. Time for improvised drain insertion was significantly longer by 4 minutes ($p = 0.006$). Complication rates ($p = 0.704$), residual volumes as a measure of drain efficiency ($p = 0.349$), and pain scores on postoperative day one ($p = 0.745$), day two ($p = 0.070$), and on drain removal ($p = 0.313$) were not statistically different. Difference in cost of drains and discharge bill as a measure of direct cost was significant ($p < 0.001$ and $p = 0.010$ respectively) in favour of the improvised drain. There was significant positive correlation between cost of drain and hospital discharge bill (r_S (66) = 0.370, $p = 0.002$). Use of the improvised drain led to savings of 5,688NGN (16.8USD) per patient.

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Conclusion
The improvised drain is a viable alternative to the more expensive Redivac drain in resource constrained environments and shows equivalence in terms of efficiency, complication rates and postoperative pain scores for partial thyroidectomies. It confers marked economic advantages without compromising biomechanical efficiency.

EBS 0013: - Case serious on prophylactic central neck node dissection for differentiated thyroid carcinoma: experience in a single institution in Ethiopia.

Authors: Philimon Getu Bekele, Sukmal Saha, Efeson Thomas Malore, , Filagot Bizuneh Mikru, Taye Jemberu Robel, Nigusse Ahmed Mohammed, Ermias Tadesse Tilahun, Abel Asfaw Bizuneh, Hermela Addis Gebregziabher

Background: Differentiated thyroid cancer (DTC) represents 1-2% of all human malignancies. The annual incidence varies among countries and it is estimated that 1.2-2.6 men and 2.0-3.8 women/100,000 individuals are affected worldwide. DTC may be associated with regional lymph node metastases in 20-50% of cases. The central compartment (VI upper VII levels) is considered to be the first echelon of nodal metastases in all differentiated thyroid carcinomas. Though prophylactic Central neck dissection (CND) in DTC remains controversial, the number of cervical lymph nodes involved could stratify high-risk patients with poor prognosis hence, benefit from adjuvant Radioiodine therapy. Total thyroidectomy with CND can safely be performed routinely in the hands of experienced surgeons for DTC and potentially minimizes recurrence in the level VI compartment. This study aimed to review the experience of a single institution in Ethiopia on prophylactic CND in DTC.

Method: A retrospective review was done on all patients who were diagnosed with DTC and had undergone prophylactic CND from October 2020 to July 2023. Along with total thyroidectomy lymph nodes along the midline between the strap muscles; and lymph nodes present between the major neurovascular bundles of the neck were removed and sent for pathological examination. Specimens were evaluated with conventional examination. The success rate, outcomes, and complication rate were analyzed.

Results: Ten patients with the diagnosis of DTC and cN0 for whom prophylactic CND was performed were included in the study. The median age was 60 years. The success rate of the procedure was 100%, identifying 1 to 11 total LNs, and the average number of LNs harvested was 5.3. Pathologic evaluation revealed metastases to central neck nodes in a total of 5 patients (50%) with average positive central neck node of 4.8. All patients (100%) had postoperative total

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calcium levels < 8.8 mg/dl but none of the patients demonstrated overt signs of hypocalcemia. The rate of recurrent laryngeal nerve injury was 0%.

Conclusions: The routine prophylactic CND for DTC in our institution was successful, with a comparable complication rate with that of patients undergoing total thyroidectomy alone. Though CND did not demonstrate survival benefits in other studies, it did however give us valuable information on prognosis, risk of local recurrence, and, identifying high-risk patients who would strongly be advised to go abroad for adjuvant Radioiodine therapy as it is not available in our country.

URO001: Comparing "Standard" Versus Early Removal of Foley Cathether After Simple Transvesical Prostetectomy in Soddo Christian Hospital from January 2020 to February 2022: Prospective Randomized Controlled Single Institution Study.

Background: Simple Transvesical prostatectomy (TVP) is common procedure in different levels of hospitals. There is no preset standard to the number of days indwelling catheter should be left in place after the procedure. Earlier removal of the Foley catheter, if proven safe and efficacious, facilitates early ambulation, reduces hospital stay, cost and frees up hospital beds.

OBJECTIVE: of this study is to measure the safety of removing Foley catheter on the third post-operative day (POD) after simple transvesical prostatectomy (TVP).

METHOD: all patients with obstructive symptoms or complication of benign prostatic hyperplasia who are fit for surgery were included in the study. These patients were admitted and randomized in two groups after formal consent.
Group 1 were those patients from whom the catheter was removed on the third POD. Group 2 patient are control group whose Foley catheter was removed on the current "standard" post-operative day five. Patient who failed to give consent and who were not followed until discharge were excluded.

RESULT: Overall, 101 patients were analyzed, of which 48(47.4%) and 543(52.6%) underwent POD 3 (group 1) and POD 5 (group 2) catheter removal, respectively. Chi-square and Mann–Whitney U tests were used to compare categorical and continuous variables, respectively. No significant differences were observed in clinical characteristics between groups 1 (POD 3) and 2 (POD 5). There is no significant difference between the age of group 1 (median=60.5 years) and group 2 (median=60.5 years), p-value is 0.196.

Ultrasound prostate size was also compared among the groups, the Mann-Whitney U test result showed there is no significance difference between group 1 (81.5 ml)

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and group 2 (79.0 ml); p-value is 0.784. Regarding procedure duration, there is no statistically significant difference (p-value 0.861) in procedure duration among the groups (77.5 minute among group 1 and 80.0 minutes among group 1). There is no statistically significant difference (p-value 0.443) in number of NS used for irrigation between the groups. Urine was clear on postoperative day one with both intervention and control group. We found no statistical significance difference. (p-value 0.538). Furthermore, no acute urinary retention following Foley catheter removal and re-catheterization were reported in both groups.

Conclusion: This study showed removing Foley catheter after simple TVP on postoperative day three is safe isn't inferior than removing ON postoperative day five if urine is clear.

URO002: - Iatrogenic Uretero-Vaginal Fistula in Sub-Saharan Africa

Author: Jacques Bake, Medard Kabuyaya, Lele Mutombo, Justin Tsandira-ki, Neil Wetzig

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Background

The Democratic Republic of Congo is one of the Sub-Saharan African countries. HEAL Africa Hospital (HAH) is a 300-bed tertiary hospital based in Goma, in the eastern part of this country. Because of its extensive network with surrounding villages through its outreach surgical programs, patients managed by general practitioners who develop complications are regularly referred to HAH. With the scarcity of urologists and other subspecialities in the region, all these cases are being managed by general surgeons. We are reporting the largest series of iatrogenic uretero-vaginal fistula (UVF) following poorly performed obstetric and gynecologic procedures.

Methods

This is a prospective observational study of UVF referred at HAH between January 2014 and June 2020. Demographic, original etiological factor, operative findings and outcome were collected from all patients diagnosed with a UVF in the study period. Kobo toolbox was used for data collection and the statistical analysis was performed using Epi info 7.2.3.1.

Results

103 cases of UVF were recorded, the mean age was 34.5 years with 55% being between the age of 16 and 30 years of age. 74% of cases had their initial surgery in a rural setting. Most cases (67%) were referred within 1 month of reporting symptoms although 23% were not referred until 12 months. 74% of cases followed a caesarean section of which a concerning 20% underwent hysterectomy during

the same procedure reportedly to manage hemorrhage and 26% of cases followed other gynecological procedures. A common factor is the performance of all initial surgery under Ketamine anesthesia.

All cases ultimately underwent successful exploration and re-implantation of the involved ureter into the bladder. 79.5% of cases involved the left ureter and 20.5% the right. All patients had urine leakage controlled, 3.8% of cases developed surgical site infection that was managed non-operatively, there were no cases of mortality in this series.

Conclusion

This specific surgical complication highlights the urgent need for training in Essential Surgery, Obstetrics and Anesthesia in this part of Sub-Saharan Africa.

URO003: - Efficacy and safety of surgical treatment for 1-2cm sized lower pole of renal stone: network meta-analysis of randomized control trials

Authors: Atalel Fentahun Awedew, MD, MPH, Yacob Sheiferawe Semman, MD, Yohannes Chemere Wondmeneh, MD, Wassie Almaw Yigzaw, MD

Background: The management of medium sized (1-2 cm) lower poles renal stone has been a debatable topic for endourologists. There are limited evidences to answer the best management options for medium sized lower pole renal stone. This network meta-analysis provided high-level evidences on efficacy and safety of profile of PCNL, Mini-PCNL, Ultra-PCNL, RIRS, Micro-PCNL, SWL for management of medium sized lower pole renal stone.

Methods: Systematic review and network meta-analysis (NMA) of randomised control trials was conducted. The PICOS (Population, Interventions, Comparison, Outcomes, and Study) approach was used to look for relevant studies. Searches were conducted at major electronic databases like Medline via PubMed, Embase, Google Scholar, SCOPUS, ScienceDirect, Cochrane library, Web of Science, and ClinicalTrials.gov to find relevant articles from the inception to April 19, 2023. PROSPERO registration (CRD42023416408)

Results: Fourteen randomized control trials involving 2194 patients were met the eligibility criteria. Pooled SFR was Mini-PNCL-98%(95%CI:96-99%), Ultara-PCNL-96% (95%CI:93-98%), RIRS-90% (95% CI: 88-92%), PCNL-88% (95% CI: 85-92%), Micro-PCNL-77% (61-88%) and SWL 69% (95% CI: 65-74%). Mini-PCNL provided a statistically significant higher SFR compared to RIRS (RR=2.43 91.52; 3.89)), Micro-PCNL (RR=3.19 (1.09; 9.38)), and SWL (RR=6.17 (3.65; 10.44)), but there was no statistical significance with standard PCNL (RR=1.06 (0.52; 2.16)) and Ultra-PCNL (RR=1.37 (0.75; 2.51)) for management of medium sized lower

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pole renal stone. The order of SUCRA values for complication rate was as follows: PCNL(90%), Micro-PCNL(70%), Mini-PCNL(50%), Ultra-PCNL(50%), RIRS(40%), and SWL(10%).

Conclusion: The current pooled evidence from fourteen randomized control trials revealed that Mini-PCNL, Ultra-PCNL, and standard PCNL are likely the best treatments for medium-sized lower poles when SFR over a short period of minimal session is a priority. These treatment options have a higher rate of complications, longer hospital stays, and acceptable operations time. RIRS and SWL treatment have acceptable efficacy stone free rate with low complication rate, short hospital stays, and operation time.

PED008: - Patterns and outcomes of children with Hirschsprung's disease in Hawassa University Comprehensive Specialized hospital, Hawassa, Sidama, Ethiopia

Authors: Mindaye Nima (MD, General Surgery Resident)

BACKGROUND: Hirschsprung's disease is one of the most common surgical conditions in the pediatric age group with an incidence of approximately 1 in 5,000 live births. There is paucity of data regarding the incidence and treatment outcome of this disease from Ethiopia. Africans like 20-40% clinical present as neonates, compared to more than 90% in developed countries. Previous African literatures have reported high complication and mortality rates

OBJECTIVES: To Assess Patterns and outcomes of children with Hirschsprung's disease in Hawassa University Comprehensive Specialized hospital.

Methodology: This is a retrospective review of patients treated for HSD at HUCSH from Jan 2018 to Dec 2022(5year). Relevant statistical analysis was done and the results presented in tables and graphs. Data was collected using kobo collect tool box and entered into SPSS version 27&analysed.
Result: One hundred and sixty eight (142 male &26 female) patients with clinical diagnosis of Hirschsprung's disease were evaluated &all are biopsy proven. Seventy six (45.2) were diagnosed in the neonatal period and seventy eight (46.4%) were diagnosed at age of the first six months. Common presentations were delayed passage of meconium (42.9%), abdominal distention (97%) and recurrent constipation (48.8%). Because of delayed presentation the initial intervention was colostomy almost all patients.

Twenty-two (13.1) of children were associated with colostomy complications such as colostomy prolapse, colostomy retraction, and colostomy stenosis. Definitive pull through were done for 140(83.3%) patients and 28(16.7%) children are waiting

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for definitive surgery. Most patients waiting more than one year for definitive procedure. Complications associated with definitive surgery were Perineal skin break down and surgical site infections.

Conclusions: Due to late presentations definitive procedure were deferred and patients were stayed on colostomy for longer period of time and are suffering post colostomy complications

PED 003: - Treatment outcomes of Wilms tumor in Kenya: A faith-based institution experience.

Authors: Obat M, Freneh M, Muma K, Muma S

Introduction: Wilms tumor is the 2nd most common type of childhood cancer in sub-Saharan Africa. High income countries have reported overall survival rates of more than 90% compared to less than 50% in low- and middle-income countries (LMIC)

Objective: The primary objective was to assess the treatments and surgical outcomes of children diagnosed with Wilms tumors. The secondary objective was to assess barriers to completion of treatment and factors contributing to treatment delays.

Methods: A retrospective study of existing database was done, from January 2015 to June 2023. The study included all children less than 18 years with a confirmed diagnosis of Wilms tumor. Data collected included age, gender, referral location, health insurance availability, disease stage, treatment modalities used and treatment outcome.

Results: There was a total of 28 cases with 12 male and 16 female (M: F= 1:1.3). The median age at diagnosis was 3 years with age range 1 year to 18 years. Nine children (38%) were treated using COG1 guidelines, 13(50%) using SIOP2 guidelines and 4 (15%) declined treatment. Four children (15%) had stage 1 disease; eight (30.7%) had stage 2 disease;10 (38%) had stage 3 disease; 3 (11%) had stage 4 disease and 1 (3%) patient had stage 5 disease. Institution referrals comprised 65% while 34% were self-referral. 21 cases (75%) were beneficiaries of national health insurance (NHIF3).75% (21/28) of patients completed treatment and the loss to follow up rate was 3% (1/28). Financial constraint was the commonest cause of delayed treatment in 26 % (7/28) of cases. Relapse occurred in 15% (4/28). The 1-year, 3-year and 5-year survival rates were 64%, 35% and 17% respectively.

Conclusion: To improve outcomes for this highly curable childhood malignancy, a more collaborative approach is needed in addressing factors related to late presentation and health care financing.

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PED001: - Factors Associated with Increased Prevalence of Unattended Pediatric Surgical Cases in Iganga and Bugweri Districts of Eastern Uganda

Author(s): Magumba Khalid (MBChB student), Lukwita Muhammad, Frank Isabirye, Nalunkuma Shamim, Aweebwa Sumaya

Background/Introduction
In Eastern Uganda, surgical conditions such as cleft lip, congenital anomalies, inguinal hernias, trauma and burns affect many children. Many of these conditions can be remedied with routine surgical procedures, but if left unattended, can lead to lifelong disability or premature death. There is an increased prevalence of these unattended conditions due to many factors that are not clearly defined.

Aims
1. To determine the prevalence of unattended paediatric surgical conditions in children in Iganga and Bugweri districts, Eastern Uganda.
2. To describe the factors associated with the increased prevalence of unattended paediatric surgical conditions in these districts.
3. To assess community level of satisfaction with paediatric surgical services in these districts.

Methods
This was a cross-sectional study design conducted in eight (8) randomly selected villages in Iganga and Bugweri districts from 1st of October 2022 to 10th December 2022. A consecutive sampling technique was used to recruit participants from the randomly selected villages. Investigator administered questionnaires were used to collect data on factors associated with unattended paediatric surgical cases. Identification of surgical conditions was done by study team.

Results
A total of 865 households were interviewed of which 272 surgical cases were identified/reported. 198 (73%) of the 272 cases were attended to and 74(27%) cases were unattended. The prevalence of unmet surgical need is 7.8%. Majority 27(36.5%) of unattended surgical cases were due to inability to afford the operation, followed by cultural beliefs 14 (18.9%), those lack of understanding or where to seek help 9(12.2%) and inability to afford transport to health facilities 7 (9.5%). Other barriers included lack of necessary surgical equipment, trained staff, patient follow-up programs which led to surgical complications or an unmet need for surgery. The community satisfaction level for attended surgical services was 52.9%.

Conclusions
Understanding factors associated to prevalence of unattended paediatric surgical cases allow effective evaluation and intervention programs can be carried out. This

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study showed the importance of well-equipped health facilities, improved socio-economic status as well as the need for health education in ensuring paediatric surgical need is met. Financial challenges were greatly linked to unattended paediatric cases, hence reduction in poverty will increase accessibility to surgical services for children.

PED005: - Standardization Of Clinical Care in Sub-Saharan Africa; A Case For Hypospadias Surgery

Author: Mehret Desalegn, MD, Ken Muma

Introduction:
Hypospadias is the second most common congenital urologic anomaly in new-born boys. Corrective surgery is associated with a high complication rate ranging from 5-60% worldwide. African studies demonstrate a complication rate of 28-60.6%%. The complication rate is influenced by three general groups of factors. Patient factors, surgeon factors, and institutional factors. Surgeon factors mainly evolve around the degree of specialization and years of experience as determined by the learning curve. Various strategies have been used to improve outcomes. Interventions range from surgeon-specific procedures to institutionalized strategies that entail standardization and protocolization.

Methods:
The study was a retrospective study with pre- and post-intervention phases. The intervention was a protocol that was introduced, taught and implemented. In the preintervention phase i.e. before the protocol was instituted, data was reviewed going back six years (n1). The second group were the patients treated after the protocol had been instituted (n2). A total number of 424 patients participated in the study. Of these 284 in the preintervention phase and 140 (n2) in the post intervention phase (n2).

Results:
89% (252/281) were Phenotypically male; and 29(10%) had DSD (differences of sexual development). Mean age in years was 4.1± 3.9[0 – 23.9yrs] in n1 and 4.7±4.55 [0 – 19.4 yrs.], P=0.13 respectively. Overall complication rate was 51.4 % for n1 and 25 % for n2 (p=0.001) value).

Among the complications urethrocutaneous fistula (UCF) was the majority (27.3% Vs 10.2 %, p=0.001); followed by Wound infection (23% vs 4%; p=0.04) and There was a significant cost reduction in the post-intervention phase with a significant difference compared to the pre-intervention phase [8684 (CI:5335,12034 KES), p=0.001].

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Conclusion:
The use of a standardized protocol in hypospadias care significantly reduces the post operative complication rate and cost.

NS005: - Emergency neurosurgical procedure for traumatic brain injury performed by General Surgeons, Soddo Christian Hospital, Southern Ethiopia.

Authors: Yohanes Debebe, Gezahegn Tilahun, Timothy P. Love

Background: Trauma is a common condition that causes significant morbidity and mortality. In rural Ethiopia there are very few neurosurgeons and neurosurgical care is overall difficult to access in most of the country. To fill this gap, many acute neurosurgical trauma patients are managed with lifesaving interventions performed by general surgeons.

Methods: A retrospective chart review of patients with traumatic brain injury undergoing emergency operative intervention performed by General Surgeons at Soddo Christian Hospital between January 2021 and December 2022 was performed. Exclusion criteria included cases done by a neurosurgeon, as well as simple washout and elevations without the need craniotomy or burr hole procedures were also excluded. Analysis was performed using SPSS version 29 statistical software.

Results: Data were obtained from 182 patients (81.9% male) who underwent a total of 195 procedures including 56 burr holes, 128 craniotomies, and 11 craniectomies. Assault with a blunt object (29.1%) was the leading cause of all head traumas followed by motorbike associated injuries (23.1%). Epidural hematoma (41.8%) was the most common indication for acute neurosurgical intervention followed by chronic subdural hematoma (24.2%). There was an overall 11% mortality rate in the 182 patients operated upon Those presenting with a more severe TBI with GCS <9 (17.5%) had a significantly higher mortality rate (43.8%). Severity of head injury at presentation ($R^2 = 0.413$, $P < 0.001$) and Kampala score ($R^2 = 0.471$, $P < 0.001$) both correlated with outcome. Factors specifically associated with death include a diagnosis of acute Sub Dural hematoma ($P = 0.002$) and the type of neurosurgical procedure performed ($P < 0.001$).

Conclusion: General surgeons at Soddo Christian Hospital perform a range of emergency neurosurgical procedures for trauma and have outcomes and a mortality rate comparable to other studies. The severity of the head injury at presentation and Kampala score were main factors predicting a poor outcome.

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NS001: - Title: Presentation, management, and outcomes of adults and pediatric patients with traumatic brain injury in a Kenyan hospital.

Authors: Dr. Leahcaren N. Oundoh

Background: Traumatic brain injury (TBI) is a significant public health problem worldwide, with high rates of mortality and morbidity. TBI secondary to road-traffic accidents is a major problem in Kenya, but data on the epidemiology and management of TBI patients in rural Kenya is sparse. Due to the lack of formal emergency transport services, there is concern that delay in care can further worsen outcomes. In this study we aimed to describe the presentation, management, and outcomes of adult and pediatric patients at AIC Kijabe Hospital (KH) with TBI. Secondly, we sought to understand the association of delay in reaching KH with hospital outcome.

Methods: We performed a prospective, observational single-center cohort study at KH. Adult and pediatric patients admitted to the hospital with TBI within 96 hours of initial injury were enrolled. Radiographic, laboratory, and treatment data were obtained from the electronic medical record at enrollment, 24-48 hours after admission, and upon discharge. Glasgow Coma Scales (GCS) were evaluated and grouped as mild (13-15), moderate (9-12), or severe (3-8) at enrollment, 24-48 hours after admission, and at discharge. Complications were also recorded during hospitalization.

Results: During the study period, 15 (16%) children under 18 years and 77 (83%) adults aged 18 or more were enrolled, with a total of 92 patients. Median age was 32 years (IQR 24-43), and the majority were male (n=69, 74%). Road traffic accidents were the most common cause (n=61, 66% overall), and auto versus pedestrian was the second most common (n=10, 11% overall), among both adults and children. Overall, 21 (23%) patients had severe TBI, 11 (12%) had moderate, and 61 (66%) had mild based on initial GCS. Thirty-one (33%) patients were transferred to KH from an outside hospital. The median time to transfer was 1 day (IQR 0-1.5). Overall, there were 12 (13%) deaths with 4 (33%) being among those transferred to KH. Their median time to transfer was 2 days (IQR 0.7-2).

Conclusions: Our study confirmed previous findings that TBI is common among young males due to road traffic accidents. Additionally, we found that among transferred patients that died, there was a longer time before reaching KH. Future research should include methods to reduce delays in reaching experienced trauma centers.

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NS007: - Short-Term Outcome of Patients Operated for Traumatic Intracranial Hemorrhage.

Background: Traumatic brain injury is the leading cause of death and disability in people younger than 40 years of age worldwide. There are significant resource limitations along the entire continuum of care, and little is known about the neurosurgical outcomes.

Objective: The study primarily aims at assessing the short-term outcome of patients operated for traumatic intracranial hemorrhage.

Patients and Methods: A hospital based prospective longitudinal study was conducted on patients who were operated for traumatic Intracranial hematoma at Yekatit 12 Hospital medical college in Addis Ababa, Ethiopia from September 1/2022-March 30 2023 GC. All patients with traumatic brain injury operated for intracranial hemorrhage with in the study period were included. Glasgow outcome scale was used to determine the outcome. After checking completeness data will be entered via Epi info version 7.1 and analyzed using SPSS v-27 computer software. The result of the study will be presented using tables, graphs and narrative descriptions in details. Finally, conclusion and recommendation will be forwarded.

Result – Total of 34 patients were studied male outnumbered female by ratio of 7.5:1. The mean was 34.5± 12.8.RTA was the commonest means of injury (46.1%).12(35.3%) have mild TBI while 13(38.2%) have Sever TBI. Cute Epidural hematoma had highest proportion 18(52.9%). 15 patients (44.1%) of patients were having abnormal pupillary reaction at presentation. The postoperative mortality was 06(17.6%). Acute subdural hematoma accounts for 83.3% of all post-operative deaths. Postoperative complications were also significantly associated with death with p-value 0.008(COR: 16.667(2.08-133)). On post-operative follow up 22(64.7%) have favorable 3 month Glasgow outcome score. The initial pupillary reaction (p:0.02 COR 0.02(0.002-0.205), postoperative complications (P:<0.01 COR 21(2.099-210.136) and length of hospital stay (P:0.04 COR 0.14(0.14-1.44) shows statically significant association with 03-month GOS

Conclusion and recommendation- Young male populations re predominately affected. initial pupillary reactions and postoperative complications significantly affect the neurologic outcome. The mortality and neurologic outcome is comparable to the global figures.

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NS008: - SURGICAL OUTCOMES OF HEAD INJURIES IN ZAMBIA: A RETRO-SPECTIVE HOSPITAL-BASED STUDY

Authors: Kabelele M. Sipalo Godfrey Sama, Michael Mbambiko Kachinga Sichizya

Introduction: Head injuries are the leading cause of morbidity and mortality in the young population in low- and middle -income countries (LMICs). Evidence on outcomes of surgical intervention on patient with head injuries in Zambia is limited. We aimed to evaluate the burden of head injuries, patient profile and factors associated with outcomes amongst vulnerable road users in Katete District, Eastern province, Zambia.

Methods: A retrospective cross-sectional study was conducted accruing patients admitted with head injuries from 2019–2021 at St. Francis Mission hospital. Information on patient demographics, clinical characteristics, diagnosis, management and outcomes was extracted from hospital records. Data were described and compared using chi-square test and regression analysis. We used STATA® for analysis taking statistically significant results at $p<0.05$.

Results: A total of 567 patient records with the mean age of 29.4 ± 15.2 years (Range: 2 months - 99 years) were retrieved. Of these, 88.5% (502/567) were males and 11.5% (65/567) females. Road traffic accidents contributed to 60% (340/567) of all patients, 45.9% (260/567) presenting during the cool dry season. On admissions: 88.9% (504/567) had mild, 5.3% (30/567) moderate, and 5.8% (33/567) severe traumatic brain injury (TBI). Surgical treatment was offered to 13.8% (78/567) of patients.

A total of 3.7% (21/567) patients were admitted to the intensive care unit (ICU), of which 33.3% (7/21) were postoperative. Overall mortality was 4.1% (23/567) which was 100% among those admitted to ICU and underwent intubation. Having severe [AOR: 69.9 (95% CI: 4.7 – 1029.8), $p < 0.002$] and moderate [AOR: 31 (95% CI: 2.8 – 338.5), $p < 0.005$] TBI, absence of skull x-ray [AOR: 12.2 (95% CI: 1 – 146), $p < 0.048$], use of antiepileptics/anticonvulsants [AOR: 11.9 (95% CI: 1.5 – 91.9), $p < 0.018$], and ICU admission [AOR: 13.4 (95% CI: 1.1 – 157.8), $p < 0.039$] were associated with mortality.

Conclusion: We have noted that the burden of head injuries is borne by motorcycle and bicycle road users of productive age group. Factors associated to poor outcomes reflected areas of poor human and infrastructure capacity in most rural settings of LMICs. Efforts to address this burden should consider multidisciplinary team capacity of trauma care providers and utilization of evidence-based procedures from pre-hospital, in-hospital and when the patient is discharged.

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HPB0004: - Title: Perioperative outcome after open biliary bypass for Malignant Biliary Obstruction (MBO) in resource-limited setups; a multi-center prospective cohort study, 2023

Author: Yoseph Solomon Bezabih

Introduction: Obstructive jaundice is the most common symptom of both benign and malignant diseases of the extrahepatic biliary system, and it necessitates either non-operative or operative biliary bypass. Because percutaneous and endoscopic treatment is now available for biliary tree drainage, the use of palliative surgical procedures has decreased in recent years. However, for surgeons in resource-limited situations, open biliary bypasses remain a viable option. This study aimed to identify the preoperative factors that are associated with adverse perioperative outcomes, which require high-quality evidence that is scarce in Ethiopia and Africa at large.

Methods: From June 2022 to May 2023, 69 patients underwent open biliary bypass for malignant biliary obstruction. In this prospective study, the following parameters were assessed - the age at surgery, medical comorbidities, intra-operative complications, and post-operative morbidity and mortality within 30 days of surgery. Post-operative complications were graded according to the Clavien Dindo grading. Kaplan-Meir curve was used for categorical variables and a Log-rank test to determine whether there is a statistically significant difference between variables. Cox regression analysis was conducted to identify factors associated to time to develop complications.

Results: The mean (±SD) age of the study participants was 55.13 (±13.98). Pancreatic head mass was the leading pre-operative diagnosis for malignant biliary obstruction accounting for 38 (55.07%). Cholecystojejunostomy 29 (42.02%) and Hepaticojejunostomy 23 (33.30%) were the most performed procedures.

The hazard of developing complications among those who had preoperative cholangitis was 2.49 times higher than those who had no preoperative cholangitis (HR 2.49, 95% CI [1.067, 5.845]). For every hour increment in the length of surgery, the hazard of getting complications increased by 2.47 times (HR 2.47, 95% CI [1.286, 4.772]). As the value of bilirubin increased by 1mg/dl, the hazard of developing complications increased by 14 % (HR 1.14, 95% CI [1.03, 1.17]).

Conclusion: Patients who had long operation times, preoperative cholangitis, and elevated total bilirubin levels are at increased risk for poor perioperative outcomes. These results may be used by clinicians in optimizing these patients for surgery and in informing them of their elevated risk of serious morbidity and mortality. We advise further investigation into preoperative optimization and patient selection.

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HPB0001: - Management Outcome and Associated Factors of Acute Pancreatitis in Adult Patients.

Background: Acute pancreatitis is one cause of Acute abdomen. And it is not uncommon in our country though there are few institution based study done. The presentation of acute pancreatitis is variable and high index of clinical suspicion is necessary for early diagnosis and patient outcome improvement.

Objective: This study aims to evaluate management outcome and associated factors of acute pancreatitis in adult patients.

Methods: A cross sectional institution based study was conducted among adult patients with acute pancreatitis admitted to Yekatit 12 Hospital Medical College from March 2021 to April 2023. Data on clinical presentation, etiologies, severity and management outcome of the disease was collected from electronic medical records using a structured and pretested questionnaire and analyzed using SPSS version 27.

Results: A total of 60 patients were admitted to the hospital during the study period. Electronic medical records were retrieved for 58 of them. The male to female ratio was 4:1 and the mean age was 38 years. Majority (88%) of the patients were within 20 to 59 years of age. 15.5% of the patients were having comorbidities such as hypertension ,diabetes mellitus ,bronchial asthma or retroviral infection. About 56.9% of the patients presented within less than 3 days after symptoms onset. Abdominal pain alone or with nausea and vomiting was the most frequent symptoms experienced by the patients accounting about 50 % and 46.6% respectively.

The commonest physical findings were tachycardia with abdominal tenderness (41.4%) followed by abdominal tenderness alone in 37.9% of the cases. Tachycardia alone, or tachycardia with abdominal tenderness with findings in other organ systems such as hypotension,pleural effusion, abdominal distension with hyper tympanic on percussion and decreased urine output accounts about 10.3% each. In the majority of patients diagnosis were made clinically except in five patients where acute pancreatitis was diagnosed intraoperative. The commonest etiology identified was alcohol in 36.2% of the cases followed by idiopathic, gall stone and multiple causes in 29.3%,19%, and 15.5% respectively. Mild acute pancreatitis accounts the majority of the cases 56.9% followed by moderate and severe cases in 29.3% and 13.8% respectively. Majority (91.4%) of the patients had favorable (discharged improved) outcome. The other 8.6% had been dead in the hospital.

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The presence of comorbidities, severity of the disease, age of 60 or older years, and delayed presentation of more than 72 hours after onset of symptoms were associated with mortality with p value of 0.023,0.001, and 0.003 respectively.

Conclusion: Acute pancreatitis mainly affects middle aged men. Abdominal pain, nausea and vomiting were the common presenting symptoms. In the majority of diagnosis was made clinically whereas in others explorative laparotomy was done for other preoperative diagnosis. The majority of patients had favorable outcome. The existence of comorbidities, delayed presentation after onset of symptoms, severity of the disease at the time of presentation, and elderly age were associated with increased mortality in patients with acute pancreatitis. A high index of suspicion and proper diagnosis and management of acute pancreatitis with avoidance of unnecessary surgical intervention will improve patient outcome.

GS060: - Implementation of Enhanced Recovery after Surgery in Jimma University Medical Center (IERAS- Jimma)

Authors: Wongel Tena Shale. Tilahun Habte Nureta, Yonas Yilma Metaferia , Nebiyou Simegnew Bayileyegn , Tadesse Girma Moges , Naol Bekalu Terfasa , Nebiyou Ermias Gebremariam, Abraham Teshome Sahilemariam

Introduction: "Enhanced Recovery after Surgery" (ERAS®) refers to patient-centered, evidence-based, multidisciplinary team designed pathways for a surgical specialty and facility culture to minimize the patient's physiologic stress response, maximize their physiologic function, and speed recovery after surgery. Despite the fact that Enhanced Recovery after Surgery (ERAS®) programs have been shown to be beneficial in many fields of surgery, they are not widely used in developing countries in comparison to developed countries.

Aim: We want to implement a protocol created by the ERAS society for LMICs after adapting it to our context. The purpose of this study is to evaluate the effectiveness of using ERAS® in patients having gastrointestinal surgery at JUMC.

Methodology: A multidisciplinary team of general, hepato-pancreatico-biliary and gastrointestinal oncology surgeons, anesthesiology and critical care specialists, nurses, and a final year surgical resident has already been assembled. The team is adapting an existing ERAS® guideline to meet the circumstances of our setup. Based on the protocol number given to them by the hospital's registration system upon admission, all patients admitted for elective gastrointestinal procedures will be randomly selected. Surgical care providers will receive capacity-building training on implementing the ERAS approach. The primary surgical team would be instructed to follow the procedure exactly by the research investigator. Through the use of structured questionnaires and checklists from patient charts, registration log books, and in-depth interviews, data will be gathered during the

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perioperative period and after discharge. The data will be analyzed to assess and compare the outcomes of the two groups. The primary outcome will be the length of postoperative hospital stay, followed by major complications and, finally, the rate of readmission following discharge.

Expected Outcome: We are presenting the proposal, the assembled ERAS team, the active protocol, and the data-gathering tool.

Rationale: The goal of this initiative is to make the ERAS pathway available to patients at JUMC who have elective gastrointestinal surgery and to evaluate the outcome of patients under the ERAS protocol and contrast them with patient outcomes under the traditional standard of care.

ORT0005: - Retrograde intramedullary nailing in management of femur fractures in tertiary care hospital at Bujumbura, Burundi.

Authors: Fabrice KIBUKILA MD, Styves BANGA MD and Aymar AKILIMALI MD

Background: Femoral fractures, often resulting from road traffic collisions, represent a significant global health issue. The management of these fractures in low-income settings poses unique challenges. Retrograde intramedullary nailing (RIN) has emerged as a favored technique. However, the application and outcomes of this procedure in resource-limited settings require further exploration.

Methods: This retrospective cohort study, conducted at a tertiary care hospital in Bujumbura, Burundi from 2012 to 2022, examined 140 patients aged 18 or above who underwent RIN for femoral fractures. Variables such as demographics, cause of trauma, fracture characteristics, operative details, and postoperative outcomes were considered, using data from the Surgical Implant Generation Network software and hospital records.

Results: Road traffic collisions accounted for 77.9% of femoral fractures, with a preponderance of male patients (62.9%). A significant urban-rural disparity was observed in postoperative outcomes, with urban dwellers reporting less knee pain and higher mobility independence. Most patients demonstrated favourable functional outcomes, with 61.9% achieving mobility independence and 78.6% regaining significant degrees of knee flexion.

Conclusion: Our findings underscore the effectiveness of RIN in managing femoral fractures in a low-income setting, mirroring results from developed countries. However, they highlight the significant influence of socio-economic factors on surgical outcomes, necessitating strategies to address healthcare disparities. Future research should aim to enhance understanding of RIN application in diverse healthcare settings, considering potential complications and long-term outcomes.

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ORT5: - Ultrasound Use for Musculoskeletal Lower Extremity Trauma in Low- and Lower Middle-Income Countries: A Scoping Review

Authors: Rafat H. Solaiman, Raisa Rauf, Krishna Anand, Nicole Theis-Mahon, Kiran J. Agarwal-Harding

Introduction: Ultrasound is a low-cost, portable, and safe imaging modality. The high resolution and real-time assessment capabilities of ultrasound make it particularly beneficial in the orthopaedic trauma setting. We investigated uses of ultrasound in low- and lower middle-income countries to manage lower extremity (LE) trauma, which is common site of musculoskeletal injury especially among vulnerable populations in resource-limited settings.

Methods: We searched six electronic databases (Cochrane, EMBASE, Medline, Global Index Medicus, WHO ICTRP, and Web of Science) from January 2010 to December 2022. Studies related to ultrasound use in lower extremity trauma published by authors in low- and lower middle-income countries were included.

Results: We identified 56 studies utilizing ultrasound for LE trauma from 2010 to 2022. Most studies were conducted in India (52%), Egypt (14%), and Iran (14%). All studies were conducted in lower-middle income countries. Ultrasound was used to image primarily bony pathology (48%), followed by soft tissue pathology (43%) and vascular pathology associated with the trauma (27%). The majority of trauma was anatomically located in the leg (36%), hip (30%), knee (29%), and ankle (25%). Injury diagnosis, post-operative outcome evaluation, diagnosing post-trauma deep vein thromboses, and administering nerve blocks were the most common ultrasound uses reported. Although unreported in most studies (57%), physicians handled the ultrasound machines in 41% of studies. Most studies were conducted in hospitals (82%) and only 2% were in rural settings. None of the included studies reported receiving any research funding.

Conclusion: Ultrasound has various utilities for management of musculoskeletal LE trauma and associated vascular pathology. There are limited reports of ultrasound use in low-income countries and resource-limited settings, highlighting the need to continue improving imaging access in these areas and improve management of common LE trauma injuries.

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ORT0006: - Prevalence, Clinical Presentation and Pathological Pattern of Long Bone Cancers at a Tertiary Centre in Northern Tanzania

Authors: Zawadi J Mahumbuga, Honest H Massawe, Furaha J Seventh, Alex Mremi, Orgeness Jasper Mbwambo and Rogers J Temu

Background: Primary long bone cancers are rare despite their devastating consequences and little is known particularly in Africa including Tanzania. Compared to many other types of cancer, primary bone cancers are rare tumours worldwide (IARC, 1993). Common symptoms and signs associated with bone cancers include; pain in the affected bone, swelling, and fractures. Diagnosis of bone cancers involves medical history, physical examination, radiological studies, blood tests and histopathology. Histopathology is the gold standard in making diagnosis. Long bone cancer incorporates different subtypes, the most common of which are Osteosarcoma, Chondrosarcoma and Ewing's sarcoma.

Objective: This study aimed at determining the prevalence and clinical-pathological features of long bone cancers among all cancer patients diagnosed at Kilimanjaro Christian Medical Centre from January,2011 to December 2020.

Methodology: This was a retrospective; hospital based analytical cross-sectional study that enrolled all cancer patients registered at Kilimanjaro Cancer Registry 5 (CanReg5) between Jan 2011 and Dec 2020.Data were extracted from the Kilimanjaro Cancer registry retrospectively and individual files were used for extracting other clinical data. Cleaned data was analysed using SPSS 23.0. Median and interquartile range (IQR) were used to summarize the numerical data such as the age of the patients in years; frequency and proportions were employed to summarize categorical variables using tables and figures. Kappa statistics was employed to measure the correlation of clinical diagnosis and histological verifications at a 95% confidence interval. Findings were then presented using tables and figures.

Results: A total number of 8841patients who had cancer were enrolled and out of them 97 were included in the final analysis. The prevalence of long bone cancer was 1.2% of all cancer patients registered between Jan 2011 and Dec 2020 with an increasing trend from 0.8% to 2.0% respectively. Osteosarcoma was the leading subtype (66%), with majority of cases being children <20 years old. Bone pain (82.5%), swelling and tenderness near the affected area (52.6%), weakened bone that led to fracture (5.2%) were the most presenting clinical features of long bone cancers. The correlation of clinical diagnosis and pathological diagnosis of long bone cancers was low 41.2% (95%CI: 31.0-51.5), partial agreement 51.5% (95%CI: 42.3-60.8) and discordant was 7.2% (95%CI: 3.1-13.4). Kappa statistics indicates fair agreement for the diagnosis of osteosarcoma (K=0.2968, p<0.001), but potential agreement for the diagnosis of fibrosarcoma 95.0% (K=0.7949, p<0.0001), chondroblastoma 95.9% (K=0.4921, P<0.001), and others 67.2% (K=0.3076, P=0.0012).

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Conclusion: The prevalence of long bone cancer was falling under the global range but with a slight increase of the incidence yearly. Bone pain, swelling and weakened bone leading to fracture were the common clinical presentation of long bone cancer. The concordant between clinical and pathological diagnosis was low particularly for osteosarcoma. Therefore, clinicians should consider all bone swelling as malignant unless proven histologically.

Adaptive Gait Patterns In Untreated Delayed Presenting Clubfeet; An Instrumented Gait Analysis Of 20 Children And Adolescents.

Authors: Dr Yohannis Nigusu, RN Yididiya Megeresa, Dr Timothy Nunn, Dr Tewodros Tilahun, Dr Mesfin Kassahun, Dr Laurence Wicks, Dr Stefano Bolongaro, Solomon Aklilu, Dr Julie Stebbins

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Introduction: The gait in children with clubfeet must adapt to the loss of triceps surae action and the position of the feet which are often pointing towards each other during walking. Adaptions in untreated children have not been characterized using instrumented gait analysis before.

Patients & Methods: 20 children (40 clubfeet) with untreated idiopathic bilateral clubfeet were subjected to instrumented gait analysis. The median age was (9) range (6 to 17). Gait deviations were measured using kinematic analysis. These were compared to a local reference dataset of normal children.

Analysis: Gait deviations were analyzed using SPSS with a significance set at 0.05. The data were analyzed with parametric and non-parametric tests depending on the data distribution.

Results: Barefoot walking speed was significantly slower in children with clubfoot (0.4m/s slower). Rotation, twisting movements seen at the trunk and pelvis were much higher than normal. The pelvis of children with clubfoot were flexed forward and the hip range of motion during walking was increased. Knees were in significant hyperextension during stance phase. Variations in other parameters existed but were not consistently seen.

Conclusions: This study demonstrates some common adaptations in gait in those with clubfeet. These improve clubfoot gait by increasing forward momentum and propulsion, stabilizing the center of mass in stance phase and enabling the gait to be as energy efficient as possible. The non-consistent variations in gait parameters among the dataset bring an additional individualized solution to achieve these gait goals.
This data will be helpful in defining common muscle weaknesses for targeted therapy and rehabilitation regimes following treatment of older children with delayed presentation of clubfoot.

GS027: - Post pandemic telemedicine adaptation in surgery; The Karen hospital experience

Author: Dr. James Kariuki

Background: The COVID-19 pandemic brought with it an unprecedented transformation of the health care delivery systems and surgical services across many countries in the world. In Africa, the previously slow uptake in telemedicine saw a more rapid and robust adoption by many healthcare facilities and systems in a bid to continue to provide services, while trying to limit COVID-19 exposure and transmission between patients and clinicians. We present the Karen hospital experience in making this shift from in person surgical consultations to telemedicine, the challenges, opportunities and lessons learned.

Methods: We describe the experiences, challenges and opportunities of adopting telemedicine in surgery during the COVID-19 pandemic and post pandemic era a using experience from a tertiary referral hospital in Kenya.

Results: A total of 120 surgical patients underwent various consultations through telemedicine for the period between April 2021 and June 2022. These included new patients seeking first time consultations, patients undergoing pre operative assessment and counselling and patients undergoing post operative care. Overall, the use of telemedicine in surgery was met with a high degree of success and has been adopted in routine surgical consultations at the hospital.

Conclusion: Telemedicine clear and distinct advantages, and can potentially lead to improved access, continuity of care, and reduced disparities. These advantages were evident long before the COVID-19 pandemic and have been leveraged particularly for surgical follow-up visits. However, the extent to which telemedicine will replace or, more likely, supplement in-person visits is yet to be seen.

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GS029: -: Surgical Backlog Clearance at a Tertiary Hospital in Ethiopia

Authors: Tizita Mengistu, Salessa Hirbo, Mckenzie Lee, Taylor Jaraczewski, Chris Dodgion, Anteneh Gadisa, Belay Mellese Abebe.

Background: Hawassa University Comprehensive Specialized Hospital (HUCSH) is a teaching hospital in southern Ethiopia that serves a population of 20 million people. Surgical backlog clearance is a national surgical key performance indicator. Analysis of HUCSH surgical backlog data through October 2020 identified 2475

patients awaiting elective surgical procedures across all surgical specialties. The objective of this project was to ascertain factors contributing to surgical backlog and to formulate an effective response plan.

Methods: HUCSH stakeholders, including the head of the Department of Surgery, medical director, hospital manager, and quality and liaison officers, conducted a root cause analysis to identify factors contributing to the high load of surgical backlog. A driver diagram was used to generate potential solutions. A small regional hospital with surgical capabilities was assessed as a potential affiliate hospital.

Results: A shortage of inpatient beds and operating rooms (ORs), ongoing hospital renovations, inadequate coverage from senior surgeons, inefficient OR utilization, and a high emergency caseload were main drivers of surgical backlog. Increasing availability of surgical equipment and inpatient infrastructure, improving OR efficiency, and distributing uncomplicated cases to nearby hospitals were key solutions. An attempt was made to contact each patient on the waiting list by phone. Analysis of this found that 125 (11.01%) patients had been treated or operated at another facility, 336 (29.6%) patients did not respond, 102 (9%) patients said they do not want surgery or had been cured by holy water, prayer, or herbal medication, 137 (12.1%) patients said financially not ready and 11 (1.0%) patients had died. A partnership was established with the regional hospital to begin elective surgical procedures, which has now completed over 350 backlogged surgeries. Overall, by the end of December, 2022 a total of 1135 (45.9%) patients had been cleared from the backlog and 1340 (54.1%) patients were still on the waiting list.

Conclusions: Establishing an affiliate hospital with surgical services can partially address backlog factors attributed to resource limitations. Initiatives that require minimal resources should be prioritized, such as regularly updating surgical waiting lists and increasing OR efficiency.

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GS064: - Introduction of gas insufflation-less laparoscopic surgery (GILLS) in Kenya: The first 50 cases

Authors: Maurice Bruno Muriuki Mugao, Dennis Mosoba Nyambane, Elijah Chege Mwaura, Anteneh Tadesseh, David Ndegwa, Prof. Pankaj Jani

Background: Gas Insufflation-Less laparoscopic surgery (GILLS) has been around for years. The first such surgery was reported by Eruheim in 1911. There was a lot of optimism that gasless laparoscopy would replace conventional laparoscopy. The earlier enthusiasm died out due to difficulties developing a proper device to lift the abdominal wall in the same manner as gas. With the invention of the RAIS device, which is simply a spiral metal held by metallic frames, GILLS has started

becoming a reality. GILLS was introduced in Kenya in July 2022 in a workshop held at PCEA Chogoria Hospital.

Methods: prospective observational study in patients who were operated using gas insufflation-less laparoscopic surgery (GILLS) using the RAIS device. The surgeries were performed between July 2022 and July 2023 in Kenya. The surgeries were carried out in 7 different hospitals with the same technique.

Results: 50 laparoscopic surgeries were performed using the RAIS device, without Carbon Dioxide (CO2) gas insufflation in 7 different hospitals. The male to female ratio is 4:7 (18:32). The age of the patient ranged from 5-70 years.

The surgeries include Laparoscopic cholecystectomy (14), Laparoscopic appendectomy (15), Diagnostic laparoscopies (10), Gynecological procedures (4), and hernia repair (6). One patient was converted into gas laparoscopy due to Mirizzi syndrome (1) and another to gas insufflation due to adhesions (1). The average hospital stay post operatively was 3.4 days. The most common complication/ challenge was poor exposure leading to conversion to gas or open.

Conclusions: Gas Insufflation-Less laparoscopy is an emerging technology, recently introduced in our local setting as an alternative to traditional laparoscopy with CO2 pneumoperitoneum. Early observations have shown advantages over the traditional laparoscopy. The benefits include reduced operating costs, reduced anesthetic risks, and reduced overall side effects.
The challenges in uptake have been observed on top of the availability of equipment and trained expertise.

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EBS0009: - Proportion of Early Breast Cancer at Diagnosis in Ethiopia: Systematic review and Meta-analysis

Introduction: Breast cancer is the most common cancer affecting women globally, with disproportionally high mortality rates in lower income countries, including Ethiopia. The stage at diagnosis is a well-defined predictive system that determines the likelihood of breast cancer mortality. Early-stage breast cancer at diagnosis is associated with better treatment outcomes as compared with late stage. Although there are numerous primary studies on women with breast cancer with different proportions of early-stage breast cancer, there is currently no summary data on what proportion of breast cancers was diagnosed at early-stage in Ethiopia. This study focuses on a pooled proportion of early-stage breast cancer at diagnosis in Ethiopia.

Methods: By using key terms, Medline through Pub-Med, Google Scholar, Science Direct, HINARI and medley was searched about breast cancer in Ethiopia and total of 288 articles were retrieved. After screening the articles and quality of each article were assessed by using Newcastle-Ottawa Scale. Finally, 41 articles were used for final pooled prevalence. Random effects model was used to estimate the pooled prevalence and heterogeneity of included studies that were then assessed by using prediction interval.

Result: Pooled prevalence of early-stage breast cancer at diagnosis in Ethiopian Hospitals was found to be 36% with a 95% confidence interval ranging from 31% to 41% and a 95 % prediction interval ranging from 28% to 45%.

Conclusion and Recommendation: Most breast cancer patients (64%) in Ethiopia were diagnosed at the late stage. This contributes to the high mortality rates of breast cancer among women in Ethiopia. Therefore, in line with recommendations by the World Health Organization (WHO), we recommend that there be an emphasis in Ethiopia to focus on early detection of breast cancer.

CRS case 001: Rectal Bilhazioma; A rare presentation of schistosomiasis

Author: Dr. James Kariuki

Introduction

Schistosomiasis is a rare disease with a common intestinal involvement. However, colon polyps associated with Schistosoma in the absence of inflammation have rarely been reported, especially in young people; this is a rare case with the following presentation.

Case presentation

We describe the case of a 27-year-old Ethiopian soldier who presented with nonspecific abdominal symptoms and hematochezia. His biochemical profile was significant for severe iron deficiency anaemia and in addition his stool was positive for occult blood. A colonoscopy showed normal colonic mucosa but surprisingly multiple large pedunculated polyps were found in his proximal rectum. Pathology revealed hamartomatous polyps but they were full of partially calcified parasitic eggs of Schistosoma mansoni compatible with chronic schistosomiasis.

Conclusion

He was treated with two doses of praziquantel and showed immediate marked clinical improvement. Repeat colonoscopy performed 3 weeks post treatment confirmed reduction in the size and number of rectal polypoid lesions. This unusual case will give us the opportunity to discuss schistosomiasis, its occurrence in colon polyps, clinical significance and the various means of management.

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CRS Case 005: - Left side perforated appendicitis with intestinal non-rotation: a case report

Authors: Mezgebu Alemneh Assefa, Yohannis Derbew Molla, Mensur Osman Yasin, Oumer Ahmed Ali and Zerubabel Tegegne Desita

Background: Acute appendicitis is the most common cause of acute abdominal pain, requiring emergency surgery. Symptoms and signs of acute appendicitis usually occur in the right lower quadrant. However, approximately one third of cases have pain unexcepted location due to its various anatomical locations. Acute appendicitis is a very rare cause of left lower quadrant pain; if it occurs, situs inversus (SI) and midgut malrotation (MM) are uncommon anatomic anomalies that complicate its diagnosis and management.

Clinical presentation: Here we present a 23-year-old Ethiopian male patient who presented with epigastric and left paraumbilical abdominal pain, fever, and vomiting of a day duration. On examination at admission, the patient had left lower quadrant tenderness. Later, with the help of imaging studies, the patient was diagnosed with left-side acute perforated appendicitis with intestinal nonrotation, and he was operated on and discharged improved after 6 days of hospital stay.

Conclusion: Physicians should be aware that acute appendicitis in patients with intestinal mal-rotation may be present with left-side abdominal pain. Although it is extremely rare, acute appendicitis should always be considered in the differential diagnosis of left-side abdominal pain. An increase in awareness of this anatomical variant is essential for physicians.

CRS case 006: - Spontaneous Transanal Small Bowel Evisceration: A Rare Complication of Rectal Prolapse

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INTRODUCTION: Although small bowel transanal evisceration through a spontaneous rectosigmoid perforation is a rare complication of rectal prolapse, it is one that all surgeons must be familiar with, as it has potential for high morbidity and mortality if not treated timely. We report a case of a patient with small bowel transanal evisceration with a history of recurrent rectal prolapse.

CASE PRESENTATION: A 59-year-old otherwise healthy male patient, with history of chronic constipation and recurrent rectal prolapse that reduces spontaneously or with manual reduction by the patient, presented to the ED as a referral from a peripheral hospital with a 1-day history of small bowel evisceration through the

anus. The patient denied history of anal or abdominal trauma. Approximately 200 cm of dusky appearing small bowel was seen herniating through the anus (Figure 1). This was manually reduced in the ED, and the patient was subsequently taken to the operating room for an emergent laparotomy, about 12 hours later. On exploration, the small bowel appeared viable, and a 6 cm perforation was noted on the antimesenteric side of the anterior rectosigmoid wall (Figure 2). Incidentally, one helminth was found at the location of the perforation without evidence of obstruction. The perforation was repaired transversely in 2 layers and the patient was diverted with a loop sigmoid colostomy. The patient did well postoperatively with colostomy activity on POD 1 and the patient was discharged home on POD 5 on anthelmintics.

DISCUSSION: Transanal small bowel is an extremely rare complication of chronic/ recurrent rectal prolapse and should be treated as a surgical emergency as delay will result in significant morbidity and mortality. Other described etiological factors include trauma, chronic constipation, and the presence of a deep pouch of Douglas. Despite the patient's relatively young age, recurrent rectal prolapse in the setting of chronic constipation is the likely etiology of the spontaneous perforation.

Although often unsuccessful, because of the dusky appearance of the small bowel and concern for potential delay in getting OR space, transanal manual reduction of the small bowel was attempted in the ED and did result in successful reduction with viable bowel. Many procedures have been described for this pathology. In this case primary repair and diverting loop colostomy was utilized.

CONCLUSION: Awareness of transanal small bowel evisceration as a rare complication of rectal prolapse by medical providers will result in efficient and prompt response in emergency setting, resulting in better outcomes for patients.

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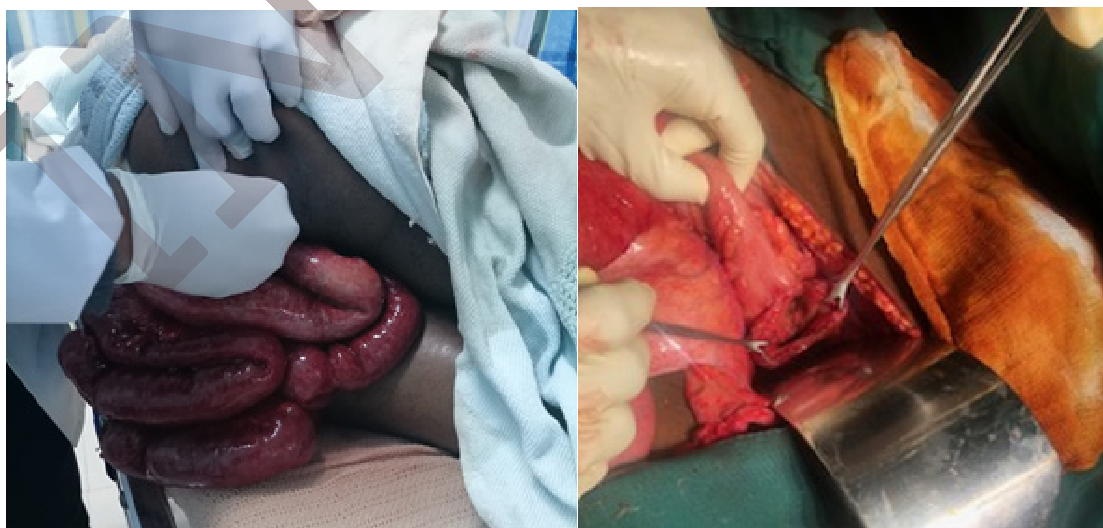

Figure 1: Transanal small bowel evisceration Figure2: Rectosigmoid Perforation on antimesenteric side

CRS 0008: - The Impact of HIV infection on surgical gastrointestinal diseases at the Princess Marina Hospital, Gaborone, Botswana: A cross-sectional study.

Authors: Alemayehu Ginbo Bedada,MD

Background: Various gastrointestinal diseases affect surgical patients. Literature on the burden and outcomes of surgical gastrointestinal diseases in a high HIV infection prevalence is scares. This study aimed to investigate this topic at the Princess Marina Hospital.

Methods: Medical records of patients admitted with surgical gastrointestinal diseases to adult surgical wards were reviewed from August 2017 to July 2018. Demographics, date of admission and discharge, HIV status, CD4 count, and outcomes were analyzed.

Results: 698 patients with known HIV infection status and surgical gastrointestinal diseases were admitted. HIV+ patients contributed 274 (39.3%). Among HIV+, females contributed 147 (53.6%). Symptomatic gallbladder stone disease was significantly higher in HIV- patients, p=0.008; while anal cancers, p=0.001, anal warts, p=0.001, and perianal infections and fistulae, p=0.010 were significantly higher in HIV+ patients. Overall, surgical site infections were recorded in 15 (2.1%) and mortalities in 43 (6.2%). The mortality rate was higher in HIV+ than in HIV- patients, p=0.048. The total number of surgical procedures and median hospital stays among HIV- and HIV+ patients were not statistically significant, p=0.868 and p=0.249 respectively. The total number of complications, p=0.338, mortality, p=0.149, and median hospital stay, p=0.181, among HIV+ patients based on CD4 count, <200 vs. >200, were not significantly different.

Conclusion: Symptomatic gallbladder stone diseases were significantly higher in HIV- patients; while anal cancer, anal warts, and perianal infections and perianal fistulae were significantly higher in HIV+ patients. HIV+ patients had a significantly higher mortality rate than HIV- patients, and this needs further investigation.

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