Dear attendees,

It is our great pleasure to welcome you to the third edition of the InciSioN Global Surgery Symposium (IGSS), our first virtual edition! Due to the COVID-19 pandemic, we were, unfortunately, unable to welcome you to Colombia, but InciSioN Colombia and the InciSioN international Team are excited to bring the best global surgery conference experience possible online. Over the course of 5 days we will be discussing; education, research and careers in global surgery, the current status of global surgery in Latin America and the Caribbean, we explore ethics, equity and justice, and take a closer look at policy, surgical system’s resilience and intersectoral collaborations. IGSS2020 Scientific Forum will feature presenters from over 25 countries across the globe sharing their work with the international audience. Networking and discussion sessions will also be facilitated, with exciting prizes and opportunities awaiting those participating. Finally we host the first ever Global Surgery in Pictures contest. Stay with us until the last day to celebrate the awardees for presentations and the host of IGSS2021! We would like to thank you for your support throughout this journey. We hope that you will enjoy the IGSS2020 program and join the lively discussions ahead!

Joffre Alejandro Guzmán-Laguna & Laura Lucía Fernández Londoño
InciSioN Colombia Chairs

Katayoun Madani, MS MD & Xiya Ma, MSc MD
InciSioN Chairs

Angélica Clavijo Umbarila MD, InciSioN Colombia, Immediate Past Chair
Opening Ceremony
1:00 - 1:30PM

Featured Presentation
1:30 - 1:50PM

Education in Global Surgery
1:50 - 3:10pm

Careers in Global Surgery:
Pathways, Funding & Gender Equity
3:25 - 4:55pm

IGSS Scientific Forum Oral Presentations I
5:10 - 6:25pm
Dr Hugo Cardenas is the Dean of El Bosque University School of Medicine at the El Bosque University-Colombian School of Medicine (January 1980 - December 1985). He did a specialization in Philosophy of Science at El Bosque University and did a Master's Degree in Community Social Psychology at the Pontifical Xaverian University.

HUGO CÁRDENAS LÓPEZ MD
Education is one of the most important pillars in global surgery since the success of achieving safe, affordable and timely surgical care for all, will require a deep understanding of issues at hand. This is especially important as it pertains to students and trainees, and early career physicians as they are the future of Global Surgery. This panel will discuss current education status of Global Surgery education globally, as well as needs and challenges that exist to improve education in this emerging field.

SESSION 1
Education in Global Surgery: Current State & Challenges

MODERATORS

RACHEL DAVIS MD

AHMADREZA ABBASLOU

PANELISTS

SUDHA JAYARAMAN MD, MSC, FACS

PROF ABEBE BEKELE MD, FCS, FACS

KATHLEEN CASEY MD

LUIS FELIPE CABRERA VARGAS MD ASSOC FACS

JUAN CARLOS PUYANA MD, FRCSC, FACS, FACCP

DAN POENARU MD, PHD, FRCSC, FACS, FAAAA
Global surgery is a vast arena with many sectors that can present exciting career opportunities. As an emerging field there is much room to work, build and innovate towards the goal of safe, timely, and affordable surgical care for all. In this panel various professionals in Global Surgery will share their experiences working and building this field. Challenges they face, opportunities available today, and what they envision the future will hold for Global Surgery.

SESSION 2
Careers in Global Surgery: Pathways, Funding & Gender Equity

MODERATORS
RAYMOND PRICE MD, FACS  
XIYA MA MD, MSC

PANELISTS
CDR TAMARA WORLTON  
BENEDICT NWOMEH MD, MPH  
MAMTA SWAROOP MD, FACS FICS FAIM
ADIL HAIDER MD, MPH, FACS  
ROBERT RIVIELLO MD MPH  
MAURICIO VASCO RAMÍREZ MD
Evaluation of a Pneumatic Surgical Robot with Dynamic Force Feedback

Dimitrios Karponis, Yokota Kouya , Ryoken Miyazaki, Takahiro Kanno, Prof. Kenji Kawashima
Imperial College London School of Medicine & Tokyo Medical and Dental University, Department of Biomaterials and Bioengineering.

Introduction: Tribromoethanol (TBE) is an anesthetic characterized by a rapid onset and quick post-surgical recovery. It should be refrigerated (at 4oC) and replaced every two weeks, to avoid side effects, which range from intestinal adhesions to mortality. Our aim was to compare the effects of freshly-prepared TBE and “aged” TBE in rats undergoing ovariectomy. The areas of comparison were: onset of time (OT), duration of anesthesia (DA), duration of sleep (DS), recovery time (RT) and post-surgical survival (PSS).

Methods: A 2.5% solution of TBE was administered intraperitoneally (250 mg/kg) in 10 female Sprague-Dawley rats. Controls (n=5) received a freshly-prepared TBE solution whilst the experimental group (n=5) were given a 2 month old solution. OT was defined as the time needed for loss of righting reflex, after TBE administration. Respiratory rates were determined by close observation. A thermometer was used to record rectal temperature and forceps to test pedal withdrawal (DA). RT was calculated by subtracting the time of regain of righting reflex from the time to return to normal activity.

Results: No significant differences were observed in OT or DA even though “aged” TBE scored lower in both cases. However, DS and RT were significantly elevated in rats injected with fresh TBE. Rats on fresh TBE had a PSS of 100%, compared to 40% in rats given “aged” TBE.

Conclusion: TBE should be administered “fresh” in order to avoid any complications. Age, together with storage temperature of TBE, should be always taken into consideration before operating, even in low income settings with limited resources.
Impact of US Visa Rejection Rates on US Global Health Conference Attendance by Researchers from Low-and Middle-Income Countries

Anudari Zorigtbaatar, Ulrick Sidney Kanmounye, Lotta Velin, Jean Wilguens Lartigue, Paul Truché, Michelle Nyah Joseph
Program in Global Surgery and Social Change, Boston, MA, USA, Clinical Trials Unit, University of Warwick, Warwickshire, UK

Introduction: Researchers from low and middle income countries (LMICs) face significant difficulty attending global health conferences which are often held in high income countries. This study aims to determine the association between U.S. visa rejection rates, passport mobility and conference attendance by LMIC researchers presenting at a large U.S. global health conference.

Methods: The nationality of speakers and poster presenters attending the Consortium for Universities in Global Health conference (CUGH) from 2014-2018 were reviewed. Visa rejection rates were obtained from U.S. State Department records. We utilized negative binomial regression to model the effect of visa rejection rates, LMIC country status, GNI and passport power on speaker attendance rates from LMICs.

Results: There were 613 speakers and presenters from 52 LMICs between 2014-2018. The mean number of speakers per country was 5 (IQR 5). Both the U.S. visa rejection and LMIC passport mobility score were independently associated with speaker attendance. Countries with higher U.S. visa rejection rates were associated with lower numbers of representative speakers (p=0.04) while countries with higher passport mobility scores had lower numbers of speakers (p=0.01) when adjusting for country status and GNI.

Conclusion: Visa rejections and low passport mobility are significant barriers for researchers from LMICs attempting to attend global health conferences. To ensure equity in global health research, there needs to be an improvement in visa access for scientific purposes; awareness of these barriers must be highlighted to policy makers.
A Systematic Review and Multi-Level Meta-Regression Analyzing Time Trends of Specific Cause of Death Preoperative Mortality Ratios: A Protocol and Methodological Framework

Kevin, McIntyre, Janet, Martin
Department of Epidemiology and Biostatistics, Schulich School of Medicine and Dentistry, The University of Western Ontario; Department of Anesthesia and Perioperative Medicine and Clinical Epidemiology, Schulich School of Medicine and Dentistry, The University of Western Ontario

Introduction: The introduction of the perioperative mortality ratio (POMR) as an indicator for surgical safety has led to an increase in the reporting of POMR in studies. However, we are not aware of any evidence synthesis on the cause of death (CoD) during the perioperative period. This project aims to explore global time trends in CoD during the perioperative period.

Methods: We are conducting a systematic review and meta-analysis to capture all primary articles reporting CoD during the perioperative period that used any of the three recognized bellwether procedures. We are searching MEDLINE, Embase, Cochrane CENTRAL, Global Index Medicus, and WHOLIS databases, and extracting overall and CoD specific POMR from these studies. Other important known covariates including average age, sex, ASA status, and proportion of emergency surgeries are also being extracted. Additionally, the country and year that the study was conducted in is being retrieved. From this data we will perform a multi-level meta-regression to examine trends of specific CoD across time in high, middle, and low-income countries in addition to other analyses to determine where further data collection is most needed.

Results: By April, we will have the results synthesized, with data visualization techniques to highlight which countries have provided data, and what CoDs are reported globally for bellwether surgeries. These models will provide estimates of POMR for each CoD separately for high, middle, and low-income countries, as well as several exploratory analyses to inform future research.

Conclusion: This project aims to address current knowledge gaps surrounding causes of death in the perioperative period.
Neonatal Surgery in a Low Resource Setting, HEAL Africa Tertiary Hospital, North Kivu Province, Democratic Republic of Congo

Jacques Bake, Neil Wetzig, Medard Kabuyaya
HEAL Africa Tertiary Hospital

Introduction: HEAL Africa Hospital is a tertiary referral hospital located in Goma, the provincial capital of North Kivu Province, Eastern Democratic Republic of Congo. It is serving urban and rural patients, but has no qualified paediatric surgeon. Neonatal surgery is being performed by general surgeons and surgical residents; however, it has a dedicated Neonatal Unit established by Global Strategies, a USA-based organization.

Methods: A retrospective review of neonatal surgical admissions and their outcomes was conducted between January 2016 and December 2018. Data was collected from the neonatal admission and discharge register.

Results: The neonatal department of HEAL Africa Hospital is a training center for neonatal nurses in the region, training twelve nurses per year. It has a capacity of twelve beds, with two pediatricians, three residents and eight nurses. Of 1,210 neonatal admissions in the study period, there were 72 cases (5.95%) potentially requiring surgery. Of these cases 77.77% were referred from outside HEAL Africa Hospital. 51 were males and 21 females, a sex ratio M:F of 2.4:1. The mean age at presentation was 5 days. The most common diagnoses were myelomeningocele / meningocele (23.61%) and anorectal malformations (16.66%). Only 54.16% had surgery. The overall mortality was 40.27%. The mean length of stay was 6.95 days.

Conclusion: The neonatal mortality rate with surgical conditions is high. There is a great need for trained pediatric surgeons with neonatal surgery experience in North Kivu and throughout the Democratic Republic of Congo. Advances are needed in neonatal intensive care, surgical materials and techniques.
Capturing the Global Impact of Plastic Surgeons in Low-Income Countries

Ellie Moeller, Paul Truche, Taylor Wurdeman, Kathrin Zimmerman, Norma Cruz, Laura Pompermaier, Daniel Scott Corlew
Harvard Medical School, Program in Global Surgery and Social Change; International Confederation of Plastic Surgery Societies, University of Puerto Rico, San Juan.

Introduction: Surgically treatable conditions comprise 30% of the global burden of disease (GBD) and disproportionately affect low-income countries (LICs). We seek to quantify the plastic surgery workforce in LICs, describe their practice patterns and assess their clinical impact with respect to the Disease Control Priorities 3 essential surgical procedures.

Methods: A cross-sectional survey was distributed through a web-based survey to plastic surgeons identified through plastic surgery societies. Respondents reported information including demographics, practice setting, training information, income, GBD conditions treated, essential surgical procedures performed, and perceived barriers to care.

Results: 48 plastic surgeons were identified in 14 of 31 LICs, with 43 plastic surgeons from 12 LICs responding. The most commonly treated surgical conditions included burns (67.4%, n=29), cleft lip (58.1%, n=25), and trauma (55.8%, n=24). Of the DCP3 essential surgical procedures, the majority of respondents performed cleft lip repair (67.4%, n=29), skin grafting (74.4%, n=32), escharotomy and fasciotomy (65.1%, n=28), trauma-related amputations (62.8%, n=27), and laceration suturing (58.1%, n=25). The most frequently reported barriers to providing care in low income countries included lack of surgical equipment (60.5%, n=26) and lack of more specialized training (53.5%, n=23).

Conclusion: Plastic surgeons in LICs predominantly treat conditions with high disease burden, including burns and congenital anomalies. A number of LIC countries lack a single local plastic surgeon. In those with a local plastic surgery workforce, the majority of these surgeons face barriers to providing care. These findings demonstrate the critical role of plastic surgery in addressing the GBD and emphasize the need for capacity building in LICs.
Efficacy of Platelet Rich Plasma as a Treatment Modality for Wound Healing

Anna Mary Jose
Jawaharlal Nehru Medical College

Introduction: Non-healing wounds come with cost and morbidity for patients and the society. Conventional therapies, such as dressings, surgical debridement, and even skin grafting, cannot provide satisfactory healing since such treatments are not able to provide the necessary growth factors to modulate the healing process. Platelet rich plasma is an effective method to directly feed growth factors to the mesenchymal tissue at the edges of the wounds in order to enhance healing.

Methods: A randomized controlled trial (n=60), on patients with wounds having a surface area ≥ 10 x 10 cm², the treatment group wherein they will be treated with autologous platelet rich plasma which will be infiltrated in the wound edges and the control group would be treated with conventional dressings, 30 participants each.

Results: Reduction in area: Treatment group -1421 mm² - 661 mm², control group:1710 mm² - 1478 mm² at the end of one month. Hospital stay: Treatment group (n=14), control group (n=17.5 days). Mean pain score: Treatment group- 7.2 to 4.4, control group -8.4 to 6.3, at the end of one month. Treatment group- granulation tissue in 21 patients on day 4, control group - one patient showed healthy granulation tissue at the same time. Mean rate of epithelization: Control group -11.12 mm²/day, Treatment group -34.026 mm²/day.

Conclusion: All patients showed good compliance, because of decreased hospital stay, analgesic effects of PRP, elimination of surgical interventions, decrease rate of comorbidities such as lower extremity amputations, fastened rate of healing, decreased cost of treatment and no adverse reactions.
Recap of Day 1 and setting the tone for Day 2: Research and Ethics
1:00 - 1:15pm

Global Surgery Research: The Role of Students, Trainees & Early Career Physicians
1:15 - 2:35pm

Justice, Equity, and Ethics in Global Surgery
2:50 - 4:10pm

IGSS Scientific Forum Poster Presentations I: 4:10 - 5:25pm
Research is a vital component of Global Surgery. All advocacy and policy efforts including the NSOAPs are informed by and built on data collected through local and global studies. Students, trainees, and early career physicians can and must play an active role in Global Surgery Research. Involvement in research is not only a medium for further education and career building but also provides opportunities for innovation and solution development. Over the past six to seven years many research collaboratives have formed that are either created and led by students, trainees and early career physicians, or have a major involvement of this cohort in their studies. This panel will discuss successful regional and global research collaboratives and lessons learned from these experiences. Additionally we will explore gaps, challenges and important ethical issues involving this passionate research workforce across the globe.

SESSION 1
Global Surgery Research: The Role of Students, Trainees & Early Career Physicians

Research is a vital component of Global Surgery. All advocacy and policy efforts including the NSOAPs are informed by and built on data collected through local and global studies. Students, trainees, and early career physicians can and must play an active role in Global Surgery Research. Involvement in research is not only a medium for further education and career building but also provides opportunities for innovation and solution development. Over the past six to seven years many research collaboratives have formed that are either created and led by students, trainees and early career physicians, or have a major involvement of this cohort in their studies. This panel will discuss successful regional and global research collaboratives and lessons learned from these experiences. Additionally we will explore gaps, challenges and important ethical issues involving this passionate research workforce across the globe.

MODERATORS

MAMTA SWAROOP MD, FACS FICS FAIM
SANJAY KRISHNASWAMI MD FACS FAAP
KATAYOUN MADANI MS, MD

PANELISTS

JAMES GLASBEY MBCH BSC PGCERT MRCS
LOURNAE ARABANG SEBOPELO
LAURA LUCIA FERNANDEZ
JOFFRE GUZMAN LAGUNA
NOEL ARUPARAYIL MD, MRCSED, PGCERT
EMILY MILLS MBBS
ULRICK SIDNEY MD
ARDI MENDOZA
SOHAM BADYOPADHYAY BA BM BCH
SESSION 2
Justice, Equity, and Ethics in Global Surgery
MODERATORS

JOFFRE GUZMAN LAGUNA
KATAYOUN MADANI MS, MD
SANJAY KRISHNASWAMI MD FACS FAAP

MAMTA SWAROOP MD, FACS FICS FAIM
DESMOND JUMBAM MS
MAKINAH HAQ

NELSON UDEME-ABASI
ANN KIMA
NOBHOJIT ROY MS, FRCS, MPH

Sponsored by
SCALING UP SAFE SURGERY FOR DISTRICT AND RURAL POPULATIONS IN AFRICA

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The project is funded by the European Union’s Horizon 2020 research and innovation programme under grant agreement no. 733391.
The Effect of Tribromoethanol Shelf Life on Anesthetic Efficacy and Safety

Dimitrios Karponis, Ajadi R Adetola, Oladele S Gaza
Imperial College School of Medicine, Imperial College London, UK, Department of Biology, St Cloud State University, MN, USA

Introduction: Tribromoethanol (TBE) is an anesthetic characterized by a rapid onset and quick post-surgical recovery. It should be refrigerated (at 4°C) and replaced every two weeks, to avoid side effects, which range from intestinal adhesions to mortality. Our aim was to compare the effects of freshly-prepared TBE and “aged” TBE in rats undergoing ovariectomy. The areas of comparison were: onset of time (OT), duration of anesthesia (DA), duration of sleep (DS), recovery time (RT) and post-surgical survival (PSS).

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Results: No significant differences were observed in OT or DA even though “aged” TBE scored lower in both cases. However, DS and RT were significantly elevated in rats injected with fresh TBE. Rats on fresh TBE had a PSS of 100%, compared to 40% in rats given “aged” TBE.

Conclusion: TBE should be administered “fresh” in order to avoid any complications. Age, together with storage temperature of TBE, should be always taken into consideration before operating, even in low income settings with limited resources.
Conference Equity in Global Health: A Systematic Review of Factors Impacting LMIC Representation at Global Health Conferences

Lotta Velin, Jean Wilguens Lartigue, Samantha Johnson, Anudari Zorigtbaatar, Ulrick Sidney Kanmounye, Paul Truche, Michelle Joseph.
Program in Global Surgery and Social Change, Harvard Medical School, Boston, MA, USA. Center for Surgery and Public Health, Lund University, Sweden. University of Medicine and Pharmacy, University of Haiti, Port-au-Prince, Haiti. University of Warwick, Warwickshire, United Kingdom. Faculty of Medicine, McGill University, Montreal, QC, Canada. Department of Neurosurgery, Faculty of Medicine, Bel Campus University of Technology, Kinshasa, Democratic Republic of Congo. Department of General Surgery, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ, USA. Clinical Trials Unit, University of Warwick, Warwickshire, United Kingdom.

Introduction: Global health conferences are platforms for decision-making and offer opportunities for personal and professional growth for attendees. Neocolonial patterns in global health and recent opinion reports indicate that stakeholders from low- and middle-income countries (LMICs) may be underrepresented at such conferences, however, no study has assessed whether equity exists in global health conferences. This study aims to determine factors that impact LMIC representation at global health conferences.

Methods: A systematic review of articles reporting inequities in global health conference attendance was performed using the PRISMA guidelines. Articles presenting the conference demographics and data on the barriers and/or facilitators to attendance were included in this study. All articles were screened at title- and abstract level by four independent reviewers. All eligible articles were then read in full text, analyzed and evaluated with a risk of bias assessment.

Results: Among 8,765 unique articles screened, 46 articles were included. Thematic analysis yielded two themes: “barriers to conference attendance” and “facilitators to conference attendance”. One-hundred and twelve conferences with 254,601 attendees were described. Only 4% of the conferences were hosted in low-income countries. Of the 98,302 conference attendees, for whom affiliation was disclosed, 38,167 (39%) were from LMICs.

Conclusion: “Conference inequity” is common in global health, with LMIC attendees underrepresented. Attendance by LMIC participants is limited by systemic barriers including cost of travel, visa restrictions, and lower acceptance rates for research presentations. This can be mitigated by relocating conferences to visa-friendly countries, providing travel scholarships and mentorship programs to enable LMIC researchers.
Knowledge And Attitude of Undergraduate Students In Kenya Towards Solid Organ Donation and Transplantation

Newnex Brian Mongare, Nelson Mweteri Mpekethu, Marie-Claire Wangari, Daniel Ojuka
Department of Surgery, College of Health Sciences, University of Nairobi, Kenya

Introduction: Objective: To describe the knowledge and attitudes of Kenyan undergraduate medical students towards solid organ donation and transplantation, and their level of competence in handling end-of-life issues.

Methods: A sample of undergraduate medical students from all the medical schools in Kenya offering a Bachelor of Medicine and Bachelor of Surgery (MBChB) were prospectively surveyed using a self-administered web based questionnaire, between July and September 2018.

Results: There were 303 participants; 167 (55.1%) were female and 136 (44.9%) were male. Only 8.9% of the students had read the laws governing organ donation and transplantation in Kenya. An even lower percentage (3.3%) felt that they had learnt enough about solid organ donation from their MBChB curriculum. 52.8% of the respondents would subscribe as solid organ donors; which reduced to 46.5% when it came to consenting the donation of their relative's organs. Less than half of the students felt they would be comfortable introducing the topic (39.6%) or confident answering questions (22.8%) related to organ donation and transplantation. Only 9.9% of the students had ever spoken to a patient about organ donation. There was no significant association between level of study (pre-clinical versus clinical) and comfort introducing the topic of organ donation (p=.206) or experience talking to a patient about organ donation (p=.102).

Conclusion: Undergraduate medical students have significant knowledge gaps regarding organ donation and transplantation, and feel ill-prepared to approach a potential donor or transplant recipient. Introduction of dedicated organ donation education programs targeting medical students can be used to address these deficits.
The Role of Regional Anesthesia in Low- and Middle-Income Countries

Kashmira Chawla, Benjamin Johnson, Mark A. Brouillette, Swetha R. Pakala
Department of Anesthesiology, New York Presbyterian-Weill Cornell Medical Center, New York, NY, USA, Department of Anesthesiology, Rush University, Chicago, IL, USA, Department of Anesthesiology, Critical Care & Pain Management, Hospital for Special Surgery, New York, NY, USA

Introduction: Five billion people lack access to quality surgical care, and anesthesia has been described as the rate-limiting step to providing essential operations in low- and middle-income countries (LMICs). Regional anesthesia (RA) may be a valuable anesthetic modality in LMICs because it is efficacious and can be successfully applied with limited resources. The objective of this research was to define the role of RA in LMICs, drawing from available literature.

Methods: We reviewed LMIC RA literature by searching PubMed® and Google Scholar® for relevant keywords from 2000 to 2019. Only peer-reviewed articles were considered. We sought to determine if current literature supports that RA widens access to timely essential surgery, increases specialist workforce density and surgical volume, reduces perioperative mortality, and protects against impoverishing and catastrophic expenditure. These are the core indicators for monitoring access to safe, affordable surgical and anesthesia care as defined by the Lancet Commission on Global Surgery

Results: RA literature in LMIC settings was sparse – only 28 studies met our inclusion criteria. These reports highlighted the feasibility of RA training and utilization in LMICs, yet few examined the benefits of these initiatives

Conclusion: To better define the role of RA in LMIC care, studies demonstrating the benefits of this modality are necessary. Future research is needed to determine whether RA use in LMICs is associated with reduced perioperative complications compared to general anesthesia, RA training programs increase access to providers, and RA implementation is cost effective compared to other anesthesia modalities.
Postoperative Sepsis Among HIV-Positive Patients with Acute Abdomen at Tertiary Hospital in Sub-Saharan Africa: a Prospective Study

Awale
Somali National University, Incision Somalia, International Hospital

Introduction: The incidence of HIV in Uganda as reported by UNAIDS (2012) was increased from 6.7% in 2004 to 7.6% to 2012. The main threat to HIV-infected patients following surgery is the development of sepsis. Inadequacy of surgical supplies and human resources further hastens and complicates the postoperative sepsis in HIV patients.

Methods: A prospective study ran for a period of 11 months from October 2015 to April 2016 in Mulago Hospital in Kampala. Eligible patients were recruited and included.

Results: Sixty-two patients were recruited; of these, 42 were male, 37 were HIV-negative and 25 were HIV-positive. The proportion of patients with postoperative sepsis in the HIV-positive group was 7 (28%) and in the HIV-negative group was 8 (21.6%). The number of patients discharged in HIV-positive group was 24 (96%) and in HIV-negative group was 35 (94.6%). Among the HIV-positive group was 1 out of 25 (4%) and HIV-negative was 2 out of 37 (5.4%). The overall postoperative sepsis incidence rate was 3 per 100 person days for under observation (95% CI 0.02–0.1), and the incidence rate ratio of HIV-positive patients and HIV-negative was 1.04 (95% CI 0.32–3.3; P = 0.47).

Conclusion: The limited health resource was associated with developing postoperative sepsis. There was a higher risk of positive operative sepsis among HIV-positive compared to HIV-negative patients undergoing surgery for acute abdominal conditions.
Use of Topical Anesthesia in Rigid bronchoscopy for patient with suspected foreign body aspiration in a tertiary hospital in Rwanda

Emmanuel, Mwizerwa Bunani; Honore, Ntwali; Jean Bosco Katabogama; Yves Victor, Twizere Koko

University of Rwanda

Introduction: Foreign body aspiration is the inhalation of foreign body into the larynx and respiratory tract; it is a well-known life-threatening condition known in children as well as adults. Bronchoscopy is used as either a diagnostic or a therapeutic tool; with rigid bronchoscopy have been used from early 19th century for removal of foreign body it is preferred over flexible bronchoscopy; as it: provides stable airway, is suited for large foreign body and time effective..

Methods: A retrospective, descriptive cross-sectional study on patients with suspicion of Foreign body aspiration who underwent rigid bronchoscopy at CHUK from January 1st, 2015 to December 31st, 2017

Results: For the total of 77 patients suspected of foreign body aspiration, the majority of them 63(81.81%) underwent rigid bronchoscopy alone while 14(18.19%) adjunct topical anesthesia was used. Of the patients that received topical anesthesia, the practice was prevalent in the combination of a PA+NPA 5 patients (35.7%); while PA+Resident+NPA and Resident+NPA each applied it on 4 patients (28.57%) and only for 1 patient (7.14%) was the topical anesthesia provided.

Of the patients who received topical anesthesia(topicalization) no one had laryngospasm and only 1(7.14%) had bronchospasm. Only 1(7.14%) patient required endotracheal intubation and 2(14.28%) required admission to the ICU or PICU. In contrast the non-topicalized patient group 2 had laryngospasm and 3 had bronchospasm. In this group 13(20.63%) patient required endotracheal intubation and 17(26.98%) required admission to the ICU/PICU.

Conclusion: Despite having a small sample the topical anesthesia during rigid bronchoscopy for foreign body aspiration showed a reduced risk of patient developing laryngospasm and bronchospasm as well as the patient requiring either endotracheal intubation or admission to the ICU/PICU.
Community versus Hospital Acquired Infections Low Settings, Kigali University Teaching Hospital-Rwanda

Jean Bosco KATABOGAMA, Christophe Mpirimbanyi, Thierry Cyuzuzo, Jennifer Rickard, Vital Muvunyi, Faustin Ntienganya, Juru Gisele
University of Rwanda, Kibungo Referral Hospital, Kigali University Teaching Hospital, University of Minnesota

Introduction: There is a growing rate of antimicrobial resistance (AMR) globally, with high rates noted in LMICS. This is particularly challenging due to limited antibiotic options available in these settings. The aim of this study was to compare community (CAI) and hospital acquired infections (HAI) and determine the rate of extended spectrum beta-lactamase (ESBL) production in acute care surgery (ACS) patients at a tertiary referral hospital in Rwanda.

Methods: This was a prospective, observational study of all ACS patients with suspected infection. Specimens were taken from these patients. Culture and sensitivity testing were done at the hospital laboratory using Kirby Bauer disc diffusion method.

Results: In 9-months period, we collected 158 samples from 139 patients. 94 (59%) specimens collected were CAI and 64 (41%) were HAI, 103 (66%) samples were positive for culture growth; no difference between CAI (60%) vs HAI (73%), pvalue=0.087. Of 40 E. coli isolates tested, 17 (43%) were resistant to ceftriaxone, with higher rates of resistance seen in HAI versus CAI isolates (75% vs 29%, p=0.006). Of 13 Klebsiella isolates, 9 (69%) were resistant to ceftriaxone. All S. aureus isolates were sensitive to vancomycin.

Conclusion: Rates of cephalosporin resistance and ESBL production are relatively high in Rwandan surgical patients with higher rates notes in HAI compared with CAIs. Infection prevention practices and antibiotic stewardship are critical to reduce infection rates with resistant organisms in a low resource setting.
Antibiotic use in surgical patients with infections at Tertiary Hospital in Kigali, Rwanda

Vital, Muvunyi; Thierry, Cyuzuzo; Jean Bosco, Katabogama; Christophe Mpirimbanyi; Rickard Jennifer
University Teaching Hospital of Kigali, Kigali, Rwanda; University Of Minnesota, Surgery, Minneapolis, MN, USA

Introduction: Improper use of antibiotics in healthcare facilities is widespread in low- and middle-income countries. Reasons for inappropriate use of antibiotics include lack of regulation in antibiotic use, high rate of self-medication, and lack of treatment compliance that leads to emergence of resistant microorganisms as well as drug toxicity.

Methods: This was a nine months, prospective study of patients presenting to the acute care surgery service with an infection at Kigali University Teaching Hospital (CHUK). Data were collected on demographics, microbiology, antibiotic management and clinical outcomes. Categorical data were reported as frequencies and percentages. Continuous data were reported as median and interquartile range (IQR).

Results: Over a 9-month time period, there were 139 surgical patients with 158 specimens collected. The most common organisms isolated were Escherichia coli (42%), Staphylococcus aureus (20%), and Klebsiella species (14%). Of 62 specimens tested for extended spectrum beta-lactamase (ESBL), 44% were ESBL producers. Of 66 isolates tested, (47%) were resistant to ceftriaxone and of 72 isolates tested, (33%) were resistant to fluoroquinolones.

129 patients started antibiotics, initially given third generation cephalosporins (ceftiraxone or cefotaxime) (81%), metronidazole (81%), ciprofloxacin (12%), or cloxacillin (12%). Median duration of antibiotics were 5 days (IQR: 4, 7).

32 patients missed doses of antibiotics, the reason was not documented (62%). Antibiotics were changed in 46 patients, mostly in Patients with a surgical site infection (69% vs 26%).

Conclusion: There is broad and prolonged use of third generation cephalosporins despite relatively high resistance rates. Improved antibiotic stewardship is necessary to decrease antibiotic misuse.
Epidemiology and Patterns of Trauma at a Secondary Hospital in Northern Haiti

Jean W, Lartigue, Dudley’s, Ambroise, Paul M Toussaint, Alexis N Bowder, Michelle N Joseph.
Program in Global Surgery and Social Change, Harvard Medical School, Boston, MA, USA, Faculty of Medicine and Pharmacy, State University of Haiti, Port-au-Prince, Haiti, Hôpital Convention Baptiste d’Haiti, Cap-Haitien, Haiti, University of Warwick

Introduction: Trauma is a leading cause of mortality and morbidity in low and middle income countries, accounting for 10% of the global burden of disease. In Haiti, 12% of all deaths each year are due to trauma, yet trauma care systems remain under-developed. Strengthening trauma care systems to meet this need requires a better understanding of the mechanisms and complexities of presenting traumatic pathologies. The aim of this study was to assess the volume and patterns of trauma at Hôpital Convention Baptiste d’Haiti (HCBH), second level hospital in Northern Haiti

Methods: A retrospective analysis of all emergency department (ED) visits from March 2018 to February 2019 identified all trauma cases. The etiology, demographic data, and mechanisms were recorded.

Results: Over the study period, there were 6020 emergency visits at HCBH, of which 1946 (32%) were trauma-related. Two-thirds of the patients were male and the mean age of all trauma patients was 28. One third of the patients had orthopedic injuries. Ten percent of the trauma patients had head injuries. Of the 673 patients with a specified mechanism, 661 (98%) traumas were due to road traffic accidents. Of the total number of trauma cases 1269 (65%) did not have the mechanism of injury recorded.

Conclusion: This study found the volume of road traffic accidents to be high and the young male population to be the most affected. The severity and range of cases admitted at HCBH highlights the need for adequate orthopedic and neurosurgical support to safely manage these complex injuries.
Global Surgery In Cameroon: Evaluating the Level of Knowledge and Attitudes of Healthcare Workers Towards Global Surgery

Dylan Djiofack, Aimé Mbonda, Léonid Daya, Nathalie Ghomsi, Ulrick Sidney
Association of Future African Neurosurgeons
Program in Global Surgery and Social Change, Harvard Medical School, Boston, USA

Presented by: Pokam Feunou Ornella
Faculty of Health Sciences, University of Buea

Introduction: Global surgery is a growing field of concern worldwide, taking the quest for safe and affordable surgical care to the forefront of the global health community's attention. In Cameroon, this field is gaining more grounds but little is known about the level of knowledge and attitudes of its future actors in global surgery, crucial information for improvement of strategies aimed at attaining effectively the Global Surgery 2030 defined targets.

Methods: We performed an anonymous online survey of medical students and health professionals, following a convenience sampling method. Obtained data was tidied in Excel and summary statistics analysed with SPSS v 24.

Results: Forty-five (45) respondents with a mean respondent age of 25.62 years (SD 6.447) participated in this study. Most respondents were male (57.8%, n = 26), students (57.8%), and the majority of respondents (68.9%) had previous knowledge of global surgery. Less than one respondent in five had participated in a global surgery event (17.8%), and fewer had participated in a global surgery study (13.3%). Increased human resources (77.8%), development of specialised health centers (77.8%), and fight against corruption (68.9%) were suggested as the primary ways of improving affordability and availability of surgical care.

Conclusion: Global Surgery is a growing field in Cameroon. Medical students and health professionals are aware of the importance, major actors and challenges in global surgery but they have a low level of involvement in its activities.
Recap of Day 2 and setting the tone for Day 3
1:00 - 1:15pm

Regional Focus, Global Surgery in Latin America and the Caribbean: Featured Presentation: TRUE Communities
1:15 - 1:35pm

Panel Discussion - The State of Global Surgical Healthcare in Latin America & the Caribbean
1:35 - 2:55pm

Breakout sessions A
4:45 - 5:45pm

Breakout Sessions B Brainstorming the Way Forward in Latin America and the Caribbean
4:45 - 5:45pm

IGSS Scientific Forum Oral Presentation II
6:00 - 7:15pm
Dr. Mamta Swaroop is a dynamic, collaborative, and visionary academic global trauma surgery leader. She has been an invited national and international visiting professor and keynote speaker, authored over 60 peer-reviewed research articles and book chapters, chaired numerous symposiums, and mentored 100+ rising leaders around the world. For the past 11 years, Dr. Swaroop has excelled as a Trauma, Acute Care, and Critical Care Surgeon, researcher, and mentor at Northwestern Memorial Hospital. She serves as an Associate Professor of Surgery in the Division of Trauma and Critical Care, the Director for the Center for Global Surgery, and the Global Surgery Fellowship Program Director in the Feinberg School of Medicine. Her lab, the Northwestern Trauma and Surgical Initiative, as well as her 501c3 non-profit organization, The Sadanah Foundation, both aim to build sustainable access to surgical care through education and research in low resource settings, conducting community-directed research and programmatic development in Southeast Asia, South America, and North America. She was recognized as one of Oprah’s Health Heroes, received the 39th annual Martin Luther King Humanitarian Award from Northwestern Memorial Hospital, and presented the keynote address at the Royal College of Surgeons Global Frontiers Conference in London. As a Board Certified physician, she completed her Bachelor of Science in Microbiology at Texas A&M University, Medical Doctorate at the University of Texas at Houston Health Science Center, General Surgery Residency at the University of South Florida, and Surgical Critical Care Fellowship at Northwestern University.
SESSION 1
The State of Global Surgical Healthcare in Latin America & the Caribbean

This panel will be a discussion of the current status of Global Surgery in the Latin American and Caribbean region by the physicians, faculty, policymakers and stakeholders from this region. We aim to discuss strategies, policies, initiatives and studies that have made strides in providing quality surgical care, identify challenges remaining, and discuss future goals that can improve the care and diagnosis of surgical pathologies. By the end of this panel we will identify two major challenges to be the topic of further discussion, brainstorming and collaboration in the afternoon breakout session.
This panel will be a discussion of the current status of Global Surgery in the Latin American and Caribbean region by students, trainees and early career physicians from this region. We aim to discuss student and trainee led efforts that have made an impact in providing quality surgical care and training the future of Global Surgical WorkForce in the region. We will identify challenges remaining, and discuss future steps that can improve advocacy, research, education and capacity building efforts in Global Surgery. By the end of this panel we will identify two major challenges to be the topic of further discussion, brainstorming and collaboration in the afternoon breakout session.
ADVOCACY:
What is advocacy? How to be an effective advocate for Global Surgery?

SoMe
Role of Social Media in career development and networking especially in Global Surgery. Learn how to harness the power of twitter!

Research
Where to begin? How to find mentors and projects? What should you know before engaging in research? Where to publish?

BREAKOUT SESSIONS 3A

ADVOCACY
What is advocacy? How to be an effective advocate for Global Surgery?

Research
Where to begin? How to find mentors and projects? What should you know before engaging in research? Where to publish?

BREAKOUT SESSIONS 3B
Brainstorming the Way Forward in Latin America and the Caribbean

We aim to leverage this opportunity to create lasting partnerships that will move Global Surgery in Latin American and Caribbean regions closer to 2030 Lancet Commission goals. This session is designed to create a medium for brainstorming, discussion and collaborative team building. The focus of the discussion will be the four regional challenges identified in the morning sessions. Four groups will be formed each focusing on one of the challenges. At the end of the session each group will report on their discussion and the plan of action moving forward

MODERATORS

LAURA LUCIA FERNÁNDEZ
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What Factors Affect Surgical Referral Networks in Sub-Saharan Africa?

Chiara, Pittalis; Ruairi, Brugha; Leon, Bijlmakers; Gerald, Mwapasa; Eric, Borgstein; Jakub, Gajewski.
Royal College of Surgeons in Ireland, Dublin, Ireland, Radboud University, Nijmegen, The Netherlands, University of Malawi College of Medicine, Blantyre, Malawi.

Introduction: Referral networks are critical in the timely delivery of surgical care, but in Sub-Saharan Africa (SSA) they are often undermined by systemic inefficiencies. The aim of this study was to review relevant scientific literature to identify what factors affect surgical referral systems in resource limited settings, and to conduct an empirical study in Malawi to gather evidence on how these factors affect the referral system in practice.

Methods: Data on inter-hospital surgical referrals to Queen Elizabeth Central Hospital (QECH) were collected prospectively in 2014-2015. A sub-sample of 255 referrals was assessed for appropriateness and quality.

Results: 1317 referrals were recorded during the study period (average 53/month), of which 80% were referred by government district hospitals. In 82% of cases there was no communication with QECH prior to referral, 41% had incorrect/incomplete diagnosis by the referring clinicians and 39% of referrals were not timely. 1 in 3 cases were referred unnecessarily, many of which could have been managed locally at district hospitals. Most unnecessary referrals were transferred by ambulance and admitted at QECH, with a median length of stay of 6 days (IQR: 3,13) at QECH.

Conclusion: Our findings provide new insights into the surgical referral system in Malawi, and the wider SSA region, and contribute to the body of knowledge necessary to inform system improvements. These should aim to reduce inappropriate use of specialist care and ensure timely and effective care pathways for surgical patients, especially in rural areas, where access to specialist expertise is not available at present.
Impact of Out-of-Pocket Expenses for Surgical Care on Households in Rural Haiti: a Mixed-methods Study.

St. Boniface Hospital, Sud, Haiti, Department of Global Health and Social Medicine, Harvard Medical School, MA, USA, Tufts University School of Medicine, Boston, MA, USA, Medical College of Wisconsin, Milwaukee, WI, USA, Program in Global Surgery and Social Change, Harvard Medical School, MA, USA, Massachusetts Eye and Ear Infirmary, Boston, MA, USA, Division of Global Health Equity, Brigham & Women’s Hospital, Boston, MA, USA.

Introduction: A range of financial barriers prevent people from accessing surgical care worldwide, including costs to patients. In Haiti, these costs are not well-understood. This study aims to delineate direct and indirect costs, the lived experience of patients, and identify barriers to accessing surgical care at St. Boniface Hospital (SBH) in southern Haiti.

Methods: We conducted an exploratory, sequential mixed methods study of 159 patients who received surgical care at SBH. We recorded patient characteristics and classified total household expenditure using the World Health Organization (WHO) and World Bank definitions of catastrophic health expenditure. We then conducted semi-structured interviews and analyzed responses using narrative analysis and grounded theory.

Results: The median total household expenditure on surgery was USD 385.6 (Haiti's GDP per capita is USD 729.3). Patients frequently covered these expenses through borrowing and donation (69.8%). Using the WHO definition, 76.7% of households experienced catastrophic health expenditure due to combined direct and indirect costs, 51.3% due to direct costs alone, and 41.7% due to indirect costs alone. Using the World Bank definition, 86.0% of households experienced catastrophic health expenditure. Prominent qualitative themes included the burden of care-seeking, care-seeking journeys, and social suffering.

Conclusion: Catastrophic health expenditure for patients seeking surgical care at SBH affects household livelihood and impacts subsequent generations. This reveals a pressing need at both the local and national level to strengthen facility-level surgical capacity, develop policies to reduce the cost of surgical services, increase access to health insurance, and provide subsidies to reduce indirect costs.
Evaluation of a pilot course of basic trauma care, for rural hospitals in Colombia

Alberto Federico Garcia, Juliana Maria Ordoñez, Daniela Burbano, Camilo Salazar, Juan Carlos Puyana, Sandra Carvajal, Francisco Uribe, Manuel Benitez, Alexander Salcedo, Fernando Rodriguez
Universidad del Valle, Cali - Colombia, Universidad Icesi, Cali - Colombia, Pittsburgh Medical Center, Presbyterian Hospital, Universidad CES, Fundacion Valle de Lili

Introduction: Trauma is one of the leading causes of death in Colombia. The maturity of trauma systems (TS) in our country is incipient, with a lack of regionalization, long prehospital times, unclear remission criteria, deficient prehospital care, and an unacceptable rate of preventable deaths. Fundacion Valle del Lili Hospital is a level 1 trauma center and serves the southwest part of Colombia. To improve the functioning of our TS, we developed a comprehensive program that includes the creation of a communication protocol, the definition of remission criteria, and the in-situ training of the health workers of the rural hospitals responsible for the 50% of our trauma admissions. In the present investigation, we evaluated the impact on the knowledge of the course, imparted to the workers of a rural hospital.

Methods: Basic in-situ Trauma Course (BITC) was developed to teach the initial evaluation of trauma victims with 2 hours theoretical, 6 hours practical, the basic techniques of resuscitation, the remission criteria, making emphasis on the team approach. A written test was performed before and after the course.

Results: A total of 58 workers participated in two courses, 76% female. 27% were registered nurses, 27% auxiliary nurses, 18% physicians, 10% respiratory therapists, and 18% others. The pre-test had a median (RIQ) 6 (4 - 7) correct answers, and the pos-test a median (RIQ) 9 (7 - 9) correct answers, p<0.001.

Conclusion: The BITC improved the knowledge of the initial evaluation and management of trauma patients in the health workers of a rural hospital in Colombia.
Cost of care in surgical patients with infections at Tertiary Teaching Hospital (CHUK), Kigali-Rwanda

Jean Bosco KATABOGAMA, Christophe Mpirimbanyi, Thierry Cyuzuzo, Jennifer Rickard, Vital Muvunyi, Faustin Ntirenganya, Juru Gisele
University of Rwanda, Kibungo Referral Hospital, Kigali University Teaching Hospital, University of Minnesota

Introduction: In LMICs, there is high demand for surgical care but many individuals lack access, potential challenges are shortage of surgeons, qualified personnel, equipped infrastructures, cost of access where a little is known. This study was to investigate the cost of surgical care and bill burden upon discharge to hospital in Kigali Tertiary Teaching Hospital, Rwanda.

Methods: It was a prospective study of all patients admitted to the acute care surgery (ACS) service with an infectious condition. Data were collected on hospital charges and medical expenses. Patients or caretakers were interviewed on costs incurred during hospitalization.

Results: In 9-months period, 139 ACS patients with infections were enrolled. Cost data available for 104 patients, common diagnoses: Soft tissue infection (n=28, 20%), Abscess (n=21, 15%). Occupation: Farmer (n=46, 44%), Other (n=45, 43%), Student (n=13, 13%); (n=136, 98%) had health insurance, Mutuelle de Sante (n=114, 82%), Other (n=14, 10%), Private (n=8, 6%), None (n=3, 2%). Income category, 1(n=18, 13%), 2(n=51, 38%), 3(n=60, 44%), 4(n=3, 2%) Hospital charges: Total median hospital charges: 392,543 RWF (IQR: 249029, 647139); Median patient charges: 38,122 RWF (IQR: 17477, 84949) Patient costs: 40 (38%) patients bought supplies or medications outside of the hospital, 8 (8%) patients bought antibiotics outside of the hospital; Median costs for other expenses: 3050 RWF (IQR: 1400, 5000); At discharge, 27 (26%) patients were unable to pay their hospital bill.

Conclusion: Despite broad availability of health insurance, hospital and outside costs represent a financial burden for many patients at CHUK; advocacy, supporting social cases and equipping pharmacy could be improved for surgical services.
Which Surgical Operations Should be Performed in District Hospitals in East, Central and Southern Africa? Results of a Survey of Regional Clinicians

Zineb Bentounsi, Jakub Gajewski, Chiara Pittalis, Jean Rizk, Morgane Clarke, Ruairi Brugha, Chris Lavy.

Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, Royal College of Surgeons in Ireland, Institute of Global Surgery, Royal College of Surgeons in Ireland, Division of Population Health Sciences.

Introduction: In Sub Saharan Africa the surgical capacity is disproportionately concentrated in urban centres as found by Alkire et al. (2015). This is particularly problematic as most of the population in this region of the world live in rural areas. For these populations, district hospitals (DH) are the main providers of health services including essential surgery. The World Health Organization has defined procedures that can be done at district level, but we wanted to have the opinion of the experts of the region.

Methods: We conducted a survey at the College of Surgeons of East, Central and Southern Africa (COSECSA) Conference in Kigali in December 2018. The survey presented the participants with 59 surgical, obstetrical and aesthetical procedures and asked them if they thought the procedure should be done in a district level hospital in their region. The survey also collected demographic data and data regarding the surgical experience and education of the respondents.

Results: We had 101 responses. Data analysis is still ongoing and will be presented in full, however the preliminary results show that 83% of anaesthesia providers think regional nerve blocks are not appropriate for a DH. Most respondents think that paediatric surgery procedures shouldn't be done at that level of care. 97% agree that caesarean sections should be done in DH.

Conclusion: It is important to define which procedures should be done in DH in Sub Saharan Africa in order to tailor training of surgical providers.
Main Etiological Diagnostics Of Diffusive Interstitial Pulmonary Diseases Confirmed By Pulmonary Biopsy and its Clinical-Radiological Relationship: in patients of the E.S.E. Erasmo Meoz University Hospital in the 2017 and 2018

Brayan Andres Angulo Alvarez, Angy Gelvez, Kerlyn Guerra, María Figueroa Fabio Berbesi, Marcel Quintero, Raúl Vera.
Universidad de Pamplona, Hospital Universitario Erasmo Meoz

Introduction: The worldwide incidence of diffuse interstitial lung diseases (EPID) has increased in the last 10 years, especially those that cannot be diagnosed only by clinic or by the use of radiography, but need lung biopsy for diagnosis etiological; Colombia and its department North of Santander is not the exception even considering that this disease can be considered as little suspected and little studied, it was necessary to see what are the most frequent etiologies in the region.

Methods: This is a descriptive work series of cases where a total of 60 pulmonology patients were evaluated retrospectively with the diagnosis J849 according to ICD10, of which 20 patients required pulmonary biopsy for their etiological diagnosis.

Results: It was found that for the majority of patients initially diagnosed as EPID by clinic and radiology who were taken to Pulmonary Biopsy the pathology confirms another diagnosis other than EPID disagreeing with the world literature where The main diagnosis is idiopathic pulmonary fibrosis, which for our study is the latest in frequency.

Conclusion: The main etiological diagnosis found in the EPID confirmed by biopsy in the HUEM was "other diagnoses other than EPID", the classification was carried out according to the LATIN AMERICAN ASSOCIATION OF THORAX by the research group based on the results obtained by pathology, establishing that 100% of the etiologies of EPID are idiopathic interstitial pneumonias. A great analogy was found between radiology, clinic and the end result of pathology.
Recap of Day 3 and setting the tone for Day 4  
1:00 - 1:15pm

Global Surgery policy and action  
Neurotrauma Guidelines for Low and Middle Income Countries  
1:15 - 1:35pm

The NSOAPs: Policy for Universal Health Care & Surgery  
1:35 - 2:55pm

Surgical Healthcare System  
Resilience at Times of Crisis  
3:10 - 4:30pm

IGSS Scientific Forum Poster Presentation II  
4:25 - 5:40pm
Dr. Rubiano is a Colombian neurosurgeon dedicated to clinical practice and research in trauma, emergency care, neurotrauma, and intensive care. He has worked in research on trauma care and the promotion of global health with international medical societies as a member of the Committee for Emergency Care and Trauma of the WHO since 2007. Dr. Rubiano participates in several research projects with the aim of developing capacity for trauma and neurotrauma care in low- and middle-income settings. Since 2005 he has served as the medical director, educator and researcher at the MEDITECH Foundation in Colombia, training EMTs and undergraduate and postgraduate MDs in advanced trauma care. Since 2007 he has participated in trauma quality improvement activities with WHO in low- and middle-income countries, especially in Latin American countries. In 2015 he began to collaborate with the Global Initiative for Essential and Emergency Surgical Care of the WHO, promoting safe surgical care for low- and middle-income countries.
Data have been reported regarding the lack of access to surgical care globally; the Lancet Commission has now moved from reporting to implementing the National Surgical, Obstetric, and Anaesthesia Plans (NSOAPs). Around the world, geographic, political, economic and cultural differences present unique challenges for scaling up surgical care and defining standards for care and outcomes. This panel will discuss the adversities and successes during the implementation of the NSOAPs. LMIC partners will discuss the issues from an in-country perspective.

SESSION 1
The NSOAPs: Policy for Universal Health Care & Surgery

MODERATORS

LUBNA SAMAD MD
LAURA LUCIA FERNÁNDEZ
JOFFRE GUZMAN LAGUNA

PANELISTS

PROF. EMMANUEL MAKASA BSC (UNZA), MB CHB (UNZA), M. MÉD ORTHO (UNZA), FCS (ECSA), MPH (USA)
GREGORY PECK DO
MAURICIO VASCO RAMIREZ MD
CHE-LEN REDDY MBCHB MPH
IRUM FATIMA MD
WALT JOHNSON MD
Surgical systems are essential components of healthcare in every country and they are the system that is called upon during the times of crisis. Over the past year we have witnessed surgical systems respond to mass casualty events, war, natural disasters and more while responding to an infectious disease pandemic. Now more than ever it is essential to rebuild and invest in surgical system resilience to be prepared for future crises.
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A Comprehensive View of the Surgical Healthcare System in Somaliland: Application of LCoGS Indicators

Cesia Cotache-Condor, Tessa Concepcion, Shugri Dahir, Mubarak Mohamed, Dan Poenaru, Henry E. Rice, Emily R. Smith

Department of Public Health, Robbins College of Health and Human Services, Baylor University, Waco, TX, United States of America; Duke Global Health Institute, Duke University, Durham, NC, United States of America; Edna Adan University Hospital, Hargeisa, Somaliland; McGill University, Montreal, QC, Canada

Introduction: The unmet burden of surgical care is high in low-income and middle-income countries (LMICs). The Lancet Commission on Global Surgery (LCoGS) proposed six indicators to guide the development of national plans for improving and monitoring access to essential surgical care. This study aimed to characterize the Somaliland surgical health system according to the LCoGS surgical indicators and provide recommendations for next-step interventions.

Methods: In this cross-sectional nationwide study, the World Health Organization's (WHO) Surgical Assessment Tool – Hospital Walkthrough and geographic mapping were used for data collection at 15 surgically-capable hospitals. LCoGS indicators for preparedness were defined as access to timely surgery and specialist surgical workforce density (SAO), delivery was defined as surgical volume, and impact was defined as protection against impoverishment and catastrophic expenditure.

Results: Results show Somaliland surgical system met 25% of LCoGS targets. For preparedness, 14% of the population are within 2-hour coverage, and the number of SAO providers is 1.45/100,000 population. For delivery, 368 surgeries are performed per 100,000 population per year. For impact, 1% and 18% of the population are protected against impoverishment and catastrophic expenditure. Geographic disparities exist throughout all indicators.

Conclusion: As Somaliland continues to rebuild the healthcare infrastructure, incorporating surgical care is needed. Although our study found great deficits in the surgical system, utilizing the LCoGS indicators to scale-up surgery provides a rich and comprehensive view of targeted goals to move towards. These indicators can be used as benchmarks towards progress in improving safe, affordable, and timely surgical care.
Cost of Providing Surgery at a Tertiary Hospital in Southern Haiti

Alexandre J. Bourcier, Caroline Wight, Elishama Michel, Franck Turenne, Rolvix H. Patterson, Dyemy Dumerjuste, Luther E. Ward.
St. Boniface Hospital, General Surgery, Fond-des-Blancs, Haiti, Tufts University School of Medicine, Boston, Massachusetts, Department of Surgery, East Tennessee State University, Johnson City, Tennessee

Introduction: Haiti’s health system lacks appropriate infrastructure and workforce for surgical care delivery. Economic evaluations, in particular costing studies, provide data on surgical care by defining expenditure, operating costs, and priority areas for investments necessary for evidence-based resource allocation. To support efforts to create surgical policy and capacity in Haiti, we investigated the capital expenditure and operating costs of St. Boniface Hospital (SBH), a 180-bed tertiary care in Haiti. We hypothesized that SBH provides efficient, high-volume surgical, obstetric, and anesthesia (SAO) care at modest cost.

Methods: We used step-down accounting analysis to estimate the total annual cost of providing SAO care and the average investment per surgical procedure during fiscal year (FY) 18. This accounting methodology incorporates both direct cost centers attributable to the surgical department (eg personnel, equipment, etc) and indirect cost centers (eg housekeeping, transportation, etc).

Results: We estimated that the direct costs of the surgical department were $381,534.55 while the indirect costs were $393,830.55 for a grand total of $775,365.09 in FY18. With 3,415 surgical procedures in FY18, the average financial investment per procedure was $227.05. Additionally, with 3,265 surgical patients in FY18, we determined that the average financial investment per patient was $237.48.

Conclusion: Our results support our hypothesis that SBH provides efficient, high-volume SAO care at modest cost. This study provides accurate financial projections and inform development for infrastructure and workforce in Haiti’s National Surgical, Obstetric and Anesthesia Plan.
Global Neurosurgery in Sub-saharan Africa: Estimating the neurosurgical workforce and infrastructural capacities in Cameroon

Dylan Djiofack, Nathalie Ghomsi, Stéphane Nguembu, Franklin Tetinou, Yvan Zolo, Ulrick Kanmounye
Association of Future African Neurosurgeons, Higher Institute of Medical Technology, Yaoundé, Cameroon, Université Félix Houphouet Boigny, Côte d’Ivoire, Université des Montagnes,Baganté, Cameroon

Introduction: Neurosurgical practice in Sub-saharan Africa (SSA) faces tremendous challenges, amongst which limited infrastructures, low neurosurgical workforce with a resultant huge neurosurgical health care provision gap. As an SSA country, Cameroon equally experiences these challenges. Estimating the available neurosurgical workforce and infrastructural capacities is an essential step in overcoming these challenges.

Methods: We performed a cross sectional and analytic survey, with data collection using forms. We collected data on: neurosurgical workforce, neuroradiological equipment, and neurosurgical infrastructures. Collected data was analyzed via SPSS version 25 and summary statistics were generated.

Results:
Neurosurgical workforce - We registered 25 neurosurgical providers. Twenty-one neurosurgery consultants and fellows (84%), 3 professors (12%), and a general surgeon (4%). Nineteen (76%) work in the economic and political capitals - Douala and Yaounde.

Infrastructure - Eleven neurosurgical centers, of which 7 were public (63.6%) and 4 were private (36.4%). Five centers are WFNS level 2-3 (45.4%) and 63.6% of the population lives more than 4 hrs away from these centers.

Neuroradiological equipment - There were 17 CT Scans and 4 MRIs. Thirteen neuroradiological scans belonged to public facilities (61.9%) while 8 belonged to private facilities (38.1%). Most of the neuroradiological scans are in Douala and Yaounde (90.5%). The average cost of a head CT was USD 118.

Conclusion: Neurosurgical practice in Cameroon suffers multifaceted challenges: low neurosurgical workforce, limited quality neuroradiological diagnostic tools, and few neurosurgery centers. This leads to a great proportion of the population not having safe and timely access to neurosurgical care.
Catastrophic Expenditures for Surgical expense Care in a Middle Income Country National Healthcare System: An Analysis of the Brazilian National Consumer Expenditure Survey

Paul Truche, Alexis Bowder, Aline Gil Alves Guilloux, Joao Neto, Fabio Botelho, Simone Abib, Blake Alkire, David P Mooney, Mario César Scheffer, Nivaldo Alonso
Harvard University, Program in Global Surgery and Social Change, Faculdade de Medicina da Universidade de São Paulo, Federal University of Minas Gerais

Introduction: Brazil’s Sistema Único de Saúde provides free health services nationally, including surgical care. In this study we aimed to determine the rate of catastrophic surgical expenses among households experiencing out of pocket costs.

Methods: The Brazilian national consumer expenditure survey was analyzed to compare out of pocket costs for surgical care among 57920 households from July 2017 to July 2018. Weighted estimates to determine the rate of catastrophic surgical expense due to surgical costs defined as >10% of yearly household expenditure, or >40% household post-food expenditures. Plastics and OBGYN were excluded. Comparisons between households paying for private insurance or not, those under and over the poverty and the extreme poverty lines - the World Bank’s international poverty lines for extreme poverty (<1.9$/day) and for upper middle income poverty (<5.5$.day) converted to 2011 purchasing power parity - as well as among quintiles of household income were performed using Wald Chi Squared tests.

Results: 2.5% of households reported catastrophic surgical expenses. 2% of households below the poverty line suffered catastrophic surgical expenses compared to only 0.5% of families above the poverty line (P<0.001). For households living under the extreme poverty line, 3.9% underwent catastrophic surgical expenses as opposed to 0.54% for those above the extreme poverty line (P<.001). Among households who suffered catastrophic surgical expenses 81.3% did not pay for insurance vs 18.7% insured. Households in the lowest income quintile had the highest rates of catastrophic expense (1.4%) compared with families in the highest income quintile, that had the lowest rate (0.5%, P <0.001).

Conclusion: Although Brazil has the SUS which results in a low rate of catastrophic surgical expenses compared to global estimates, direct expenditures on surgical care remains. The poorest households in Brazil remain at highest risk of catastrophic expense for surgical care.
Management of multiple rib fractures in the University Hospital of Cucuta, Colombia

Diego Olivera Briñez, Marcel Quintero Contreras, Raul Vera Gamboa
Hospital Erasmo Meoz, Intorax - Nortorax, University city of Pamplona

**Introduction**: The chest trauma and rib fractures are commonly associated with high morbidity and mortality rates, especially in developing countries. For some time now, medical interest has increased in their surgical management. The objective of our study is to evaluate the outcomes of the surgical stabilization of patients with multiple rib fractures

**Methods**: A retrospective study from January 2015 to July 2019 in adult patients.

**Results**: We included 50 patients who required surgical stabilization, 42 men (84%) and 8 women (16%). The most common mechanism of injury was the trauma associated with a motor vehicle 36 patients (72%), fall 5 (10%) and aggression 2(4%). On average, 5 fractured ribs (iqr 4-7), 23 (46%) patients had right fractures and only 7 (14%) were bilateral. Associated lesions occurred in (86%), in thorax mainly hemotorax 43 patients and followed by pneumothorax 25 (50%) patients. Only 9 (18%) patients affected abdominal injuries and 7 (14%) traumatic brain injuries. After surgery, 3 patients with surgical complications, 2 with surgical site infection and 1 with chronic pain were observed. No deaths were reported.

The evaluation with the SATISFACTION SCORE tool showed that 44 (100%) of the patients reported improvement of immediate and long-term pain with surgical fixation. 6 patients required analgesic medication.

**Conclusion**: Our data show that the surgical behavior of patients with multiple Costal fractures is favorable compared to the results of other centers where medical management is applied. It should also be noted that surgical stabilization improves the quality of life from the perspective of patients.
Epidemiology of Traumatic Orthopaedic Injuries at Ndola Teaching Hospital, Zambia - A Prospective Cross-Sectional Study

Nancy Kasongo and Bulaya Anadi
The Copperbelt University, Ndola Teaching Hospital, Zambia

Introduction: Traumatic injuries increase the cost of health care and lead to increased mortality and morbidity in a population. About 90% of traumatic injuries globally occur in developing countries with traumatic orthopaedic injuries representing a significant fraction of the burden. The aim of this study is to determine the epidemiology of traumatic orthopaedic injuries at a tertiary hospital.

Methods: This is a descriptive prospective cross-sectional study conducted at a tertiary hospital orthopaedic ward collecting data using a questionnaire. Data on patient's age, sex, education, employment, income, injury type, mechanism of injury and management are being collected. Study duration is six months, data collection begun in November 2019 and is ongoing. Analysis utilized SPSS version 20.

Results: Thirty patients were enrolled in the study, 4 excluded for being non traumatic injuries, final analysis includes 26 patients, 92% were male, mean age was 37 (age range 15-67) and 92% had less than tertiary education. While 68 % were working in informal sector and 69% had a monthly income less than 100 USD. The commonest cause of injury was falls (42%) seconded by road traffic accidents (39%), fractures were the commonest orthopaedic injury femur (39%) followed by tibia fracture (21%) other injuries involved the spinal cord, operative treatment was indicated in 77%.

Conclusion: Young males were more affected .Fractures were the most common orthopaedic injury resulting from falls and often required surgical intervention. These findings may inform policy and better health care delivery.
Delayed Diagnosis - Addressing a Common Problem in Trauma Patients

Paul-Johann Vinke, Düsing, Raschke, Hartensuer

Introduction: Ideal diagnostics and treatment in major trauma are still challenging. The ATLS concept of trauma management is a worldwide acknowledged tool for priority based treatment. However, even after properly executed secondary surveys initially missed injuries are possible. These initially missed injuries should be recognized as soon as possible after initial trauma treatment. We hypothesized that a standardized tertiary survey will effectively reveal initially overseen injuries.

Methods: This study is a monocentric prospective study on the impact of a standardized tertiary survey. Patients admitted via the resuscitation bay of a German Level 1 trauma center underwent a tertiary survey 24h after primary treatment. The medical records were analyzed and findings from the tertiary survey were compared to the initially documented diagnosis. Another review of medical records after discharge revealed potentially missed diagnoses even in the standardized tertiary survey protocol.

Results: 274 patients have been included. 30 of these 274 standardized reexamined patients (11%) had 41 initially missed injuries. The median ISS of those with delayed diagnosis was 21 (13) vs. 13 (12) of those without. 68% of the delayed diagnosed injuries were discovered during tertiary survey, 32% during further hospital stay.

Conclusion: A standardized tertiary survey protocol within 24h after initial treatment was effective in detecting a huge variety of initially unrecognized injuries. However, even with focus on this issue, our tertiary survey protocol was not able to detect all injuries. Therefore, a repetitive reevaluation in trauma patients is mandatory not to turn initially unrecognized injuries into real missed injuries.
Outcomes of Surgery Patients with infection at Tertiary Hospital in Kigali, Rwanda

Thierry Cyuzuzo, Muvunyi Vital, Katabogama Jean Bosco, Mpirimbanyi Christophe, Ntirenganya Faustin, Rickard Jennifer
University of Rwanda, Department of Surgery, University Teaching Hospital of Kigali, Department of Surgery, University of Minnesota

Introduction: Infection is among the most common surgery related conditions in low- and middle-income countries (LMICs). Patients who experience surgical infections have increased hospital length of stays, hospital cost and mortality rate. We aim to describe the complications and outcomes of surgical patients with infections operated at tertiary referral hospital in Rwanda.

Methods: An interview-based study with chart review was performed to all surgical patients operated with suspicion of infections. Data were collected on patient demographics, clinical features and outcomes. Results were reported as frequencies and percentages. Logistic regression was used to determine association between surgical site infections (SSI) and perioperative mortality.

Results: Over a period of 9 months, 139 acute care surgery patients were enrolled in the study. The most common diagnoses were soft tissue infection (n=28, 20%), and abscess (n=21, 15%). Most (n=133, 96%) patients underwent an operation. Overall, 59 (44%) patients had a complications 34(25%) patients had SSI with the most common type were superficial SSI (n=21, 15%), followed by organ space (n=20, 15%). 39(28%) patients required an unplanned reoperation. Perioperative mortality rate was 10% (n=14). Having a SSI was associated with a 4.9 increased odds of in-hospital mortality (95% confidence interval 1.55, 15.29, pvalue 0.007).

Conclusion: Mortality and morbidity rate among surgical patients with infections is high and SSI is associated with increased risk of mortality. Infection prevention and control initiatives, could be initiated at hospitals levels to decreases infections. Advocacy and community hygiene campaign and equipping the nearest health facilities could also reduce the burden of surgical complications
Review of Legislation and Pre-Hospital Health Access in the Countries with Highest Burden of Road Traffic Accidents (RTA): An Opportunity for Community Health Training

Syeda Akila Ally
University of Illinois College of Medicine

Introduction: Globally, road traffic accidents rank as 1st (adolescents) and 9th (all ages) leading cause of death. The burden of RTA is projected to rise, with it being one of three leading causes of DALYs in 2030. Survivors pose a crisis at the intersection of safety legislature and access to health. This cross-sectional analysis reviews published literature and databases to propose a community health approach to reduce mortality due to road traffic accidents.

Methods: WHO’s Road Safety Status Report 2018 and Country Profiles are utilized as data sources. The metric “Estimated road traffic death rate per 100000 population” is used as a proxy for country-specific burden of disease, with the understanding that this is a gross underestimation since it does not account for non-fatal morbidities.

Results: The results reveal that the countries with the highest road traffic death toll per 100,000 population (see table) each have a rate higher than 31 per 100,000. 6 are in Africa, 3 in the Americas and 1 in SEAsia. 70% are LIC, while a striking 100% have some form of road safety legislature. 80% also have mandatory motorcycle helmet laws, though demonstrated adherence lays low at 27-55%. 60% have a formal, publicly available pre-hospital system and all of those 6 have a national universal access number
Conclusion: Legislation and health access data suggest prioritization of enforcement of enforcement of current legislation and more effective pre-hospital care delivery. Recommendations include community-based first aid and bleeding prevention trainings, in addition to stressing safety and helmet usage during any driver’s training or licensure.
Recap of Day 4 and setting the tone for Day 5
1:00 - 1:15pm

Global Surgery policy and action
Surgical Health Care Gaps at the level of District Hospitals:
1:15 - 1:35pm

Intersectoral Stakeholders in Surgical Healthcare Ecosystem:
Partnerships for Successful Impact
2:50 - 4:10pm

IGSS Scientific Forum Poster Presentation III
4:25 = 5:10pm

Closing and Awards Ceremony:
5:45 - 6:40pm
SESSION 1
Surgical Health Care Gaps at the level of District Hospitals

District Hospitals play an instrumental role in supporting surgical healthcare for vast areas. These hospitals often face limited workforce and resources as they serve large populations. In this panel we will discuss the experiences and outcomes from SURGAfrica initiative as well as experiences from district hospitals across various countries.

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Global surgical healthcare ecosystems involve stakeholders who must buy-in and collaborate to achieve universal health care. These stakeholders involve not only students, trainees, healthcare professionals, and ethicists but also policy makers, nongovernmental organizations, economists, engineers, traditional practitioners and the community as well. Here, we discuss the contribution of individual roles to intersectoral collaborations necessary to overcome disparities in surgical healthcare globally.

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Institute for Global Health
Strengthening the Cervical Cancer Prevention Advocacy of Community-Based Organizations in the Africa Great Lakes Countries

Balagizi Mudekereza Jules
Université Catholique de Bukavu, Bomoko foundation, InciSioN DRC

Introduction: Countries in Africa’s great lakes region include Burundi, the democratic Republic of the Congo, Kenya, Malawi, Rwanda, Tanzania and Uganda. Cervical cancer incidence rates in SubSahara Africa are the highest in the world and the disease is the most common cancer and the leading cause of cancer mortality among women in developing countries.

Methods: The medical literature analysis and retrieval system online, Pubmed and other papers in google scholar were searched for all studies investigating the advocacy of community based organisations in the great lakes countries.

Results: In Sub-Saharan Africa, 34.8 new cases of cervical cancer are diagnosed per 100,000 women annually and 22.5 per 100,000 women die from the disease. Data for great lakes region are unknown. The high incidence of cervical cancer is a consequence of the inability of most countries to either initiate or sustain cervical cancer prevention services. The absence of national screening program except for Rwanda means that African great lakes women are typically diagnosed at more advanced stages of cervical cancer, for which treatment is more invasive and expensive, and subsequently their chances of survival are lower.

Conclusion: The leadership roles of community-based organisations in the fight against cervical cancer have shown some results; this is the example of the Bomoko foundation in DRC which is acting by giving access to information to the locals and advocating for the HPV vaccine introduction into the national vaccination program. As non-governmental actors there, they need support and synergistic work in the region for a global fight against cancer.
Assessment of progress of surgical departments and challenges in Somaliland

Hassan Ali Daoud, Mariam Abdillahi Dahir, Jibril Handuleh

Introduction: Somaliland has emerged from a recent conflict that caused the vast majority of skilled surgeons to flee to neighboring countries. This is not the only problem that Somaliland is facing, naturally the country shares many characteristics with other post conflict zones, suffering from inadequate infrastructure, shortage of healthcare workforce, insufficient supply of equipment and health facilities and generally the lack of an overall health care system that adequately regulates the service delivery. Somaliland thus faces many challenges in the surgical field. Surgeries are costly, and incredibly difficult to access. The poor often cannot afford the procedures and even if they can, the risk of grave complications as a result from the surgical procedures is especially high among them. However, many a time even the rich have no access to an adequate quality of surgical care.

Methods: Both a quantitative and qualitative approach were used. The article is the result of the interviews of 10 health professionals. The interviewees included surgeons, a surgical practitioner, a nurse anesthetist, OT technicians, hospital managersand hospital managers of 3 different public hospitals.

Results: In Somaliland, due to a lack of certified surgeons, there are many different health care professionals who are involved in surgery. Furthermore, junior doctors are frequently working without senior supervision. This all results in high numbers of malpractice which can have grave consequences and even lead to death. Even though there are many nurse anesthetists, only a few of them are educated to perform pediatric or geriatric anesthesia. Gradual development of surgical services: 1990-2000: General Surgery/OBS 2000-2010: Orthopedics, ENT, and Gynecological Procedures 2010-2019: Endoscopy Vascular Surgery, and Some Neurosurgery

Conclusion: The study has shown that although there is some progress in the surgical departments of Somaliland, this progress is happening very slowly due to insufficient planning of infrastructure, lack of a health workforce plan and poor prioritizing of training. Despite all these limitations there are some tangible improvements in the surgical field.
Out of Pocket Expenditures for Surgical Care in LMICs: An Analysis of the Brazilian National Consumer Expenditure Survey

Carlos J-Perez, Javier Maldonado, Francisco Rincon, Cecilia Ochoa, Alejandro Gonzalez, Laura Polania
Clinica Universitaria Colombia, Universidad de los Andes, Universidad el Bosque

Introduction: Brazil’s Unified Health System provides free access to health services, but expenditures for direct and indirect healthcare costs remains. The purpose of this study is to determine the rate of out of pocket expenditure for surgical care in Brazil.

Methods: The Brazilian national consumer expenditure survey was utilized to compare out of pocket (OOP) costs for surgical care among 57,920 households from July 2017 to 2018. Households were asked how much they spent OOP for various surgical expenses in the past 90 days. Plastic surgery costs were excluded. Weighted estimates were utilized to determine the rate of households with OOP expenditure for surgical costs and the mean household OOP. Comparisons were made between OOP surgical expenses and demographic variables using Wald Chi Squared tests.

Results: 2.5% of households surveyed reported OOP surgical expenses. Surgical expenses accounted for 69% of all OOP health expenditures. Rural and Urban households had similar rates of OOP expenditures (2.6% vs 2.3%; p=.1818). The number of households with private insurance had an OOP expenditure for surgical care twice the number of those who without (4.6% vs 1.8% P< .001). 3.3% of households with at least one elderly inhabitant (>65) had surgical OOP costs as opposed to 2.2% for households without (P<.001)

Conclusion: In Brazil, rates of OOP expenditure for surgical care remain high despite a national healthcare system coverage. Even among households without insurance spending, out of pocket expenditures for surgery occur and account for a significant proportion of total out of pocket health expenditure.
Where no surgeon will work. Scaling up access to surgery for rural populations through technology enhanced supervision

Jakub Gajewski, Chiara Pittalis, on behalf of the SURG-Africa consortium
Institute of Global Surgery, Royal College of Surgeons in Ireland

Introduction: 5 billion people lack access to safe surgery, the majority of them live in rural areas in developing countries where no surgical specialists are available. District-level hospitals (DLHs) should offer surgical care for rural populations in sub-Saharan Africa but many lack capacity. The SURG-Africa project aims to strengthen the surgical capacity of district-level hospitals in Malawi, Tanzania and Zambia.

Methods: The intervention comprises of 2-3 monthly visits to 32 DLHs by specialists (surgeon, obstetrician, anaesthesiologist and nurse) from referral hospitals; and a mobile phone-based network for real time consultation. Mixed-methods controlled design is used to monitor changes in a range of indicators.

Results: The visits improved surgical output, functionality of the surgical teams and the range of procedures done in majority of the participating facilities - detailed analysis is underway. The mobile phone-based network improved surgical referrals resulting in overall reduction by 30%, improved quality (two consultants advising on every case posted). In 75% of cases conclusion on patient management was reached within less than one hour. Cost-effectiveness analysis demonstrated good value for money and potential for scale-up.

Conclusion: Surgeons are not available for rural populations in Africa, almost all of them practice in urban areas. Periodic visits to DLHs enhanced with regular contact via mobile-phone consultation network enable access to specialists for rural populations to make safe surgical services more in the target countries. The project engages with local actors aiming for national scale-up of the supervision model. Lessons learned will be transferred to the wider region.
Bronchoscopy and Thoracoscopy (VATS) in the University Hospital City of Cucuta 2013 - 2017

University of Pamplona, University Hospital Erasmo Meoz, INTORAX - NORTORAX

Introduction: Worldwide, bronchoscopy and thoracoscopy are procedures widely used in pulmonary, pleural and thoracic pathologies. They are essential tools for the diagnosis and treatment of pulmonary diseases, especially those of non-established etiology. Because of their safety for some years, the indications of these procedures have been extended.

Methods: We conducted a retrospective review of patients who underwent bronchoscopy and thoracoscopy in a governmental hospital between 2013 and 2017, the follow-up was carried out during the hospital stay and until the medical discharge. We perform a mixed effects analysis to evaluate the security profile.

Results: We included 744 patients, represented 68.1% by men, with an average age of 50.7 19.6 years, and 4% of foreign population. 40.3% of the procedures correspond to fibrobronchoscopy, 15.3% to thoracoscopy and 44.4% to both procedures. The highest rate of complications (10.5%) corresponds to pain at the surgical site. Only 28 patients needed reoperation. for tuberculosis and cancer, the performance of the procedures was up to 98%, compared to 55% (other samples). Our mortality rate was estimated at 2.4%

Conclusion: The outcomes vary according to the procedure. In addition, our study confirms that the procedures are safe, and that they are associated with a low incidence of complications and mortality.
Contribution of Coelioscopic Surgery in the Healthcare Management of Female Infertility in Cameroon

Ngaroua, Christ Fozing, Dah’Ngwa Dieudonné, Eloundou N. Joseph
Regional Hospital of Ngaoundéré-Cameroun, Faculty of Medicine and Biomedical Sciences, University of Ngaoundéré-Cameroun, Faculty of Medicine and Biomedical Sciences, University of Yaoundé, Cameroun

Introduction: Infertility affects nearly 80 million couples worldwide with a high prevalence in developing countries such as Cameroon where it ranges from 13-30% of couples. Among the means of care, laparoscopic surgery proved in developed countries against in Africa and particularly in Cameroon where it starts in 1990, it is slow to prove itself. This study aims to evaluate the contribution of laparoscopic surgery in the management of female infertility in Cameroon.

Methods: A cross-sectional descriptive study was conducted in 2017 at 4 sites: HGY, HGOPY HGOPED HGD with a retrospective data collection from January 2006 to December 2016, on the variables age, duration of infertility, techniques, duration of hospitalization and postoperative design.

Results: 694 Files were included in this study with 32.79 years as the average age. Secondary infertility was estimated at 65.5% with an average duration of 6.84 years. Operative procedures included adhesiolysis (35.9%), fibrioplasty (17.4%) and sometimes conversion (1%). The operative follow-up averaged 3 days of hospitalization and involved 49 patients, 83% of whom conceived without effort.

Conclusion: Laparoscopy provides many benefits and is a therapy of choice for the diagnosis and treatment of female infertility; which would motivate its development in an African context.
The incidence, risks, management and outcome of urological injuries following Gynecology and Obstetrics surgery at a Tertiary Hospital of Rwanda

Jean de Dieu, Hategekimana; Alexandre, Nyirimodoka; Theobald, Hategekimana; Emile, Rwamasisababo; Emmanuel, Muhawenimana; Florence, Umurangwa; Innocent, Nzyimana; Hadley, M. Wood; Alexis, Bonane
School of Medicine and Pharmacy, University of Rwanda, Kigali University Teaching Hospital, Rwanda, King Faisal Hospital, Kigali, Rwanda, Glickman Urological Institute, Cleveland Clinic University of Pamplona

Introduction: Female urogenital tracts are closely related and are associated with injuries during GO (Gynecology and Obstetrics) operations. Failure to recognize urinary tract during GO operations can lead to injuries associated with devastating consequences including increased morbidity and long term complications.

Methods: A retrospective descriptive study with chart reviews conducted for all patients who underwent surgery and had iatrogenic urological injuries following GO surgery from 2011-2018. We described surgical approaches, causative illness, treatment options and outcomes of care using frequency and percentages and described relationship using fisher’s exact test.

Results: In the study period, 89 patients were recorded to have iatrogenic urological injuries accounting for incidence rate of 0.6%. Cesarean section was the most common surgery resulting in urological injuries 64(71.1%) followed by TAH with 19(21.3%). Uterine rupture was the most common known indication of surgery accounting for 23(25.84%), followed by Abnormal labor 18(20.22%). Among 89 patients, 62(69.7%) of them were operated by General Practitioners, 11(12.4%) by Gynecologists, 7(7.9%) by Residents in GO. Treatment accorded: 67(75.2%) cases of bladder and VVF injuries were repaired and 27 (30.3%) cases of ureteral injuries were reimplanted on JJ stent. Regarding outcomes, 62(69.7%) were healed with no sequelae while 23(25.8%) healed with sequelae.

Conclusion: The frequency of iatrogenic urologic injuries and management outcomes following GO surgery are worrisome and require medical attention. The competency of General practitioners, residents in GO, midwives, nurses has to be reinforced and maintained by regular training on female urogenital tracts safe surgery and labor monitoring to minimize risks
Could Communities Help Achieve UHC, a Uganda Case Study!

Adupa Emmanuel
InciSioN Uganda

Introduction: WHO set a resolution to achieve universal health coverage by 2030 through SDGS by emphasizing equity, quality health and protection from financial risks amidst ideology of global health. Implementation by member states by 2016 described localizing the SDGS to describe the roles of local institutions and actors. However, most members remained pessimistic about the potential for achieving the SDGS because of the estimated costs. A 2018 report showed fewer children under 5 suffering from malnutrition but the same report suggested that it’s unlikely to end malnutrition by 2030. Just like most countries struggling to achieve this, Uganda is no exception. In a 2017 study in select communities in western Uganda, the biggest part of the population did not have access to clean water, essential medicines and basic education.

Methods: A multi-sectoral approach was used in the implementation of the projects and to compare similar projects in other communities. Based on community diagnosis and prioritization with their full participation, water supply, drug supply chains, health education and a community health center have been established to improve health.

Results:

Comparison of health and livelihood in two different communities before the project.
Conclusion: Local community health is a fundamental key to achieving UHC. UHC through SDGs won't be achieved by 2030 because of poor community involvement. Practices aimed at achieving social justice must be implemented.

Cardiac Surgery in Colombia: Current situation

Carlos J Perez Rivera, Javier Maldonado, Francisco Rincon, Cecilia Ochoa, Alejandro Gonzalez, Laura Polania.
Clinica Universitaria Colombia, Clinica Universitaria Colombia, Clinica Universitaria Colombia, Universidad de los Andes, Universidad el Bosque

Introduction: Global cardiac surgery addresses the lack of cardiac surgical care for the majority of the world. In Colombia there is not enough data to assess access to cardiac surgery, given to the global surgery commission, the following work is done to know the current situation of the country.

Methods: Through a survey, information is collected to assess the current number of cardiovascular surgeons, their geographical distribution and the number of patients who operate monthly, plus variables on the most prevalent cardiovascular diseases are included.

Results: The survey is in the different emails of cardiovascular surgeons to get a 100% response at the end of next month.

Conclusion: We believe that there is the need to increase human and physical resources, while focusing on safety, quality, and efficiency to improve access to cardiac surgery in Colombia
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