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PAKISTAN
2020

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*A BIENNIAL LITERATURE SEARCH OF OPEN ACCESS, SCIENTIFIC ARTICLES RELATED TO
GLOBAL SURGERY: PAKISTAN*

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The One Surgery Index has therefore been designed to make relevant knowledge more accessible to areas of the world where the research may have the greatest impact. By indexing and archiving scientific research – country by country, region by region and surgical speciality by speciality, the Index hopes to create an up-to-date library of global surgical research that can be easily found by any participating stakeholder throughout the world. By doing so, the index hopes to promote academic work in low and middle income countries and inspire further collaboration.

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1. SIMULATOR-BASED ULTRASOUND TRAINING FOR IDENTIFICATION OF ENDOTRACHEAL TUBE PLACEMENT IN A NEONATAL INTENSIVE CARE UNIT USING POINT OF CARE ULTRASOUND

Bmc Medical Education

Authors: Khushboo Qaim Ali, Sajid Bashir Soofi, Ali Shabbir Hussain, Uzair Ansari, Shaun Morris, Mark Oliver Tessaro, Shabina Ariff & Hasan Merali

Region / country: Southern Asia - Pakistan

Speciality: Anaesthesia, Paediatric surgery, Surgical Education

Background

Simulators are an extensively utilized teaching tool in clinical settings. Simulation enables learners to practice and improve their skills in a safe and controlled environment before using these skills on patients. We evaluated the effect of a training session utilizing a novel intubation ultrasound simulator on the accuracy of provider detection of tracheal versus esophageal neonatal endotracheal tube (ETT) placement using point-of-care ultrasound (POCUS). We also investigated whether the time to POCUS image interpretation decreased with repeated simulator attempts.

Methods

Sixty neonatal health care providers participated in a three-hour simulator-based training session in the neonatal intensive care unit (NICU) of Aga Khan University Hospital (AKUH), Karachi, Pakistan. Participants included neonatologists, neonatal fellows, pediatric residents and senior nursing staff. The training utilized a novel low-cost simulator made with gelatin, water and psyllium fiber. Training consisted of a didactic session, practice with the simulator, and practice with intubated NICU patients. At the end of training, participants underwent an objective structured assessment of technical skills (OSATS) and ten rounds of simulator-based testing of their ability to use POCUS to differentiate between simulated tracheal and esophageal intubations.

Results

The majority of the participants in the training had an average of 7.0 years (SD 4.9) of clinical experience. After controlling for gender, profession, years of practice and POCUS knowledge, linear mixed model and mixed effects logistic regression demonstrated marginal improvement in POCUS interpretation over repeated simulator testing. The mean time-to-interpretation decreased from 24.7 (SD 20.3) seconds for test 1 to 10.1 (SD 4.5) seconds for Test 10, $p < 0.001$. There was an average reduction of 1.3 s ($\beta = -1.3$; 95% CI: -1.66 to -1.0) in time-to-interpretation with repeated simulator testing after adjusting for the covariates listed above.

Conclusion

We found a three-hour simulator-based training session had a significant impact on technical skills and performance of neonatal health care providers in identification of ETT position using POCUS. Further research is needed to examine whether these skills are transferable to intubated newborns in various health settings.

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2. CHANGE IN THE SPECTRUM OF ORTHOPEDIC TRAUMA: EFFECTS OF COVID-19 PANDEMIC IN A DEVELOPING NATION DURING THE UPSURGE; A CROSS-SECTIONAL STUDY

Annals Of Medicine And Surgery

Authors: Pervaiz Mahmood Hashmi, Marij Zahid, Arif Ali, Hammad Naqi, Anum Sadruddin Pidani, Alizah Pervaiz Hashmi, Shahryar Noordin

Region / country: Southern Asia - Pakistan

Speciality: Trauma and orthopaedic surgery

Background: The COVID-19 pandemic has caused a great impact on orthopedic surgery with a significant curtailment in elective surgeries which is the major bread and butter for orthopedic surgeons. It was also observed that the spectrum of orthopedic trauma injuries has shifted from more severe and frequent road traffic accidents (high energy trauma) to general, low energy house-hold injuries like low energy fractures in the elderly, pediatric fractures, house-hold sharp cut injuries and nail bed lacerations. The aim of this study is to appraise the effect of the COVID-19 pandemic on orthopedic surgical practice, both inpatient and outpatient facility.

Materials and methods: This is a retrospective cross sectional study conducted in a tertiary care teaching hospital. We collected data of patients admitted from February 1, 2020 to 30th April 2020 in the orthopedic service line using non-probability consecutive sampling. This study population was divided into pre-COVID and COVID eras (6 weeks each). The data included patient demographic parameters like age, gender and site of injury, mechanism of injury, diagnosis and procedure performed and carrying out of COVID-19 Polymerase Chain Reaction (PCR) test in the COVID-era.

Results: We observed that outpatient clinical volume decreased by 75% in COVID era. Fifty percent of surgical procedures decreased in COVID era as compared to pre-COVID era. Trauma procedures reduced by 40% in COVID era. Most common mechanism of injury was household injuries like low energy falls. A significant reduction in elective surgeries by 67% was observed in the COVID era.

Conclusion: The impact of COVID-19 pandemic has significantly changed the spectrum of orthopedic injury. More household injuries have occurred and are anticipated due to the ongoing effects of lockdown.

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3. ADULT CONGENITAL CARDIAC LIFE-LONG NEEDS EVALUATION IN A LOW-MIDDLE INCOME COUNTRY, PAKISTAN

Journal Of The Pakistan Medical Association

Authors: Laila Akbar Ladak, Disty Pearson, Kathy Jenkins, Muneer Amanullah, Waris Ahmad, Kaitlin Doherty Schmeck, Amy Verstappen, & Babar Sultan Hasan.

Region / country: Southern Asia - Pakistan

Speciality: Cardiothoracic surgery

Objective: Adult congenital heart diseases (ACHD) have distinct health care needs that require life-long care. Limited data is available from low-middle income countries (LMIC). This descriptive study conducted in Pakistan aimed to assess patients and health care professionals understanding of the needs for ACHD care and the perceived barriers to care.

Methods: A telephone survey was conducted of ACHD patients. An e-mail survey was sent to the pediatric and adult cardiologists of five institutions (3 public and 2 private) that provide ACHD services in Pakistan. Descriptive statistics (frequencies, mean \pm SD, median) were used for data analysis.

Results: A total of 128 ACHD patients were surveyed, 65 (51%) were females with a mean age of 29.4 ± 10.4 years. Atrial septal defect repair was the most common surgical procedure. Mean age at surgery was 25.6 ± 10.49 years, and a surgical follow-up period of 3.8 ± 2.3 years.

Majority (n=3, 60%) of the health care professionals (HCPs) responded that 75-100% of the ACHD surgical patients would need lifelong care, yet 10-25% return to their cardiology clinics. Most of the surveyed ACHD patients (89%, n=114) demonstrated a lack of understanding of life-long care after surgery due to not being communicated by their HCPs. Cost and travelling issues were the barriers highlighted by HCPs. Both ACHD patients (96%, n=122) and HCP (100%, n=5) underscored their interest in life-long care.

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4. AN ANTIBIOTIC STEWARDSHIP PROGRAM IN A SURGICAL ICU OF A RESOURCE-LIMITED COUNTRY: FINANCIAL IMPACT WITH IMPROVED CLINICAL OUTCOMES

Journal Of Pharmaceutical Policy And Practice

Authors: Kashif Hussain, Muhammad Faisal Khan, Gul Ambreen, Syed Shamim Raza, Seema Irfan, Kiren Habib, and Hasnain Zafar

Region / country: Southern Asia - Pakistan

Speciality: Emergency surgery, General surgery

Background

Antibiotic resistance (ABX-R) is alarming in lower/middle-income countries (LMICs). Nonadherence to antibiotic guidelines and inappropriate prescribing are significant contributing factors to ABX-R. This study determined the clinical and economic impacts of antibiotic stewardship program (ASP) in surgical intensive care units (SICU) of LMIC.

Method

We conducted this pre and post-test analysis in adult SICU of Aga Khan University Hospital, Pakistan, and compared pre-ASP (September–December 2017) and post-ASP data (April–July 2018). January–March 2018 as an implementation/training phase, for designing standard operating procedures and training the team. We enrolled all the patients admitted to adult SICU and prescribed any antibiotic. ASP-team daily reviewed antibiotics prescription for its appropriateness. Through prospective-audit and feedback-mechanism changes were made and recorded. Outcome measures included antibiotic defined daily dose (DDDs)/1000 patient-days, prescription appropriateness, antibiotic duration, readmission, mortality, and cost-effectiveness.

Result

123 and 125 patients were enrolled in pre-ASP and post-ASP periods. DDDs/1000 patient-days of all the antibiotics reduced in the post-ASP period, ceftriaxone, cefazolin, metronidazole, piperacillin/tazobactam, and vancomycin showed statistically significant ($p < 0.01$) reduction. The duration of all antibiotics use reduced significantly ($p < 0.01$). Length of SICU stays, mortality, and readmission reduced in the post-ASP period. ID-pharmacist interventions and source-control-documentation were observed in 62% and 50% cases respectively. Guidelines adherence improved significantly ($p < 0.01$). Net cost saving is 6360US\$ yearly, mainly through reduced antibiotics consumption, around US\$ 18,000 (PKR 2.8 million) yearly.

Conclusion

ASP implementation with supplemental efforts can improve the appropriateness of antibiotic prescriptions and the optimum duration of use. The approach is cost-effective mainly due to the reduced cost of antibiotics with rational use. Better source-control-documentation may further minimize the ABX-R in SICU.

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5. OCCURRENCE, ASSOCIATED RISK FACTORS, AND TREATMENT OF SURGICAL SITE INFECTIONS IN PAKISTAN

European Journal Of Inflammation

Authors: Faiz Ullah Khan, Yu Fang, Zakir Khan, Farman Ullah Khan, Zafar Iqbal Malik, Naveed Ahmed, Amir Hayat Khan, Asim.ur.Rehman

Region / country: Southern Asia - Pakistan

Speciality: General surgery, Urology surgery

Globally, surgical site infections are one of the common infections which lead to a large amount of mortality and morbidity in postsurgical care. The risk for surgical site infection is multidimensional which includes mainly; patient, surgery, and hospital-related factors. This study is aimed to determine the burden of SSIs along with contributed risk factors. A prospective observational cross-sectional study was conducted in one of the largest public-sector hospitals in Pakistan. A total of 412 patients were recruited in the study with full consent and monitored for 30 days after surgery with direct and indirect surveillance. Overall, in seven different surgical procedures the incidence (29.8%) rate of SSI was observed; in appendectomy (n = 17, 4.1%), exploratory laparotomy (n = 51, 12.6%), laparoscopic cholecystectomy (n = 12, 2.90%), mesh repair (n = 17, 4.01%), thyroidectomy (5, 1.2%), transurethral resection of the prostate (n = 11, 2.6%), and transurethral resection of the bladder (10, 2.4%). The average SSI rate in every single procedure was about 18 (4.27%) per surgical procedure out of 123 (29.85%) SSI cases. Types of SSI identified were superficial, deep incisional and organ/space (n = 76, 18.4%, n = 23, 5.5%, and n = 24, 5.7%). Incidence of SSIs during admission, at readmission, and post-surveillance cases were (n = 50, 12.1%, n = 25, 6.0% and n = 48, 11.6%). Associated risk factors found contributed to the incidence of SSI (p < 0.05). Pre-operative (n = 348, 84.5%) and 6 (1.5%) surgical patients did not received the post-operative antibiotics. The *P. aeruginosa* (n = 15, 12.1%) and *S. aureus* (13, 10.5%). Cefoperazone and sulbactam were the most prescribed antibiotics. Associated risk factors and treatment outcomes of surgical patients have a direct association with the incidence of SSI. Hospital-based antimicrobial stewardship, implementation of surgical guidelines, patient care, and education are needed to develop at wards level in hospitals.

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6. COST-EFFECTIVENESS ANALYSIS OF TRANEXAMIC ACID FOR THE TREATMENT OF TRAUMATIC BRAIN INJURY, BASED ON THE RESULTS OF THE CRASH-3 RANDOMISED TRIAL: A DECISION MODELLING APPROACH

Bmj Global Health

Authors: Jack Williams, Ian Roberts, Haleema Shakur-Still, Fiona E Lecky, Rizwana Chaudhri, Alec Miners

Region / country: Northern Europe, Southern Asia - Pakistan, United Kingdom

Speciality: Neurosurgery, Trauma and orthopaedic surgery

Introduction An estimated 69 million traumatic brain injuries (TBI) occur each year worldwide, with most in low-income and middle-income countries. The CRASH-3 randomised trial found that intravenous administration of tranexamic acid within 3 hours of injury reduces head injury deaths in patients sustaining a mild or moderate TBI. We examined the cost-effectiveness of tranexamic acid treatment for TBI.

Methods A Markov decision model was developed to assess the cost-effectiveness of treatment with and without tranexamic acid, in addition to current practice. We modelled the decision in the UK and Pakistan from a health service perspective, over a lifetime time horizon. We used data from the CRASH-3 trial for the risk of death during the trial period (28 days) and patient quality of life, and data from the literature to estimate costs and long-term outcomes post-TBI. We present outcomes as quality-adjusted life years (QALYs) and 2018 costs in pounds for the UK, and US dollars for Pakistan. Incremental cost-effectiveness ratios (ICER) per QALY gained were estimated, and compared with country specific cost-effective thresholds. Deterministic and probabilistic sensitivity analyses were also performed.

Results Tranexamic acid was highly cost-effective for patients with mild TBI and intracranial bleeding or patients with moderate TBI, at £4288 per QALY in the UK, and US\$24 per QALY in Pakistan. Tranexamic acid was 99% and 98% cost-effective at the cost-effectiveness thresholds for the UK and Pakistan, respectively, and remained cost-effective across all deterministic sensitivity analyses. Tranexamic acid was even more cost-effective with earlier treatment administration. The cost-effectiveness for those with severe TBI was uncertain.

Conclusion Early administration of tranexamic acid is highly cost-effective for patients with mild or moderate TBI in the UK and Pakistan, relative to the cost-effectiveness thresholds used. The estimated ICERs suggest treatment is likely to be cost-effective across all income settings globally.

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7. ORAL CANCER: CLINICOPATHOLOGICAL FEATURES AND ASSOCIATED RISK FACTORS IN A HIGH RISK POPULATION PRESENTING TO A MAJOR TERTIARY CARE CENTER IN PAKISTAN

Plos One

Authors: Namrah Anwar, Shahid Pervez, Qurratulain Chundrigger, Sohail Awan, Tariq Moatter, Tazeen Saeed Ali

Region / country: Southern Asia - Pakistan

Speciality: ENT surgery, Surgical oncology

Oral squamous cell carcinoma (OSCC) has the highest prevalence in head and neck cancers and is the first and second most common cancer in males and females of Pakistan respectively. Major risk factors include peculiar chewing habits like areca nut, betel quid, and tobacco. The majority of OSCC presents at an advanced stage with poor prognosis. On the face of such a high burden of this preventable cancer, there is a relative lack of recent robust data and its association with known risk factors from Pakistan. The aim of this study was to identify the socioeconomic factors and clinicopathological features that may contribute to the development of OSCC. A total of 186 patients diagnosed and treated at a tertiary care hospital, Karachi Pakistan were recruited. Clinicopathological and socioeconomic information was obtained on a structured questionnaire. Descriptive analysis was done for demographics and socioeconomic status (SES) while regression analysis was performed to evaluate the association between SES and chewing habits, tumor site, and tumor stage. The majority of patients were males and the mean age of OSCC patients was 47.62 ± 12.18 years. Most of the patients belonged to low SES (68.3%) and 77.4% were habitual of chewing. Gender (male) and SES were significantly associated with chewing habits ($p < 0.05$). Odds of developing buccal mucosa tumors in chewers (of any type of substance) and gutka users were 2 and 4 times higher than non-chewers respectively. Middle age, chewing habits, and occupation were significantly associated with late stage presentation of OSCC ($p < 0.05$). In conclusion, male patients belonging to low SES in their forties who had chewing habits for years constituted the bulk of OSCC. Buccal mucosa was the most common site in chewers and the majority presented with late stage tumors.

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8. DOCTOR-PATIENT COMMUNICATION IN SURGICAL PRACTICE DURING THE CORONAVIRUS (COVID-19) PANDEMIC

Bjs

Authors: M. Hamza H. S. Khan Z. A. Sattar M. Hanif

Region / country: Southern Asia - Pakistan

Speciality: Other

COVID-19 is a new respiratory disease that has become a pandemic, involving whole world. Hospitals are now a hub for this disease and patients are advised to avoid hospitals as far as possible. Many healthcare workers are infected with SARS-CoV-2. This virus can spread from an infected doctor to patients or colleagues and does not respect any boundaries. Moreover, immunocompromized patients are at a greater risk of this potentially life-threatening contagious disease. Recommendations of social distancing and home isolation to limit the spread of coronavirus are major factors limiting patients' communication with doctors regarding their disease.

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9. ROLE OF SURGICAL MODALITY AND TIMING OF SURGERY AS CLINICAL OUTCOME PREDICTORS FOLLOWING ACUTE SUBDURAL HEMATOMA EVACUATION

Pakistan Journal Of Medical Sciences

Authors: Imran Altaf, Shahzad Shams, Anjum Habib Vohra

Region / country: Southern Asia - Pakistan

Speciality: Neurosurgery

Background & objective

A Craniotomy (CO) or decompressive craniectomy (DC) are the two main surgical procedures employed for evacuation of acute traumatic subdural hematoma (ASDH). However, the optimal surgical procedure remains controversial. The beneficial effect of early surgical evacuation of acute subdural hematoma in improving outcome also remains unclear. Our objective was to study the role of these two parameters in determining the outcome in patients undergoing surgical evacuation of acute traumatic subdural hematoma.

Methods

A retrospective analysis of 58 patients presenting with acute traumatic subdural hematoma and with presenting Glasgow Coma Scale (GCS) ≤ 8 that had been operated in Lahore General Hospital between June 2014 and July 2015 was performed. The demographic data, preoperative GCS, type of surgical procedure performed and timing of surgery were analysed.

Results

Forty (69%) patients underwent CO, and eighteen (31%) patients underwent DC. The CO and DC groups showed no difference in the demographic data and preoperative GCS. Six patients survived in the craniotomy group, while none survived in the decompressive craniectomy group ($p=0.083$). The relationship of timing of surgery with survival in the craniotomy group was found not to be clinically significant ($p=0.87$).

Conclusion

In this study craniotomy was associated with a better outcome as compared to decompressive craniectomy, however, the difference did not reach statistical significance. Early surgery was also found not to be associated with an improved outcome.

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10. UTILITY OF TRANEXAMIC ACID TO MINIMIZE BLOOD LOSS IN BRAIN TUMOUR SURGERY

Journal Of The Pakistan Medical Association

Authors: Bukhari SS, Shamim MS

Region / country: Southern Asia - Pakistan

Speciality: Neurosurgery, Surgical oncology

Tranexamic acid is emerging as a useful option for a number of clinical indications, by virtue of its anti-fibrinolytic properties that allow better haemostasis and lesser blood loss. Herein, the authors have attempted to summarize the existing evidence on the possible role of tranexamic acid in brain tumour surgeries.

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11. MANAGING THE SOFT TISSUE DEFECTS OVER THE DORSUM OF HAND: OUR EXPERIENCE WITH POSTERIOR INTEROSSEOUS ARTERY (PIA) FLAP

Journal Of Pakistan Orthopaedic Association

Authors: Khalid Masood, Belal Saadat, Khalid Zulfiqar Qureshi, Karam Rasool Basra, Hafiz Muhammad Kashif Shafi

Region / country: Southern Asia - Pakistan

Speciality: Plastic surgery, Trauma and orthopaedic surgery

Objective: To determine the outcome of posterior interosseous artery (PIA) flap in terms of coverage of the defects and survival of the flap in patients with complex defects over the dorsum of hand and distal forearm.

Methods: This descriptive study was conducted in Hand and Upper Limb Surgery (HULS) CMH Lahore Medical College, Lahore, Pakistan from 15th July 2017 to 15th August 2019. All patients with complex defects of the dorsum of the hand and distal forearm were treated with posterior interosseous artery (PIA) flap. Post operatively the grafts were observed for coverage of the defects and graft survival.

Results: The total number of patients were 24 with 19(79.1%) males and 05(20.8%) females. The mean age was 37 ± 7 SD(range 21 to 56 years). Right hand was involved in 17(70.8%) patients and left in 7(29.1%) patients. Complete coverage of the defects were achieved in all cases. Successful graft survival and uptake was seen in 20(83.3%) flaps. Partial loss was seen in 03 (12.5%) flaps which required debridement and subsequent Split Thickness Skin Grafting. Complete graft loss was seen in 01 (4.1%) flap

Conclusion: Posterior interosseous artery flap (PIA) had higher survival rates and larger area of the dorsum of the hand and distal forearm were entirely covered with this graft. We recommend posterior interosseous artery flap as first line surgical technique to treat complex tissue defects of the dorsum of the hand and distal forearm

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12. PREVALENCE OF PELVIC ORGAN PROLAPSE IN WOMEN, ASSOCIATED FACTORS AND IMPACT ON QUALITY OF LIFE IN RURAL PAKISTAN: POPULATION-BASED STUDY

Bmc Women's Health

Authors: Abdul Hakeem Jokhio, Raheela Mohsin Rizvi & Christine MacArthur

Region / country: Southern Asia - Pakistan

Speciality: Obstetrics and Gynaecology

Background: Pelvic organ prolapse (POP) is a gynecological condition resulting from pelvic floor dysfunction in women. The objective of this study is to estimate "the prevalence of pelvic organ prolapse" associated factors, duration and impact on women's quality of life in rural Pakistan.

Methods: A cross-sectional study was conducted with a three stage random sampling strategy. Three health centers were selected and selected Lady Health Workers from each health center interviewed a random sample of women in their households. The interview used a structured questionnaire to collect symptom data. Female gynaecologists then conducted a clinical examination at the local health center on women who reported symptoms of prolapse to verify and grade pelvic organ prolapse using Baden-Walker classification system.

Results: Among the 5064 women interviewed (95.8% response rate), 521 women had clinically confirmed POP, a prevalence of 10.3% (95% CI 9-11%). Among women with POP 37.8% had grade III or IV prolapse. Women with four or more children had the highest proportion of pelvic organ prolapse (75%) followed by women aged 36-40 years (25%). Among women with POP, 60.8% reported their quality of life as greatly or moderately affected; 44.3% had it for more than 5 years; and 78.7% never consulted a doctor.

Conclusions: Pelvic organ prolapse is highly prevalent in rural Pakistan, impacts on women's everyday lives and remains mainly untreated. Measures should be taken to provide health care services to reduce this burden of disease among women.

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13. 14 YEARS' EXPERIENCE OF ESOPHAGEAL REPLACEMENT SURGERIES

Pediatric Surgery International

Authors: Muhammad Saleem, Asif Iqbal, Uzma Ather, Naveed Haider, Nabila Talat, Imran Hashim, Muhammad Bilal Mirza, Jamal Butt, Hassan Mahmud, and Fatima Majeed

Region / country: Southern Asia - Pakistan

Speciality: Paediatric surgery

Background

Esophageal replacement is a challenge to the therapeutic skills of surgeons and a technically demanding operation in the pediatric age group. Various conduits and routes have been described in the literature, each with their specific advantages and disadvantages. We carried out this retrospective study to share our experience of esophageal replacement.

Methodology

This study was conducted at the department of pediatric surgery The Children's Hospital and The Institute of Child Health, Lahore. The records of patients treated for esophageal replacement were reviewed. The patients under follow-up were called for clinical evaluation and assessed of long terms complications if any.

Results

A total of 93 patients with esophageal replacement were included in the study. Esophageal replacement was done with gastric transposition in 84 cases (90%), colon interposition in 7 cases (7.5%) including one case of redo colonic interposition, and jejunal interposition in 2 cases (2%). Routes of esophageal replacement were trans-hiatal in 71 (76%), retrosternal in 13 (14%), and trans-hiatal with thoracotomy in 9 (10%) patients. Postoperatively, all of the conduits maintained viability. Wound infection was seen in 10 (11%), wound dehiscence in 5 (5%), anastomotic leak in 9 (10%), anastomotic stenosis in 12 (13%), fistula formation in 4 (4%), aortic injury 1 (1%), dumping syndrome 8 (9%), reflux 18 (19%), dysphagia 15 (16%) and death occurred in 12 patients (13%).

Conclusion

There are problems with esophageal replacement in developing countries. In this context, gastric conduit appeared as the best conduit for esophageal replacement, using the trans-hiatal route for replacement, in the authors' experience.

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14. DECORTICATION AS AN OPTION FOR EMPYEMA THORACIS

Journal Of The College Of Physicians And Surgeons-Pakistan

Authors: Majeed FA, Zafar U, Chatha SS, Ali A, Raza A

Region / country: Southern Asia - Pakistan

Speciality: Cardiothoracic surgery

OBJECTIVE:To analyse the outcome and morbidity associated with decortication in empyema thoracis. **STUDY DESIGN:**A case series. **PLACE AND DURATION OF STUDY:**Departments of Surgery, Combined Military Hospitals (CMH) of Rawalpindi, Quetta and Lahore, from January 2006 to March 2018. **METHODOLOGY:**This is a retrospective study of 812 cases of open and VATS (video-assisted thoracic surgery) decortication for empyema thoracis, operated by the same consultants. Only patients with established empyema were included. Those who were unfit for one-lung ventilation, undergoing local anesthesia procedures like rib resection, clagget window or tube windows, with clotted hemothorax and malignant pathology were excluded. Posterolateral serratus sparing thoracotomy was used in open decortications. Multiportal or uniport VATS was employed for video-assisted thoracoscopic decortications (VATD). Histopathology and microbiological sampling was also done in all cases. **RESULTS:**There were 537 (66.1%) males and 275 (33.9%) females. Age ranged from 1 to 80 years with a mean of 37 years. Open decortication was done in 650 (80%), standard decortication with posterolateral thoracotomy in 458 (56.4%), minithoracotomy was done in 69 (8.4%) patients with loculated empyema, thoracotomy and open decortication with conventional thoracoplasty was done in 21 patients. Twenty-two patients required open decortications with tailored thoracoplasty and muscle flap. Open decortication with intercostal muscle (ICM) flap or primary closure of bronchopleural fistula was performed in 55 patients. VATD was done in 162 cases, out of which 120 were early empyema, and 42 were of chronic empyema; of which 22 required a further utility thoracotomy. Decortication with lung resection and muscle flap reinforcement to bronchial stump was done in 25 patients. Blood transfusion was required in 331 (40.7%). Twenty-six (3.4%) patients developed residual space and collection requiring intervention; and 384 (47.3%) patients had a histopathology diagnostic for tuberculosis. There were 11 (1.3%) deaths. **CONCLUSION:**Open decortication is still one of the preferred procedures in developing countries. VATD is also increasingly utilised for empyema.

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15. PERCUTANEOUS DILATATIONAL TRACHEOSTOMY: A PROSPECTIVE ANALYSIS AMONG ICU PATIENTS

Journal Of Rawalpindi Medical College

Authors: Khawaja Kamal Nasir, Faraz Mansoor, Shahzad Hussain Waqar, Shahab Zahid Ahmed Khan, Rakhshanda Jabeen

Region / country: Southern Asia - Pakistan

Speciality: ENT surgery

Introduction: Percutaneous dilatational tracheostomy (PDT) is a simple bedside procedure, particularly useful in the intensive care units. Over the last few decades, the technique of PDT has gained popularity due to its comparable safety to the more surgical tracheostomy (ST).

Objective: To describe the outcome of PDT using modified Ciaglia's technique in patients of Surgical ICU.

Methodology: This was a prospective cohort study that analysed the outcomes of PDTs carried out on critically ill patients admitted in the surgical ICU, Pakistan Institute of Medical Sciences, Islamabad from August 2015 to January 2017. All PDTs were performed by the presiding consultant and his team using modified Ciaglia's (Blue Rhino) technique. The main outcome was the frequency of perioperative and early complications within the first six days.

Demographic variables and complications were recorded. Data was analysed using SPSS version 18.

Results: Seventy-four patients underwent PDTs in the surgical ICU with mean age of the patients was 49.17 ± 12.82 years. The commonest indication of tracheostomy was prolonged mechanical ventilation followed by failure to wean. Complications rate was 12.16% of which perioperative bleeding occurred in 6.7% of patients. Early complications within the first six days were wound infection, tube displacement and blocked tube.

Conclusion: PDT is a valuable, efficacious and safe method that can be performed at the bedside with minimal complication rate and needs to be considered more frequently in the intensive care units in developing countries.

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16. PRACTICE PATTERNS IN THE MANAGEMENT OF STRABISMUS IN PAKISTAN

Pakistan Journal Of Ophthalmology

Authors: Nasir Ahmed, Muhammad Shaheer, Sarmad Zahoor, Salman Hamza, Samran Asim

Region / country: Southern Asia - Pakistan

Speciality: Ophthalmology

Purpose: To study the current practice patterns of pediatric ophthalmologists in the management of strabismus in Punjab.

Study Design: Questionnaire based Practice pattern survey.

Place and Duration of Study: Teaching hospitals of Punjab from July 2018 to July 2019.

Material and Methods: This study was conducted at ophthalmology departments of various teaching hospitals of Punjab. A questionnaire was designed to find out the current practice pattern for management of strabismus. Ophthalmologists who were members of Ophthalmological Society of Pakistan (OSP), having their expertise in strabismus surgery for more than 5years and practicing pediatric ophthalmology were selected. Discussion was also held regarding questionnaire and practices being performed after filling the proforma. This data was compiled, analyzed and was converted to a summary in points.

Results: We contacted 90 ophthalmologists out of whom 76 responded to our Questionnaire. Complete Orthoptic Assessment was performed by only 46% (35) of the ophthalmologists. Prism cover test was used as a diagnostic tool by 70 (92%) ophthalmologists. Rest of the ophthalmologists used Synoptophore with it. Percentage of ophthalmologists performing cycloplegic refraction was very low. Only 5 (6.57%) surgeons used adjustable sutures. Only 46% of surgeons used to explain the complications of Anesthesia. More than 90% of surgeons explained the surgical procedures being done, its complications, post-operative care and need to use glasses or need for orthoptic exercises. All the surgeons kept follow up of the patients on 1st post-operative day.

Conclusion: The current practices in strabismus need to be standardized and a consensus should be developed at a national level.

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17. MANAGEMENT AND OUTCOMES FOLLOWING EMERGENCY SURGERY FOR TRAUMATIC BRAIN INJURY - A MULTI-CENTRE, INTERNATIONAL, PROSPECTIVE COHORT STUDY (THE GLOBAL NEUROTRAUMA OUTCOMES STUDY).

International Journal Of Surgery Protocols

Authors: Clark D, Joannides A, Ibrahim Abdallah O, Olufemi Adeleye A, Hafid Bajamal, Bashford T, Bhebhe, Biluts H, Budohoska N, Budohoski K, Cherian I, Marklund N, Fernandez Mendez R, Figaji T, Kumar Gupta D, Iaccarino C, Ilunga A, Joseph M, Khan T, Laeke T, Waran V, Park K, Rosseau G, Rubiano A, Saleh Y, Shabani HK, Smith B, Sichizya K, Tewari M, Tirsit A, Thu M, Tripathi M, Trivedi R, Villar S, Devi Bhagavatula I, Servadei F, Menon D, Kolias A, Hutchinson P; Global Neurotrauma Outcomes Study (GNOS) collaborative.

Region / country: Global - Colombia, Egypt, Ethiopia, India, Indonesia, Italy, Malaysia, Nepal, Nigeria, Pakistan, South Africa, Sweden, Tanzania, United Kingdom, United States of America, Zambia

Speciality: Emergency surgery, Neurosurgery, Trauma surgery

Traumatic brain injury (TBI) accounts for a significant amount of death and disability worldwide and the majority of this burden affects individuals in low-and-middle income countries. Despite this, considerable geographical differences have been reported in the care of TBI patients. On this background, we aim to provide a comprehensive international picture of the epidemiological characteristics, management and outcomes of patients undergoing emergency surgery for traumatic brain injury (TBI) worldwide. The Global Neurotrauma Outcomes Study (GNOS) is a multi-centre, international, prospective observational cohort study. Any unit performing emergency surgery for TBI worldwide will be eligible to participate. All TBI patients who receive emergency surgery in any given consecutive 30-day period beginning between 1st of November 2018 and 31st of December 2019 in a given participating unit will be included. Data will be collected via a secure online platform in anonymised form. The primary outcome measures for the study will be 14-day mortality (or survival to hospital discharge, whichever comes first). Final day of data collection for the primary outcome measure is February 13th. Secondary outcome measures include return to theatre and surgical site infection. This project will not affect clinical practice and has been classified as clinical audit following research ethics review. Access to source data will be made available to collaborators through national or international anonymised datasets on request and after review of the scientific validity of the proposed analysis by the central study team.

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18. EMERGENCY CHEST WALL RECONSTRUCTION IN OPEN PNEUMO-THORAX FROM GUNSHOT CHEST: A CASE REPORT

Journal Of Pakistan Medical Association

Authors: Naveed Ullah Khan, Zahoor Ahmed, Farooq Malik, Javaid Ahmed, Sarwat Saeed, Inayat Ullah Baig

Region / country: Southern Asia - Pakistan

Speciality: Cardiothoracic surgery, Emergency surgery, Trauma surgery

Chest trauma, penetrating or blunt is common in this era of motor vehicle accidents, violence and terrorism in South Asia. Islamabad is the capital of Pakistan but there is no dedicated chest surgery unit in any government sector hospitals. Gunshot chest, is therefore managed by general surgery team in our tertiary care setting i.e. Federal Government Polyclinic Hospital and Post Graduate Medical Institute, Islamabad. We report a case of gunshot chest with lung contusion and open pneumothorax with a chest wall defect of 10 x 15 cm. in March 2015, this young man presented in emergency department of Federal Government Polyclinic Hospital (FGPC), Post Graduate Medical Institute (PGMI) Islamabad in shock after self-inflicted point blank suicidal gunshot to his left anterolateral chest. After primary resuscitation, the patient was shifted to OR, and a left anterolateral thoracotomy performed. Lung contusion was repaired and chest drain placed. The challenging task of closing the huge chest wall defect was performed by rotating the left latissimus dorsi muscle flap. The patient was shifted to ICU and remained stable postoperatively.

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19. CHANGING FACE OF TRAUMA AND SURGICAL TRAINING IN A DEVELOPING COUNTRY: A LITERATURE REVIEW

Journal Of Pakistan Medical Association

Authors: Qamar Riaz, Sabah uddin Saqib, Rehan Nasir Khan, Nadeem Ahmed Siddiqui

Region / country: Southern Asia - Pakistan

Speciality: Emergency surgery, Surgical Education, Trauma surgery

Trauma continues to be the major cause of disability and death globally and surgeons are often involved in immediate care. However there has been an exponential decrease in the number of the trained trauma surgeons. The purpose of the current review article is to summarize the published literature pertaining to trauma education in postgraduate surgical training programmes internationally and in a developing country as Pakistan. Several electronic databases like MEDLINE, PubMed, Google scholar and PakMediNet were searched using the keywords 'trauma education' or 'trauma training' AND 'postgraduate medical education', 'surgery residency training', 'surgery residents' and 'surgeons'. The current training in most surgical residency programmes, locally and globally, is suboptimal. Change in trauma management protocols, and decrease in volume of trauma cases results in variable and/ or inadequate exposure and hands-on experience of the surgical trainees in operative and non-operative management of trauma. This warrants collaborative measures for integration of innovative educational interventions at all levels of the surgical educational programmes.

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20. PEDIATRIC CATARACT AUDIT AT A TERTIARY CARE CENTER IN KARACHI

Pakistan Journal Of Ophthalmology

Authors: Rabia Khawar Chaudhry, Nasar Qamar Khan, Weiji Kumar Dembra, Areej Riaz, Gaintry Vickash

Region / country: Southern Asia - Pakistan

Speciality: Ophthalmology

Purpose: To perform pediatric cataract surgery audit at a tertiary care center in Karachi.

Study Design: Descriptive observational study.

Place and Duration of Study: From January, 2016 to July, 2018 at Ophthalmology Department of Jinnah Postgraduate Medical Center, Karachi.

Material and Methods: All patients with congenital cataract were included in study regardless of presence or absence of systemic association. Patients who were lost to follow up at three months were excluded from the study. Hospital records were reviewed retrospectively and data on patient demographics, preoperative presentations, intraoperative complications and postoperative visual outcomes was documented on predesigned proformas. All patients underwent lens aspiration, posterior capsulotomy and anterior vitrectomy. Surgeries were performed under general anesthesia. Preoperative and postoperative visual acuity was assessed with ability to fix and follow light/objects, Kay picture test and Snellen's chart according to patient's age.

Results: Three hundred and twenty six eyes underwent surgery for congenital cataract and sixty for traumatic cataract. Number of male patients was 54.93% and female was 45.07%. The average age of patients with congenital cataract was 5.01 years and that for traumatic cataract was 7.8 years. Amblyopia, nystagmus and strabismus were the commonest ocular comorbidities. Uncorrected visual acuity ranged from 6/18 to light perception preoperatively. Postoperatively 55% children with congenital cataract and 15% children with traumatic cataract had visual acuity better than 6/24.

Conclusion: Early surgery in congenital cataract gives good visual outcomes. In traumatic cataract extraction, the final visual outcome depends on other effects of trauma on ocular structures.

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21. SIGMOID VOLVULUS: A RARE BUT UNIQUE COMPLICATION OF ENTERIC FEVER

Journal Of Community Hospital Internal Medicine Perspectives

Authors: Muhammad Sohaib Asghar, Abubakar Tauseef, Hiba Shariq, Maryam Zafar, Rumael Jawed, Uzma Rasheed, Mustafa Dawood, Haris Alvi, Saad Aslam & Marium Tauseef

Region / country: Southern Asia - Pakistan

Speciality: General surgery

We present a case of sigmoid volvulus in a young male patient with culture-proven Salmonella Typhi in the blood which was sensitive to Meropenem and Azithromycin only, presented with fever, vomiting, loose stools, hematochezia, abdominal distention and tenderness with no signs of perforation on erect chest x-ray. Further, radiological imaging showed signs of sigmoid volvulus. An urgent colonic decompression with untwisting of the mesentery was performed. In our case, it can be said that sigmoid volvulus was developed as a complication of multiple drug-resistant strains of Salmonella Typhi. The resistance is acquired by alteration in the genome sequence. Currently, it is important to control such an unknown outbreak of multiple drug-resistant strains of Salmonella Typhi as it is a serious health care issue of disease control and prevention in Pakistan.

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22. FUNCTIONAL AND CLINICAL OUTCOMES OF OPEN VERSUS CLOSED RADIUS AND ULNA SHAFT FRACTURES IN ADULTS: A PROSPECTIVE COHORT STUDY

Journal Of Pakistan Medical Association

Authors: Tashfeen Ahmad, Zehra Abdul Muhammad, Pervaiz Hashmi

Region / country: Southern Asia - Pakistan

Speciality: Trauma and orthopaedic surgery, Trauma surgery

Objective: To compare functional and clinical outcomes of open versus closed radius ulna shaft fractures in adults treated by internal fixation.

Methods: A prospective cohort study was conducted on patients presenting with traumatic radius and ulna shaft fractures to Aga Khan University and undergoing internal fixation between July 2015 to June 2019. Data was extracted from an ongoing orthopaedic trauma registry. Functional and clinical outcomes were assessed by Price et al. criteria at 6 weeks, 3, 6 and 12 months follow-up. Outcome scores of open versus closed fractures were compared.

Results: Twenty-nine adult patients with isolated radius and ulna shaft fracture were identified. Cause of injury was road traffic accident in 18 (62%) and fall in 11 (38%) patients. Seventeen (59%) were closed and 12 (41%) were open fractures. At 6week follow-up, better outcomes were observed in closed fracture group ($p=0.01$) with near-full range of motion and activity in 10(83%) patients as compared to 3(27%) in the open fracture group. No significant difference in outcomes was observed at 3 months and thereafter.

Conclusions: Earlier recovery of function at 6 weeks was observed in majority of patients in the closed fracture group. Our data shows that good-excellent functional and clinical results are achievable by internal fixation in both open as well as closed fractures of the shaft of radius and ulna in adults.

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23. IMPACT OF TIME OF ARRIVAL IN EMERGENCY UNIT ON ESTIMATION OF INJURIES AND OVERALL CARE OF TRAUMA VICTIMS

The Journal Of The Pakistan Medical Association

Authors: Saqib SU, Zafar H

Region / country: Southern Asia - Pakistan

Speciality: Emergency surgery, Trauma surgery

Background: Outcomes of trauma victims largely depends upon available resources, not only in terms of location of high level trauma center near the area where incident takes place but also on staff and equipment available at that particular center at that particular time. This study used retrospective charts review to ascertain whether trauma patients presenting during the night time would have delayed in establishing injuries after necessary investigations and higher in-hospital mortality than those trauma patients arriving during the day time at our hospital. **Methods:** This was a cross sectional study, conducted in department of Surgery, Aga Khan University Hospital, Karachi. Data was obtained from patients charts by a single investigator. By random sampling technique, 146 patients admitted between 1st January 2018 to 31st December 2018 in the Emergency Department of the Aga Khan University Hospital, Karachi were included. Patients were placed into two groups. Those arriving in hospital from 7 am to 7 pm were labeled as day time group while those who presented from 7 pm to 7 am were labeled as night time group. Difference in mortality in each group and time required for carrying out investigations and admissions to definite care were recorded and compared among both groups.

Results: A total of 146 patient charts were reviewed, with 73 patients each in both day time (DT) and night time (NT) groups. Out of 146 trauma victims 123(82.2%) were male and 23(17.8%) were female. Mean age in our population was 37.4 years (± 14.3). Road traffic accident (RTA) was the most common cause in 121 patients (82.9%). Time required to conduct trauma services was shorter and significant in DT group as compared to NT group. There was significant difference observed in time required for admission in each group, with mean of 6 hours and 40 minutes ± 4 hours, 22 minutes in DT group and 8 hours, 36 minutes (± 5 hours, 11 minutes in NT group ($p = 0.03$). However there was no significant difference in mortality observed in both groups.

Conclusions: In our hospital time of arrival has no impact on overall mortality of trauma patients. However time to carryout necessary investigations for stable trauma patients and their admissions to definite care is longer as compared to day time arrival of emergency trauma patients.

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24. PERIOPERATIVE HYPOTHERMIA IN COLORECTAL SURGERIES: ARE WE DOING ENOUGH TO PREVENT IT?

Journal Of Pakistan Medical Association

Authors: Tanzeela Gala, Noman Shahzad, Ahmed Iqbal Edhi, Tabish Umer Chawla

Region / country: Southern Asia - Pakistan

Speciality: General surgery

Objective: To determine the incidence of hypothermia in patients undergoing colorectal surgery, and to identify factors that increase vulnerability to perioperative hypothermia.

Methods: The retrospective study was conducted at the Aga Khan University Hospital, Karachi, and comprised medical records from May 2012 to June 2017 related to all patients aged >16 years of either gender who underwent colorectal procedures. Analysis about predictors of perioperative hypothermia was done using Stata 12.

Results: Of the 100 patients, 69(69%) were males. The overall mean age was 50.2±16.7 years. Majority cases had elective presentation 72(72%). Incidence of perioperative hypothermia was noted in 74(74%) patients. Postoperative morbidity was 16(16%), while mortality was 4(4%).

Elective presentation and hypothermia before surgery were significantly associated with occurrence of intraoperative hypothermia (odds ratio: 4.5 and 1.3 respectively).

Conclusions: Perioperative incidence of hypothermia was found to be quite high despite appropriate measures. Factors responsible need to be explored and rectified.

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25. COMPARISON OF INTRAARTICULAR DISTAL HUMERUS FRACTURE OUTCOMES TREATED WITH OR WITHOUT OLECRANON OSTEOTOMY - A CASE SERIES

Journal Of The Pakistan Medical Association

Authors: Naveed Baloch , Tashfeen Ahmad , Zehra Abdul Muhammad

Region / country: Southern Asia - Pakistan

Speciality: Trauma and orthopaedic surgery, Trauma surgery

A case series was extracted from the trauma registry at Aga Khan University Hospital from the period June 2015 to June 2019. Included were 16 adult patients who presented with intra-articular distal humerus fracture type C2. The functional, clinical and radiological outcomes of fractures treated with or without olecranon osteotomy up to 12 months follow-up were compared. Outcomes were assessed at 6 weeks, 3, 6 and 12 months re-visits. Among the 16 studied patients, 9 (56%) were males and 7 (44%) were females. In the group without osteotomy, there was a good functional and clinical outcome with a mean Quick Disability of the Arm, Shoulder and Hand score of 32 ± 30 at 3 months post-procedure. Bone healing was noticed at 6 months after surgery. In the osteotomy group, 50%-70% bone union was seen at 3 months post-surgery while fair functional and clinical outcome was achieved at 6 months after surgery

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26. SELF-DIAGNOSIS OF SURGICAL SITE INFECTIONS: LESSONS FROM A TERTIARY CARE CENTRE IN KARACHI, PAKISTAN

Pakistan Journal Of Medical Sciences

Authors: Sana Z Sajun, Katherine Albutt, Umme Salama Moosajee, Gustaf Drevin, Swagoto Mukhopadhyay, and Lubna Samad

Region / country: Southern Africa - Pakistan

Speciality: General surgery, Other

Background and Objective: Surgical site infections (SSIs) usually manifest post-discharge, rendering accurate diagnosis and treatment challenging, thereby catalyzing the development of alternate strategies like self-monitored SSI surveillance. This study aimed to evaluate the diagnostic accuracy of patients and Infection Control Monitors (ICMs) to develop a replicable method of SSI-detection.

Methods: A two-year prospective diagnostic accuracy study was conducted in Karachi, Pakistan between 2015 and 2017. Patients were educated about SSIs and provided with questionnaires to elicit symptoms of SSI during post-discharge self-screening. Results of patient's self-screening and ICM evaluation at followups were compared to surgeon evaluation.

Results: A total of 348 patients completed the study, among whom 18 (5.5%) developed a SSI. Patient selfscreening had a sensitivity of 39%, specificity of 95%, positive predictive value (PPV) of 28%, and negative predictive value (NPV) of 97%. ICM evaluation had a sensitivity of 82%, specificity of 99%, PPV of 82%, and NPV of 99%.

Conclusion: Patients cannot self-diagnose a SSI reliably. However, diagnostic accuracy of ICMs is significantly higher and they may serve as a proxy for surgeons, thereby reducing the burden on specialized surgical workforce in LMICs. Regardless, supplementing post-discharge follow-up with patient self-screening could increase SSI-detection and reduce burden on health systems.

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27. AN INTERNATIONAL COLLABORATIVE STUDY ON SURGICAL EDUCATION FOR QUALITY IMPROVEMENT (ASSURED): A PROJECT BY THE 2017 INTERNATIONAL SOCIETY OF SURGERY (ISS/SIC) TRAVEL SCHOLARS INTERNATIONAL WORKING GROUP

World Journal Of Surgery

Authors: Anip Joshi, Bernardo Borraez-Segura, Mariyah Anwer, Oluwaseun Ladipo-Ajayi, Francisco Schlottmann, Diem Nguyen Ngoc Le, Andrew G. Hill & Michael G. Sarr

Region / country: South America, South-eastern Asia, Southern Asia, Western Africa - Argentina, Colombia, Nepal, Nigeria, Pakistan, Vietnam

Speciality: Surgical Education

Background: There is a huge difference in the standard of surgical training in different countries around the world. The disparity is more obvious in the various models of surgical training in low- and middle-income countries (LMICs) compared to high-income countries. Although the global training model of surgeons is evolving from an apprenticeship model to a competency-based model with additional training using simulation, the training of surgeons in LMICs still lacks a standard pathway of training.

Methods: This is a qualitative, descriptive, and collaborative study conducted in six LMICs across Asia, Africa, and South America. The data were collected on the status of surgical education in these countries as per the guidelines designed for the ASSURED project along with plans for quality improvement in surgical education in these countries.

Results: The training model in these selected LMICs appears to be a hybrid of the standard models of surgical training. The training models were tailored to the country's need, but many fail to meet international standards. There are many areas identified that can be addressed in order to improve the quality of surgical education in these countries.

Conclusions: Many areas need to be improved for a better quality of surgical training in LMICs. There is a need of financial, technical, and research support for the improvement in these models of surgical education in LMICs.

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28. GLOBAL HEALTH, GLOBAL SURGERY AND MASS CASUALTIES: II. MASS CASUALTY CENTRE RESOURCES, EQUIPMENT AND IMPLEMENTATION

Bmj Global Health

Authors: Sergio Aguilera, Leonidas Quintana, Tariq Khan, Roxanna Garcia⁵, Haitham Shoman, Luke Caddell, Rifat Latifi, Kee B Park, Patricia Garcia, Robert Dempsey, Jeffrey V Rosenfeld, Corey Scurlock, Nigel Crisp, Lubna Samad, Montray Smith, Laura Lippa, Rashid Jooma, Russell J Andrews

Region / country: South America, Southern Asia - Chile, Pakistan

Speciality: Emergency surgery, Trauma surgery

Trauma/stroke centres optimise acute 24/7/365 surgical/critical care in high-income countries (HICs). Concepts from low-income and middle-income countries (LMICs) offer additional cost-effective healthcare strategies for limited-resource settings when combined with the trauma/stroke centre concept. Mass casualty centres (MCCs) integrate resources for both routine and emergency care—from prevention to acute care to rehabilitation. Integration of the various healthcare systems—governmental, non-governmental and military—is key to avoid both duplication and gaps. With input from LMIC and HIC personnel of various backgrounds—trauma and subspecialty surgery, nursing, information technology and telemedicine, and healthcare administration—creative solutions to the challenges of expanding care (both daily and disaster) are developed. MCCs are evolving initially in Chile and Pakistan. Technologies for cost-effective healthcare in LMICs include smartphone apps (enhance prehospital care) to electronic data collection and analysis (quality improvement) to telemedicine and drones/robots (support of remote regions and resource optimisation during both daily care and disasters) to resilient, mobile medical/surgical facilities (eg, battery-operated CT scanners). The co-ordination of personnel (within LMICs, and between LMICs and HICs) and the integration of cost-effective advanced technology are features of MCCs. Providing quality, cost-effective care 24/7/365 to the 5 billion who lack it presently makes MCCs an appealing means to achieve the healthcare-related United Nations Sustainable Development Goals for 2030.

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29. FREQUENCY OF VERTEBRAL FRACTURES IN PATIENTS PRESENTING WITH HIP FRACTURES

Pakistan Journal Of Medical Sciences

Authors: Muhammad Amin Chinoy , Salman Javed

Region / country: Southern Asia - Pakistan

Speciality: Neurosurgery, Trauma and orthopaedic surgery, Trauma surgery

Objective:To determine the frequency of vertebral fractures in patients presenting with hip fractures. **Methods:**This prospective study was conducted at The Indus Hospital, Karachi, from May 2018 to November 2018. All patients above 40 years presenting with hip fractures were enrolled and a dorsal lumbar lateral view radiograph was obtained to investigate for vertebral fractures. Data was entered and analyzed using SPSS. Post-stratification, Chi-square/Fisher exact test was applied as appropriate to assess the significant association. P value of ≤ 0.05 was considered significant. **Results:**Three hundred thirty five patients were enrolled. Of these, 189 (56.4%) were females and 165 (49.3%) presented with neck of femur fractures. Out of 335 hip fractures patients, 77 (23%) were found to have concomitant vertebral fractures, with 73 (96.1%) having a compression fracture. T12 was the most common vertebra involved and 68.8% of patients were asymptomatic. Co-morbid conditions were statistically significantly associated with vertebral fractures. **Conclusion:**There is a high prevalence of asymptomatic vertebral fractures in our population, but low compared to studies from western countries. There is a need to evaluate these fractures separately for the prevention of morbidity and mortality.

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30. EPIDEMIOLOGY AND OUTCOMES OF TRAUMA PATIENTS AT THE INDUS HOSPITAL, KARACHI, PAKISTAN, 2017 - 2018

Pakistan Journal Of Medical Science

Authors: Saima Salman, Syed Ghazanfar Saleem, Quratulain Shaikh, Anna Q Yaffee

Region / country: Southern Asia - Pakistan

Speciality: Trauma surgery

Objective: Structured trauma care has proven to improve patient outcomes, and this is more relevant in the low- and middle-income countries (LMICs). The objective of this study was to determine the distribution, etiology, severity and outcomes of trauma patients at the Indus Hospital.

Methods: All adult poly-trauma patients presenting to The Indus Hospital from July 2017 to June 2018 were included in this retrospective review. Data was extracted on etiology of trauma, severity of injury, investigations and final disposition of patients.

Results: Of 972 trauma patients presenting to TIH Emergency Department, 663 (68.2%) were males with a mean age of 36 (17.4) years. Road traffic accidents (RTAs) led to trauma in 766 patients (78.8%), followed by 121 falls (12.7%). Injury Severity score (ISS) was calculated upon arrival and 528 (54.3%) were found to be critically injured. Median length of stay was 60 (24-720) minutes while none utilized pre-hospital Emergency Medical services.

Conclusion: Most trauma patients were males suffering from RTA. Nearly half of the patients were critically injured on arrival. EMS is not utilized by trauma patients. There were gaps identified in the diagnosis and treatment of trauma.

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31. HEINEKE-MIKULICZ PYLOROPLASTY FOR ISOLATED PYLORIC STRICTURE CAUSED BY CORROSIVE INGESTION IN CHILDREN

Pakistan Journal Of Medical Science

Authors: Muhammad Aqil Soomro, Maryam Aftab, Maria Hasan, Hana Arbab

Region / country: Southern Asia - Pakistan

Speciality: Paediatric surgery

Corrosive ingestion in children is a common problem in low income countries. These agents cause injuries and later strictures of esophagus and stomach. Gastric outlet obstruction is known complication of acids and surgery is the mainstay of treatment. There are multitude of surgical options for these strictures depending on the involved segment of the stomach and experience of the surgeon. Here we present three cases of children who accidentally ingested acid stored in soda bottles and subsequently developed isolated pyloric strictures. These cases presented between August 2018 and April 2019 to our facility, a tertiary care hospital in Karachi, Pakistan. All three patients had an initial latent period of one to two weeks following corrosive ingestion, after which symptoms of gastric outlet obstruction appeared. Intraoperatively, all three had normal esophagus and antrum but scarred and strictured pylorus. Heineke-Mikulicz pyloroplasty was done in these cases without complications and the outcomes were satisfactory.

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32. DIAGNOSTIC ACCURACY OF CORE NEEDLE BIOPSY IN BONE TUMORS. RESULTS OF 100 CONSECUTIVE CASES FROM A SARCOMA UNIT IN PAKISTAN

E-Cronicon

Authors: Imran Khan, Muhammad Jawad Saleem, Zeeshan Khan, Israr Ahmad, Muhammad Saeed and Arif Khan

Region / country: Southern Asia - Pakistan

Speciality: Trauma and orthopaedic surgery

Background: Histological diagnosis is the main step towards management of bone tumors. Although open biopsy is considered as gold standard but core needle biopsy is advantageous because of its low cost, low morbidity rates and less time consumption. The aim of this study was to determine the diagnostic yield of core needle biopsy.

Methods: From January 2016 to December 2018, 100 consecutive patients with suspected bone tumors underwent core needle biopsy in a single unit. Patients between 5 to 90 years of age were included in the study. Informed consent was obtained from all patients. Core needle biopsy was performed under Local or General anesthesia depending of the location of tumor and age. Multiple cores were obtained and were sent to a single histopathological lab.

Results: Out of 100 patients, 61 were male and 39 were females. The age range was from 5 to 73 years with a mean of 39 years. Diagnosis was made in 91% of cases with approximately 4% of them being negative and 5% of the patients had inconclusive results. Only 3 patients required repeat biopsy. None of our patients had any complications.

Conclusion: Core needle biopsy for diagnosis of bone tumors has high diagnostic and accuracy rates with minimal associated complications.

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33. STRICTURE OF URETHRA: PATTERNS AND OUTCOMES OF MANAGEMENT FROM A SINGLE CENTRE IN PAKISTAN OVER 7 YEARS

Journal Of The College Of Physicians And Surgeons Pakistan

Authors: Manzoor Hussain , Muhammad Shamim Khan , Murli Lal , Altaf Hashmi , Syed Ali Anwer Naqvi , Syed Adibul Hasan Rizvi

Region / country: Southern Asia - Pakistan

Speciality: Urology surgery

Objective: To determine the outcomes of urethroplasty and its complications from a large cohort of patients managed in a single centre.

Study design: Descriptive study.

Place and duration of study: Department of Urology, Sindh Institute of Urology and Transplantation (SIUT), Karachi, from January 2010 to December 2016.

Methodology: A total of 546 patients with stricture urethra at different locations underwent urethroplasty from January 2010 to December 2016 were included. All patients had an ascending urethrogram followed by retrograde \pm antegrade urethroscopy to assess the location and length of the stricture. Technique of urethroplasty was chosen according to the site, length and etiology. Following appropriate procedure, patients were followed up in the dedicated urethral stricture clinic. Procedure was considered successful if either no further therapeutic intervention was required and the maximum flow rate (Qmax) was >20 ml/sec with a voided volume of at least 200 mls. The procedure was regarded as unsuccessful, if further treatment was required or Qmax was <10 ml/sec.

Results: A total of 546 patients with mean age of 32.3 ± 13.1 years (range: 12-74) involving anterior (n=323, 59.2%) or posterior (n=223, 40.8%) urethra were treated. Mean follow-up was 43.6 months (range: 3-84). The success rates of bulbar urethral strictures after excision and primary anastomosis (EPA) was 93.3%, non-transecting urethroplasty 84.6% and oral mucosal graft (OMG), 81.8%. In penile urethral strictures, OMG, Orandi procedure and Johanson's techniques yielded success rates of 88.4%, 66.6% and 57.1%, respectively. In posterior urethral strictures, after excision and bulboprostatic anastomosis, good results were seen in 88.3%. In pan-urethral strictures, abdominal skin graft repair, combined tissue transfer and OMG urethroplasty yielded success rates of 74%, 78.5% and 75%, respectively. The complications/ adverse events were encountered in 251 / 546 (45.9%) patients in this series.

Conclusion: Anastomotic urethroplasty yielded best outcomes followed by OMG urethroplasty. In the long-term follow-up, erectile dysfunction (ED), infertility and recurrence of stricture are the main complications which need individualised management.

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34. TOTAL HIP ARTHROPLASTY FOR FEMUR NECK FRACTURES IN ELDERLY PATIENTS. A MULTI-CENTRE STUDY FROM PAKISTAN

E-Cronicon

Authors: Mujahid Jamil Khattak, Sajjad Ahmed, Marij Zahid, Israr Ahmed, Arif Khan and Zeeshan Khan

Region / country: Southern Asia - Pakistan

Speciality: Trauma and orthopaedic surgery, Trauma surgery

Introduction: The burden of hip fractures on health care systems and professionals is increasing with increase in life expectancy of patients. There is an increasing global trend for total hip replacement rather than Hemiarthroplasty for femur neck fractures in elderly patients. This is based on large series reported from various countries showing efficacy, safety and better functional outcome associated with this procedure. The concerns with Total hip replacement procedure include increased risk of dislocation, infection and anaesthetic complications. The adoption of this practice in developing countries pose additional challenges including access to medical facility, availability of equipped operating room, financial burden and the surgical expertise required for Total Hip Replacement for this unique group of patients.

Objectives: To evaluate the effectiveness and associated complications of total hip arthroplasty for femur neck fractures in elderly patients from various centres in Pakistan.

Materials and Methods: Retrospective cohort of patients from 3 different hospitals in the country was included. Data was obtained from prospectively held databases and patients with at least 12 months follow up were included in the study.

Results: A total of 63 patients were included in the study, including 27 males and 36 females with an average age of approximately 62 years. The commonest implant type used was cemented hip replacement with commonest head size being 32 mm. Only two patients had superficial wound infection, 1 patient had pulmonary embolism and 1 patient had dislocation at 2 months. No mortalities were reported during the study period.

Conclusion: THA is a safe option for carefully selected patients with neck of femur fractures. In a developing country, despite numerous constraints we are still able to reproduce the same results as published in the international literature

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35. INTRANASAL SPLINTS IN REDUCING POST-OPERATIVE ADHESIONS AFTER ENDOSCOPIC SINUS SURGERY

Pakistan Armed Forces Medical Journal

Authors: Kamran Zamurrad Malik ,Muhammad Majid Shaikh ,Tarique Ahmed Maka

Region / country: Southern Asia - Pakistan

Speciality: ENT surgery

Objective: To compare the frequency of post-operative adhesions after endoscopic sinus surgery with and without intranasal silastic splint.

Study Design: Quasi experimental study.

Place and Duration of Study: Research was conducted at department of ENT, Combined Military Hospital Muzaffarabad, from Sep 2016 to Mar 2017.

Methodology: This study involved 62 patients of both genders aged between 15-60 years undergoing endoscopic sinus surgery who were randomly allocated into two treatment groups. Patients in groups-A received silastic splint in addition to anterior nasal packing while those in group-B received anterior nasal packing alone. Outcome variable was frequency of post-operative adhesions which was noted and compared between the groups.

Results: The mean age and SD of the patients was 33.58 ± 11.11 years. The mean duration of symptoms was 11.81 ± 3.20 months. Both the study groups were comparable in terms of mean age ($p=0.910$), mean duration of symptoms ($p=0.876$) and age ($p=0.866$), gender ($p=1.000$) and duration of symptoms ($p=1.000$) groups. Post-operative adhesions were observed in 5 (8.1%) cases and all of them belonged to study group-B. The frequency of post-operative adhesion formation was significantly higher in patients receiving anterior nasal packing alone (16.1% vs. 0.0%; $p=0.020$) as compared to those receiving silastic splint in addition to anterior nasal packing. Similar difference was observed across various age, gender and duration of symptoms groups.

Conclusion: The use of silastic splint was associated with significant reduction of post-operative adhesions in patients undergoing endoscopic sinus surgery regardless of patient's age, gender and duration of symptoms.

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36. OPTICAL TROCAR CAUSING AORTIC INJURY: A POTENTIALLY FATAL COMPLICATION OF MINIMAL ACCESS SURGERY

Journal Of The College Of Physicians And Surgeons Pakistan

Authors: Rashid Usman , Hafsa Ahmed , Zeeshan Ahmed , Maqsood Ali

Region / country: Southern Asia - Pakistan

Speciality: General surgery, Vascular surgery

Trocar injury to abdominal aorta is uncommon and even rare with optical trocars. Such injury, resulting from umbilical trocar insertion, is potentially fatal. It often causes on-table death due to torrential life-threatening haemorrhage and unavailability of expert vascular help. We present a rare case of an injury to infra-renal abdominal aorta, caused by optical trocar insertion for bariatric surgery. Immediate recognition of the injury, deployment of life-saving manoeuvres, timely resuscitation, followed by definitive repair of aorta by vascular surgeon was life-saving for this patient. The recovery phase was uneventful and patient had no residual clinical problems during follow-up.

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37. INCIDENCE OF PROGRESSIVE HEMORRHAGIC INJURY IN PATIENTS PRESENTING WITH TRAUMATIC BRAIN INJURY AT A LARGE TERTIARY CARE HOSPITAL IN KARACHI, PAKISTAN. A CASE SERIES.

The Professional Medical Journal

Authors: Qazi Muhammad Zeeshan ,Ramesh Kumar ,Asim Rehmani , Muhammad Imran , Atiq Ahmed Khan , Shiraz Ahmed Gauri ,Muhammad Sheraz Raza

Region / country: Southern Asia - Pakistan

Speciality: Emergency surgery, Neurosurgery, Trauma surgery

Objectives: Our study aims to determine the frequency of progressive hemorrhagic injury as observed on the CT scan from the initial scan performed at the time of presentation to a subsequent one in the 12 hours after the initial scan. **Study Design:** The type of study is a prospective observational case series. **Setting:** At Tertiary Care Hospital in Karachi, Pakistan. **Period:** 3 months from June 2018 to August 2018. **Materials & Methods:** All patients over 18 years of age who presented to the Accident and Emergency Department of the hospital with traumatic brain injury and had a CT scan performed within four hours of the injury were included in the study. A predesigned proforma was used to note down patient findings. CT scan findings were classified as subdural hematoma (SDH), intraparenchymal contusion (IPC) extradural hematoma (EDH) and subarachnoid hemorrhage (SAH). A repeat CT scan was performed twelve hours after the initial CT scan. Data were analyzed using IBM SPSS version 20.0, mean and frequencies were calculated for continuous variables while frequencies and percentages were calculated for categorical variables. **Results:** Of the n= 110 patients in our study 79 were males and 31 were female, the mean age of the patients was 34.25 years. The Glasgow Coma Scale scores at the time of arrival were between thirteen and fifteen for n= 33 (30%) of the patients, between nine and twelve for n= 54 (49.09%) of the patients, less than and equal to eight for n= 23 (20.90%) of the patients. Subarachnoid hemorrhage was present in n= 32 (29.09%) patients, intraparenchymal hematoma was present in n= 42 (38.18%) of the patients, while subdural hematoma and epidural hematoma was present in n= 14 (12.72%) and n= 22 (20%) of the patients respectively. Progressive hemorrhagic injury was found in n= 66 (60%) of the patients, while in n= 11 (10%) of the patients there was resolution of the lesion and n= 33 (33%) of the patients showed no observable changes in the repeat CT scan. Finally, our results indicate that of the 110 patients in our study PHI was seen in n= 17 (53.12%) patients with SAH, n= 18 (81.81%) patients of EDH, n= 5 (35.71%) patients of SDH and n= 26 (61.90%) patients of IPC respectively. **Conclusion:** According to the results of our study PHI is observed in 60% of the patients with a traumatic brain injury observed within the initial 12 hours after injury, and epidural hematoma and intraparenchymal contusions had the highest incidences of PHI among all the different types of traumatic brain injuries.

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38. PREVALENCE OF TRACHOMA IN PAKISTAN: RESULTS OF 42 POPULATION-BASED PREVALENCE SURVEYS FROM THE GLOBAL TRACHOMA MAPPING PROJECT

Journal Of Ophthalmic Epidemiology

Authors: Asad Aslam Khan, Victor V. Florea, Arif Hussain, Zahid Jadoon, Sophie Boisson, Rebecca Willis, Michael Dejene, Ana Bakhtiari, Caleb Mpyet, Alexandre L. Pavluck, Munazza Gillani, Babar Qureshi & Anthony W. Solomon

Region / country: Southern Asia - Pakistan

Speciality: Ophthalmology

Purpose: Previous phases of trachoma mapping in Pakistan completed baseline surveys in 38 districts. To help guide national trachoma elimination planning, we set out to estimate trachoma prevalence in 43 suspected-endemic evaluation units (EUs) of 15 further districts. **Methods:** We planned a population-based trachoma prevalence survey in each EU. Two-stage cluster sampling was employed, using the systems and approaches of the Global Trachoma Mapping Project. In each EU, residents aged ≥ 1 year living in 30 households in each of 26 villages were invited to be examined by trained, certified trachoma graders. Questionnaires and direct observation were used to evaluate household-level access to water and sanitation. **Results:** One EU was not completed due to insecurity. Of the remaining 42, three EUs had trichiasis prevalence estimates in ≥ 15 -year-olds $\geq 0.2\%$, and six (different) EUs had prevalence estimates of trachomatous inflammation—follicular (TF) in 1-9-year-olds $\geq 5\%$; each EU requires trichiasis and TF prevalence estimates below these thresholds to achieve elimination of trachoma as a public health problem. All six EUs with TF prevalences $\geq 5\%$ were in Khyber Pakhtunkhwa Province. Household-level access to improved sanitation ranged by EU from 6% to 100%. Household-level access to an improved source of water for face and hand washing ranged by EU from 37% to 100%. **Conclusion:** Trachoma was a public health problem in 21% (9/42) of the EUs. Because the current outbreak of extremely drug-resistant typhoid in Pakistan limits domestic use of azithromycin mass drug administration, other interventions against active trachoma should be considered here.

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39. RISING TRENDS IN IATROGENIC UROGENITAL FISTULA: A NEW CHALLENGE

International Journal Of Gynecology & Obstetrics

Authors: Nasira Tasnim , Kauser Bangash, Oreekha Amin, Sobia Luqman , Hadia Hina

Region / country: Southern Asia - Pakistan

Speciality: Obstetrics and Gynaecology

Objective: To analyze trends in iatrogenic urogenital fistula among patients admitted for fistula repair at the Pakistan Institute of Medical Sciences, Islamabad.

Methods: In this longitudinal study, all patients who presented for fistula repair between 2006 and 2018 were included in the study. Patient data were collected on age, parity, and type and etiology of fistula, which was classified as ischemic or iatrogenic.

Results: Of 634 fistula patients, 371 (58.5%) had iatrogenic fistula, while 263 (41.5%) patients developed ischemic fistula due to obstructed labor. Mean age of patients was 31.6 years. Yearly trends showed an increase in iatrogenic fistula from 43.2% in 2006-2008 to 71.4% in 2017-2018. The major etiological contributor to iatrogenic fistula was hysterectomy (52.5%), followed by cesarean hysterectomy (26.4%), and cesarean delivery (19.9%).

Conclusion: A rising trend in iatrogenic fistula was observed. This emphasizes the need for optimization of surgical approaches and surgical skills. Moreover, gynecologic surgeries should be restricted to authorized gynecologic surgeons.

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