



**SURGERY
RESEARCH**

**INDEX COLLECTIONS
GLOBAL SURGERY:
INDIA
2020**

INTERACTIVE PDF SERIES

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

ABOUT THE ONE.SURGERY INDEX

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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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CONTENTS

1. HIGH PREVALENCE OF ANTIBIOTIC-RESISTANT GRAM-NEGATIVE BACTERIA CAUSING SURGICAL SITE INFECTION IN A TERTIARY CARE HOSPITAL OF NORTHEAST INDIA

Cureus Journal Of Medical Science - Sangeeta Deka, Deepjyoti Kalita, Putul Mahanta, Dipankar Baruah

2. BARRIERS AND FACILITATORS OF LAPAROSCOPIC SURGICAL TRAINING IN RURAL NORTH-EAST INDIA: A QUALITATIVE STUDY

International Journal Of Surgery: Global Health - Ellen Wilkinson, Noel Aruparayil, Jesudian Gnanaraj, Anurag Mishra, Lovenish Bains, William Bolton, Julia Brown, David Jayne

3. FRUGAL INNOVATIONS THAT HELPED MISSION HOSPITALS MANAGE DURING THE PANDEMIC AND FURTHER SUGGESTIONS

Gnanaraj Jesudian A, Kevin Gnanaraj B, Biju Islaryc, Botoho Sumid, George Mathew - Gnanaraj Jesudian, Kevin Gnanaraj, Biju Islaryc, Botoho Sumid, George Mathew

4. DESIGNING FOR HEALTH ACCESSIBILITY: CASE STUDIES OF HUMAN-CENTERED DESIGN TO IMPROVE ACCESS TO CERVICAL CANCER SCREENING

Escholarship - Berkeley, University Of California - Kramer, Julia

5. DOES IN-HOSPITAL TRAUMA MORTALITY IN URBAN INDIAN ACADEMIC CENTRES DIFFER BETWEEN "OFFICE-HOURS" AND "AFTER-HOURS"?

Journal Of Critical Care - Kapil Dev Soni, Monty Khajanchi, Nakul Raykar, Bhakti Sarang, Gerard M.o'reilly, Satish Dharap, Peter Cameron, Naveen Sharma, Teresa Howard, Nathan Farrow, Nobhojit Roy

6. AN EXPLORATORY QUALITATIVE STUDY OF THE PREVENTION OF ROAD TRAC COLLISIONS AND NEUROTRAUMA IN INDIA: PERSPECTIVES FROM KEY INFORMANTS IN AN INDIAN INDUSTRIAL CITY (VISAKHAPATNAM)

Research Square - Santhani M Selveindran, Gurusinghe Samarutilake, K Madhu Narayana Rao, Jogi Patisappu, Christine Hill, Angelos Koliass, Rajesh Pathi, Peter Hutchinson, N Vijayasekhar

7. MANAGEMENT OF LIVER TRAUMA IN URBAN UNIVERSITY HOSPITALS IN INDIA: AN OBSERVATIONAL MULTICENTRE COHORT STUDY

World Journal Of Emergency Surgery - Yash Sinha, Monty U Khajanchi, Ramlal P Prajapati, Satish Dharap, Kapil Dev Soni, Vineet Kumar, Santosh Mahindrakar, Nobhojit Roy

8. LETTER TO EDITOR: "ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, DEEP LEARNING AND BIG DATA ANALYTICS FOR RESOURCE OPTIMIZATION IN SURGERY"

Indian Journal Of Surgery - Vikesh Agrawal, Dhananjaya Sharma & Sanjay Kumar Yadav

9. ROAD TRAFFIC ACCIDENT RESEARCH IN INDIA: A SCIENTOMETRIC STUDY FROM 1977 TO 2020

Digitalcommons@University Of Nebraska - Jayaprakash G. Hugar, Mirza Muhammad Naseer, Abu Waris, Muhammad Ajmal Khan

10. SAFE LAPAROSCOPY IN LOW AND MIDDLE INCOME COUNTRIES BY REDUCING SURGICAL SITE INFECTIONS THROUGH LAPAROSCOPIC INSTRUMENT CLEANING

Tudelft - Girish Malage

11. AN ANALYSIS OF 30-DAY IN-HOSPITAL TRAUMA MORTALITY IN FOUR URBAN UNIVERSITY HOSPITALS USING THE AUSTRALIA INDIA TRAUMA REGISTRY

World Journal Of Surgery - Prashant Bhandarkar, Priti Patil, Kapil Dev Soni, Gerard M. O'reilly, Satish Dharap, Joseph Mathew, Naveen Sharma, Bhakti Sarang, Anita Gadgil, Nobhojit Roy

12. ESTIMATION OF THE NATIONAL SURGICAL NEEDS IN INDIA BY ENUMERATING THE SURGICAL PROCEDURES IN AN URBAN COMMUNITY UNDER UNIVERSAL HEALTH COVERAGE

World Journal Of Surgery - Prashant Bhandarkar, Anita Gadgil, Priti Patil, Monali Mohan & Nobhojit Roy

13. EVALUATION OF PORTABLE TABLET-BASED AUDIOMETRY IN A SOUTH INDIAN POPULATION

Indian Journal Of Otolaryngology And Head & Neck Surgery - Sreeya Yalamanchali, Rita Ruby Albert, Hinrich Staecker, Rohit Nallani, P Naina & Kevin J Sykes

14. PALLIATIVE SURGERY IN GASTROINTESTINAL MALIGNANCY: EXPERIENCE FROM A REGIONAL CANCER CENTRE

International Surgery Journal - Prafulla Kumar Das, Kalyan Pandey, Padmalaya Deavi, Swodeep Mohanty, Kunal Goutam, Subrat Samantara, Bharat Bhushan Satpathy, Nilesh B. Patil, Subhranshu Lekha

15. TOWARDS A FRAMEWORK APPROACH TO INTEGRATING PATHWAYS FOR INFECTION PREVENTION AND ANTIBIOTIC STEWARDSHIP IN SURGERY: A QUALITATIVE STUDY FROM INDIA AND SOUTH AFRICA

Research Square - Singh S, Mendelson M, Surendran S, Bonaconsa C, Mbamalu O, Nampoothiri V, Boutall A, Hampton M, Dhar P, Pennel T, Tarrant C, Leather A, Holmes A, Charani E

16. CONTINUING EDUCATION FOR PREHOSPITAL HEALTHCARE PROVIDERS IN INDIA - A NOVEL COURSE AND CONCEPT

Open Access Emerg Med - Benjamin D Lindquist, Kathryn W Koval, Peter C Acker, Corey B Bills, Ayesha Khan, Sybil Zachariah, Jennifer A Newberry, G V Ramana Rao, Swaminatha V Mahadevan, And Matthew C Strehlow

17. A NOVEL AND SIMPLE TECHNIQUE OF RECONSTRUCTING THE CENTRAL ARCH MANDIBULAR DEFECTS-A SOLUTION DURING THE RESOURCE-CONSTRAINED SETTING OF COVID CRISIS

Indian Journal Of Surgical Oncology - Shiv Rajan, Naseem Akhtar, Vijay Kumar, Sameer Gupta, Sanjeev Misra, Arun Chaturvedi, Puneet Prakash, And Tashbihul Azhar

18. EVALUATION OF GASLESS LAPAROSCOPY AS A TOOL FOR MINIMAL ACCESS SURGERY IN LOW-TO MIDDLE-INCOME COUNTRIES: A PHASE II NON-INFERIORITY RANDOMIZED CONTROLLED STUDY

J Am Coll Surg - Anurag Mishra, Lovenish Bains, Gnanaraj Jesudin, Noel Aruparayil, Rajdeep Singh, Shashi

19. ANTIBIOTIC PRESCRIBING TO PATIENTS WITH INFECTIOUS AND NON-INFECTIOUS INDICATIONS ADMITTED TO OBSTETRICS AND GYNAECOLOGY DEPARTMENTS IN TWO TERTIARY CARE HOSPITALS IN CENTRAL INDIA

Antibiotics - Anna Machowska, Kristoffer Landstedt ,Cecilia Stålsby Lundborg, Megha Sharma

20. TRAUMATIC BRAIN INJURY IN MUMBAI: A SURVEY OF PROVIDERS ALONG THE CARE CONTINUUM

Asian Journal Of Neurosurgery - Saksham Gupta, Monty Khajanchi, Harris Solomon, Nakul P. Raykar, Blake C. Alkire, Nobhojit Roy, Kee B. Park, And Vineet Kumar

21. SYSTEMATIC REVIEW OF BARRIERS TO, AND FACILITATORS OF, THE PROVISION OF HIGH-QUALITY MIDWIFERY SERVICES IN INDIA

Birth - Alison Mcfadden Rm Phd, Sunanda Gupta Mbbs Ms Mph, Joyce L. Marshall Rm Mph Phd, Shona Shinwell Rm Msc, Bharati Sharma Phd, Fran Mcconville Srn Scm Ma , Steve Macgillivray Phd

22. RESUMING ELECTIVE SURGERIES IN CORONA PANDEMIC FROM THE PERSPECTIVE OF A DEVELOPING COUNTRY

Journal Of Pediatric And Adolescent Surgery - Yogesh Kumar Sarin

23. RESURGENCE OF "BOW AND ARROW" RELATED OCULAR TRAUMA: COLLATERAL DAMAGE ARISING FROM COVID-19 LOCKDOWN IN INDIA?

Indian Journal Of Ophthalmology - Maneesh M Bapaye , Akshay Gopinathan Nair , Pankaj P Mangulkar , Charuta M Bapaye , Meena M Bapaye

24. ALL INDIA OPHTHALMOLOGICAL SOCIETY - OCULOPLASTICS ASSOCIATION OF INDIA CONSENSUS STATEMENT ON PREFERRED PRACTICES IN OCULOPLASTY AND LACRIMAL SURGERY DURING THE COVID-19 PANDEMIC

Indian Journal Of Ophthalmology - Mohammad Javed Ali , Raghuraj Hegde , Akshay Gopinathan Nair , Mandeep S Bajaj , Subhash M Betharia , Kasturi Bhattacharjee , Apjit K Chhabra , Jayanta K Das , Gagan Dudeja , Ashok K Grover , Santosh G Honavar , Usha Kim , Lakshmi Mahesh , Bipasha Mukherjee , Anita Sethi , Mukesh Sharma , Usha Singh

25. ASSESSMENT OF EUSTACHIAN TUBE FUNCTIONING FOLLOWING SURGICAL INTERVENTION OF ORAL SUBMUCUS FIBROSIS BY USING TYMPANOMETRY & AUDIOMETRY

Journal Of Oral Biology And Craniofacial Research - Sreea Roy , Abhay Taranath Kamath , Manish Bhagania , Adarsh Kudva , Kishan Madikeri Mohan

26. THE IMPACT OF CLEFT LIP/PALATE AND SURGICAL INTERVENTION ON ADOLESCENT LIFE OUTCOMES: EVIDENCE FROM OPERATION SMILE IN INDIA

Uc Berkeley: Center For Effective Global Action – Wydick, Brucezahid, Mustafamanning, Sammaller, Jeremiahevsanaa, Kiraskjoldhorne, Susannbloom, Matthewdas, Abhishekdeshpande, Gaurav

27. COVID 19 AND LAPAROSCOPIC SURGEONS, THE INDIAN SCENARIO - PERSPECTIVE

International Journal Of Surgery – Nikhil Gupta , Himanshu Agrawal

28. URO-ONCOLOGY IN TIMES OF COVID-19: THE AVAILABLE EVIDENCE AND RECOMMENDATIONS IN THE INDIAN SCENARIO

Indian Journal Of Cancer – Tushar A Narain , Gagan Gautam , Amlesh Seth , Vikas K Panwar , Sudhir Rawal , Puneet Dhar , Harkirat S Talwar , Amitabh Singh , Jiten Jaipuria , Ankur Mittal

29. IMPLEMENTING ANTIMICROBIAL STEWARDSHIP TO REDUCE SURGICAL SITE INFECTIONS: EXPERIENCE AND CHALLENGES FROM TWO TERTIARY-CARE HOSPITALS IN MUMBAI, INDIA.

Journal Of Global Antimicrobial Resistance – Bhakht Sarang, Anurag Tiwary, Anita Gadgil, Nobhojit Roy

30. IS QUALITY OF LIFE AFTER MASTECTOMY COMPARABLE TO THAT AFTER BREAST CONSERVATION SURGERY? A 5-YEAR FOLLOW UP STUDY FROM MUMBAI, INDIA

Quality Of Life Research – K V Deepa , A Gadgil , Jenny Löfgren , S Mehare , Prashant Bhandarkar , N Roy

31. 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 – 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, Koliass A, Hutchinson P; Global Neurotrauma Outcomes Study (Gnos) Collaborative.

32. COMPARISON OF EMERGENCY DEPARTMENT TRAUMA TRIAGE PERFORMANCE OF CLINICIANS AND CLINICAL PREDICTION MODELS: A COHORT STUDY IN INDIA

Bmj Open – Ludvig Wärnberg Gerdin, Monty Khajanchi, Vineet Kumar, Nobhojit Roy, Makhan Lal Saha, Kapil Dev Soni, Anurag Mishra, Jyoti Kamble, Nitin Borle, Chandrika Prasad Verma, Martin Gerdin Wärnberg

33. IMPACT OF DELAYING SURGERY AFTER CHEMORADIATION IN RECTAL CANCER: OUTCOMES FROM A TERTIARY CANCER CENTRE IN INDIA

Journal Of Gastrointestinal Oncology – Praveen Kammar, Aditi Chaturvedi, Masillamany Sivasanker, Ashwin De'souza, Reena Engineer, Vikas Ostwal, Avanish Saklani

1. HIGH PREVALENCE OF ANTIBIOTIC-RESISTANT GRAM-NEGATIVE BACTERIA CAUSING SURGICAL SITE INFECTION IN A TERTIARY CARE HOSPITAL OF NORTHEAST INDIA

Cureus Journal Of Medical Science

Authors: Sangeeta Deka, Deepjyoti Kalita, Putul Mahanta, Dipankar Baruah

Region / country: Southern Asia - India

Speciality: General surgery, Obstetrics and Gynaecology, Trauma and orthopaedic surgery

Background and objective

Surgical site infections (SSI) are the most common healthcare-associated infections in low- and middle-income countries associated with substantial morbidity and mortality and impose heavy demands on healthcare resources. We aimed to study the microbiological profile of SSI pathogens and their antibiotic-resistant patterns in a tertiary care teaching hospital serving mostly rural population

Methods

A prospective, hospital-based cross-sectional study on pathogen profile and drug resistance was conducted from January 2015 to December 2016. Study subjects were the patients who developed signs of SSI after undergoing surgical procedures at three surgical wards (General Surgery, Orthopedics, and Obstetrics & Gynecology). The selection of the patients was based on CDC Module. Standard bacteriological methods were applied for isolation of pathogens and antibiotic-susceptibility testing based on CLSI (Clinical Laboratory Standard Institute) guidelines.

Results

Out of 518 enrolled subjects, 197 showed growth after aerobic culture yielding 228 pathogen isolates; 12.2% of samples showed polymicrobial growth. *Escherichia coli* (22.4%) and *Klebsiella* species (20.6%) were the predominant isolated bacteria followed by *Staphylococcus* species (18.4%), *Pseudomonas* species (12.3%), and *Enterococcus* species (6.6%). Gram-negative bacteria (GNB) were highly resistant to ampicillin (90.1%) and cefazolin (85.9%). High resistance was also observed to mainstay drugs like ceftriaxone (48.4%), cefepime (61%), amoxicillin-clavulanic acid (43.4%), and ciprofloxacin/levofloxacin (37.7%). Among the Gram-positive cocci, *Staphylococcus aureus* showed 85-96% resistance to penicillin and 65-74% to ampicillin. But GPCs were relatively less resistant to quinolones (16-18%) and macrolides (21.5%). *S. aureus* was 100% sensitive to vancomycin and clindamycin but vancomycin-resistant *Enterococci* was encountered in 3/15 (20%) isolates.

Conclusion

GNBs were responsible for more than two-thirds of aerobic-culture positive SSI and showed high resistance to the commonly used antibiotics thus leaving clinicians with few choices. This necessitates periodic surveillance of causative organisms and their antibiotic-susceptibility pattern to help in formulating hospital antibiotic policy. The antibiotic stewardship program is yet to be adopted in our hospital.

[FULL ARTICLE @ JOURNAL SITE](#) | [DISCUSS THIS ARTICLE @ ONE.SURGERY](#) | [BACK TO PDF CONTENTS](#)

2. BARRIERS AND FACILITATORS OF LAPAROSCOPIC SURGICAL TRAINING IN RURAL NORTH-EAST INDIA: A QUALITATIVE STUDY

International Journal Of Surgery: Global Health

Authors: Ellen Wilkinson, Noel Aruparayil, Jesudian Gnanaraj, Anurag Mishra, Lovenish Bains, William Bolton, Julia Brown, David Jayne

Region / country: South-eastern Asia - India

Speciality: General surgery, Other

Introduction:

Laparoscopic surgery has advantages for treating many abdominal surgical conditions, but its use in low and middle-income countries (LMICs) is limited by many factors, including a lack of training opportunities. The aim of this study was to explore the training experiences of surgeons in rural north-east India to highlight the barriers and facilitators to laparoscopic surgery.

Methods:

Eleven surgeons with experience in laparoscopy in rural north-east India were recruited using purposive and convenience sampling. Ethical approval was obtained from the Institutional Ethics Committee, Maulana Azad Medical College, New Delhi, India and the Leeds Institute of Health Sciences Research Ethics Sub-Committee, West Yorkshire, England. Consenting participants took part in semi-structured interviews, either between May 20 and 25, 2019 in rural north-east India or via Skype or at the University of Leeds in June 2019. Interviews were audio-recorded and transcribed and thematic content analysis performed.

Results:

Exposure to laparoscopy during postgraduate training was common, but training experiences were inconsistent and informal. Alternative training opportunities are limited by availability and cost. There is high demand for a structured curriculum, incorporating formal assessment and credentialing, to include observation and assistance in live surgery and laparoscopic simulation.

Conclusions:

Laparoscopic training experiences are highly variable, with limited training resources and lack of a curriculum. Poor accessibility is consistent with that recorded in literature. Current recommendations include government support and funding to guide development of a standardized curriculum and widen access to training programs for surgeons in rural settings.

[FULL ARTICLE @ JOURNAL SITE](#) | [DISCUSS THIS ARTICLE @ ONE.SURGERY](#) | [BACK TO PDF CONTENTS](#)

3. FRUGAL INNOVATIONS THAT HELPED MISSION HOSPITALS MANAGE DURING THE PANDEMIC AND FURTHER SUGGESTIONS

Gnanaraj Jesudian A, Kevin Gnanaraj B, Biju Islaryc, Botoho Sumid, George Mathew

Authors: Gnanaraj Jesudian, Kevin Gnanaraj, Biju Islaryc, Botoho Sumid, George Mathew

Region / country: Southern Asia - India

Speciality: Other, Surgical Education, Urology surgery

The COVID-19 pandemic with the suddenly announced lockdown in India caused great stress to already resource-constrained rural mission hospitals. Frugal innovations helped some of the mission hospitals cope with the lockdown and resume regular work. Personal Protective Equipment was made locally and staff were trained to take care of the infected patients. Cell phones and the zoom app helped them with communications. The Gas Insufflation Less Laparoscopic surgical technique helped them perform safe surgeries and allow quicker turnover of patients. The innovative Laptop Cystoscope helped in follow up treatment of patients treated earlier by specialists and for emergency treatment. Empowering local mission hospital doctors and modern communication methods helped these hospitals maintain services during the pandemic.

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4. DESIGNING FOR HEALTH ACCESSIBILITY: CASE STUDIES OF HUMAN-CENTERED DESIGN TO IMPROVE ACCESS TO CERVICAL CANCER SCREENING

Escholarship - Berkeley, University Of California

Authors: Kramer, Julia

Region / country: Central America, Southern Asia - India, Nicaragua

Speciality: Health policy, Obstetrics and Gynaecology, Surgical oncology

Our world faces immense challenges in global health and equity. There continue to be huge disparities in access to health care across geographies, despite the massive strides that have been made to address health issues. In this dissertation, I explore the role of human-centered design to improve global health access and reduce disparities. Human-centered design, a cross-disciplinary creative problem-solving approach, has been applied and studied in both academic research and practice, but its role in improving global health access remains poorly understood. In this dissertation, I present research on designing for health accessibility in the context of one particular disease: cervical cancer. Every year, 300,000 women around the world die of cervical cancer and ninety percent of these deaths occur in low- and middle-income countries. Cervical cancer is an illustrative example of the global disparities in access to health care, given that cervical cancer is preventable and the majority of global cervical cancer mortality is in low- and middle-income countries.

My research examines the work of two organizations that created unique solutions to improve access to cervical cancer screening in India and Nicaragua. I develop case studies of each organization grounded in ethnographic fieldwork, including over 250 hours of observation and 15 interviews over two years. Through these case studies, I show how early efforts to understand the barriers inhibiting cervical cancer screening access allow design practitioners to create novel and feasible ways to address these barriers. This demonstrates the importance of design practitioners considering multiple dimensions of accessibility, including availability, physical accessibility, accommodation, affordability, and acceptability, while conducting design research in order to improve the potential impact of their ideas and prototypes. Overall, this dissertation establishes the foundation of a new paradigm to “design for accessibility” that can inspire further application and research across sectors to address the many social equity and accessibility challenges facing our world.

[FULL ARTICLE @ JOURNAL SITE](#) | [DISCUSS THIS ARTICLE @ ONE.SURGERY](#) | [BACK TO PDF CONTENTS](#)

5. DOES IN-HOSPITAL TRAUMA MORTALITY IN URBAN INDIAN ACADEMIC CENTRES DIFFER BETWEEN “OFFICE-HOURS” AND “AFTER-HOURS”?

Journal Of Critical Care

Authors: Kapil Dev Soni, Monty Khajanchi, Nakul Raykar, Bhakti Sarang, Gerard M.O’Reilly, Satish Dharap, Peter Cameron, Naveen Sharma, Teresa Howard, Nathan Farrow, Nobhojit Roy

Region / country: South-eastern Asia - India

Speciality: Critical care, Emergency surgery, Trauma and orthopaedic surgery, Trauma surgery

Introduction

Trauma services within hospitals may vary considerably at different times across a 24 h period. The variable services may negatively affect the outcome of trauma victims. The current investigation aims to study the effect of arrival time of major trauma patients on mortality and morbidity.

Method

Retrospective analysis of the Australia-India Trauma Systems Collaboration (AITSC) registry established in four public university teaching centres in India Based on hospital arrival time, patients were grouped into “Office-hours” and “After-hours”. Outcome parameters were compared between the above groups.

Results

5536 (68.4%) patients presented “after-hours” (AO) and 2561 (31.6%) during “office-hours” (OH). The in-hospital mortality for “after-hours” and “office-hours” presentations were 12.1% and 11.6% respectively. On unadjusted analysis, there was no statistical difference in the odds of survival for OH versus AH presentations. (OR,1.05, 95% CI 0.9-1.2). Adjusting for potential prognostic factors (injury severity, presence of shock on arrival, referral status, sex, or extremes of age), there was no statistically significant odds of survival for OH versus AH presentations (OR,1.02, 95%CI 0.9-1.2).ICU length of stay and duration of mechanical ventilation was longer in the AH group.

Conclusion

The in-hospital mortality did not differ between trauma patients who arrived during “after-hours” compared to “office-hours”.

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6. AN EXPLORATORY QUALITATIVE STUDY OF THE PREVENTION OF ROAD TRAC COLLISIONS AND NEUROTRAUMA IN INDIA: PERSPECTIVES FROM KEY INFORMANTS IN AN INDIAN INDUSTRIAL CITY (VISAKHAPATNAM)

Research Square

Authors: Santhani M Selveindran, Gurusinghe Samarutilake, K Madhu Narayana Rao, Jogi Patisappu, Christine Hill, Angelos Kolias, Rajesh Pathi, Peter Hutchinson, N Vijayasekhar

Region / country: Southern Asia - India

Speciality: Neurosurgery, Trauma surgery

Background: Despite current preventative strategies, road traffic collisions (RTCs) and resultant neurotrauma remain a major problem in India. This study seeks to explore local perspectives in the context within which RTCs take place and identify potential suggestions for improving the current status.

Methods: Ten semi-structured interviews were carried out with purposively selected key informants from the city of Visakhapatnam, Andhra Pradesh. Participants were from one of the following categories: commissioning stakeholders; service providers; community or local patient group/advocacy group representatives. Transcripts from these interviews were analysed qualitatively using the Framework Method.

Results: Participants felt RTCs are a serious problem in India and a leading cause of neurotrauma. Major risk factors identified related to user behaviour such as speeding and not using personal safety equipment, and the user state, namely drink driving and underage driving. Other reported risk factors included poor infrastructure, moving obstacles on the road, overloaded vehicles and substandard safety equipment. Participants discussed how RTCs affect not only the health of the victim, but are also a burden to the healthcare system, families, and the national economy. Although there are ongoing preventative strategies being carried out by both the government and the community, challenges to successful prevention emerged from the interviews which included resource deficiencies, inconsistent implementation, lack of appropriate action, poor governance, lack of knowledge and the mindset of the community and entities involved in prevention. Recommendations were given on how prevention of RTCs and neurotrauma might be improved, addressing the areas of education and awareness, research, the pre-hospital and trauma systems, enforcement and legislation, and road engineering, in addition to building collaborations and changing mindsets.

Conclusions: RTCs remain a major problem in India and a significant cause of neurotrauma. Addressing the identified gaps and shortfalls in current approaches and reinforcing collective responsibility towards road safety would be the way forward in improving prevention and reducing the burden.

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7. MANAGEMENT OF LIVER TRAUMA IN URBAN UNIVERSITY HOSPITALS IN INDIA: AN OBSERVATIONAL MULTICENTRE COHORT STUDY

World Journal Of Emergency Surgery

Authors: Yash Sinha, Monty U Khajanchi, Ramlal P Prajapati, Satish Dharap, Kapil Dev Soni, Vineet Kumar, Santosh Mahindrakar, Nobhojit Roy

Region / country: South-eastern Asia - India

Speciality: Emergency surgery, General surgery, Trauma and orthopaedic surgery, Trauma surgery

Background

Low- and middle-income countries (LMICs) contribute to 90% of injuries occurring in the world. The liver is one of the commonest organs injured in abdominal trauma. This study aims to highlight the demographic and management profile of liver injury patients, presenting to four urban Indian university hospitals in India.

Methods

This is a retrospective registry-based study. Data of patients with liver injury either isolated or concomitant with other injuries was used using the ICD-10 code S36.1 for liver injury. The severity of injury was graded based on the World Society of Emergency Surgery (WSES) grading for liver injuries.

Results

A total of 368 liver injury patients were analysed. Eighty-nine percent were males, with road traffic injuries being the commonest mechanism. As per WSES liver injury grade, there were 127 (34.5%) grade I, 96 (26.1%) grade II, 70 (19.0%) grade III and 66 (17.9%) grade IV injuries. The overall mortality was 16.6%. Two hundred sixty-two patients (71.2%) were managed non-operatively (NOM), and 106 (38.8%) were operated. 90.1% of those managed non-operatively survived.

Conclusion

In this multicentre cohort of liver injury patients from urban university hospitals in India, the commonest profile of patient was a young male, with a blunt injury to the abdomen due to a road traffic accident. Success rate of non-operative management of liver injury is comparable to other countries.

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8. LETTER TO EDITOR: “ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, DEEP LEARNING AND BIG DATA ANALYTICS FOR RESOURCE OPTIMIZATION IN SURGERY”

Indian Journal Of Surgery

Authors: Vikesh Agrawal, Dhananjaya Sharma & Sanjay Kumar Yadav

Region / country: South-eastern Asia - India

Speciality: Health policy

Dear Editor,

Health care delivery in the pandemic is heavily disrupted. There are high stakes and economic implications are huge especially in more vulnerable low and middle-income group countries (LMICs). It is even more imperative now that we optimize our resources. Artificial intelligence (AI) and its exploits should now be requisitioned. Two subsets of AI are machine learning (ML) which in turn enables deep learning (DL). Big data are analyzed [1]. Such tasks are complex and will require yeoman efforts both on the parts individuals and governments. The respective state and central governments will provide regulatory sanctions. Preparations into big data analysis, machine learning leading to deep learning is likely to save resources. The current pandemic has amply shown this and should prompt us to invest in AI. Efforts and investment in deep learning should be translational in resource allocation and resource triage even during normal settings.

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9. ROAD TRAFFIC ACCIDENT RESEARCH IN INDIA: A SCIENTOMETRIC STUDY FROM 1977 TO 2020

Digitalcommons@University Of Nebraska

Authors: Jayaprakash G. Hugar, Mirza Muhammad Naseer, Abu Waris, Muhammad Ajmal Khan

Region / country: Southern Asia - India

Speciality: Emergency surgery, Trauma and orthopaedic surgery, Trauma surgery

This study carried out the scientometric analysis of road traffic accident research in India from 1977 to 2020. It aimed to examine type of publications with their citations and usage, the year wise publication and citation growth, most preferred journals, authors' preference of keywords used, collaboration of Indian authors, authorship pattern and most prolific authors, and top contributing organizations. During 44 years of study, 1,132 research items were published and indexed in Web of Science (WoS) bibliographic database. Analysis discovered that number of publications increased from one (0.08%) in 1977 to 182 (16.07%) in 2018 and observed good progress in scholarly literature.

Majority of scholarly publications were published in the form of article (740, 65.37%). From 2006 to 2018, number of publications increased rapidly from 11 (0.97%) to 182 (16.07%) publications, which was the most productive year for the researchers. On an average 25.73 documents were published per year and received 392.95 citations per year. Journal of Evaluation of Medical and Dental Sciences published majority of the publications (108, 30.50%). The word "Trauma" was the most frequently used keyword. Majority of publications (83.38%) on road traffic accidents (RTA) were written by the Indian authors individually or with local collaboration. Majority of the publications (1,081, 95.49%) were written by multiple authors while 51 publications (4.51%) were from single author. Most prolific authors were Tiwari, G. and Mohan, D. with 18 publications each. The Indian Institute of Technology was highly contributing organization, which published 120 documents (10.60%).

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10. SAFE LAPAROSCOPY IN LOW AND MIDDLE INCOME COUNTRIES BY REDUCING SURGICAL SITE INFECTIONS THROUGH LAPAROSCOPIC INSTRUMENT CLEANING

Tudelft

Authors: Girish Malage

Region / country: Southern Asia - India

Speciality: General surgery

Access to safe and affordable surgery is nothing short of a basic human right and people from all walks of life are entitled to it. But, five people from resource-constrained low and middle-income countries are vulnerable and left to fend for themselves when the need for surgery is a life governing event. Inhabitants of these regions are scourged by high mortality and morbidity due to surgical infection caused by the use of unclean and unsterile surgical instruments. Reduction in infections can be achieved by using clean and sterile surgical instruments. Laparoscopy, is a promising technique of surgery developed to efficiently perform complex abdominal surgeries with the use of small and minimum incisions on the patient. Laparoscopy's minimally invasive nature allows complex surgeries to take place without the need of an absolutely sterile operating room, although the sterility of the surgical instruments cannot be compromised. The added benefit of faster recovery from smaller wounds makes it even more desirable for this context. The Minimally Invasive Surgery and Interventional Techniques Lab of the TU Delft has initiated projects addressing the health and well-being of resource-constrained, underdeveloped communities like rural India through frugal innovation. Rural Indian hospitals are grossly underfunded, under-maintained, and understaffed. Sterile processing practices in rural India are rudimentary compared to high-income hospitals like the ones in the Netherlands. In high-income hospitals, all used surgical instruments are cleaned and sterilized in dedicated central sterile processing departments (CSSD) by highly trained and well protected sterile processing technicians. However, rural India usually employs small teams of local undertrained and semi-literate nurses to carry out every primary and ancillary duty in the hospital. The lack of dedicated CSSDs exacerbates the nurse's workload and exposure to harmful pathogenic surgical instruments. Laparoscopic instruments developed in high-income nations are seldom designed keeping low resource contexts in mind. The geometrical complexity of instruments keeps increasing but cleaning methods in rural India have stagnated. Resource constraints are a major reason as to why proper international and national guidelines for reprocessing cannot be followed. Hence hospitals cannot guarantee 100% safe and sterile instruments as compared so standardized outcomes in high-income hospitals. In this graduation project, the distinct reprocessing journey of surgical instruments for the two diverse economic contexts were studied. A comparative analysis of both reprocessing journeys uncovered severe unsafe and unfavorable practices in rural India. Significant data and insights from the research have hence paved the way for focusing on the "Cleaning" stage of the laparoscopic instrument reprocessing journey in rural India. This MSc graduation project aims at designing a frugal solution for cleaning and repurposing laparoscopic instruments, dedicated to hospitals in rural India where the demand for laparoscopy is high but surgeries are less due to resource constraints like lack of laparoscopic instruments and repurposing devices. The involvement of an Indian nurse and laparoscopic surgeon provided first-hand information about the problems and requirements in the rural Indian context. Prototyping and testing of various cleaning setups were conducted to extract the most viable design solution. Insights from the research and testing were combined into the concept design of a frugal mechanical washer and subsequently an "Envisioned Reprocessing Journey" for rural Indian hospitals to suggest a standard protocol for keeping most of their existing infrastructure in mind. Evaluations with the Indian nurse revealed that this device could indeed be a game-changer to the existing practices of reprocessing laparoscopic instruments in rural India.

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11. AN ANALYSIS OF 30-DAY IN-HOSPITAL TRAUMA MORTALITY IN FOUR URBAN UNIVERSITY HOSPITALS USING THE AUSTRALIA INDIA TRAUMA REGISTRY

World Journal Of Surgery

Authors: Prashant Bhandarkar, Priti Patil, Kapil Dev Soni, Gerard M. O'Reilly, Satish Dharap, Joseph Mathew, Naveen Sharma, Bhakti Sarang, Anita Gadgil, Nobhojit Roy

Region / country: South-eastern Asia - India

Speciality: Trauma and orthopaedic surgery, Trauma surgery

Background

India has one-sixth (16%) of the world's population but more than one-fifth (21%) of the world's injury mortality. A trauma registry established by the Australia India Trauma Systems Collaboration (AITSC) Project was utilized to study 30-day in-hospital trauma mortality at high-volume Indian hospitals.

Methods

The AITSC Project collected data prospectively between April 2016 and March 2018 at four Indian university hospitals in New Delhi, Mumbai, and Ahmedabad. Patients admitted with an injury mechanism of road or rail-related injury, fall, assault, or burns were included. The associations between demographic, physiological on-admission vitals, and process-of-care parameters with early (0-24 h), delayed (1-7 days), and late (8-30 days) in-hospital trauma mortality were analyzed.

Results

Of 9354 patients in the AITSC registry, 8606 were subjected to analysis. The 30-day mortality was 12.4% among all trauma victims. Early (24-h) mortality was 1.9%, delayed (1-7 days) mortality was 7.3%, and late (8-30 days) mortality was 3.2%. Abnormal physiological parameters such as a low SBP, SpO₂, and GCS and high HR and RR were observed among non-survivors. Early initiation of trauma assessment and monitoring on arrival was an important process of care indicator for predicting 30-day survival.

Conclusions

One in ten admitted trauma patients (12.4%) died in urban trauma centers in India. More than half of the trauma deaths were delayed, beyond 24 h but within one week following injury. On-admission physiological vital signs remain a valid predictor of early 24-h trauma mortality.

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12. ESTIMATION OF THE NATIONAL SURGICAL NEEDS IN INDIA BY ENUMERATING THE SURGICAL PROCEDURES IN AN URBAN COMMUNITY UNDER UNIVERSAL HEALTH COVERAGE

World Journal Of Surgery

Authors: Prashant Bhandarkar, Anita Gadgil, Priti Patil, Monali Mohan & Nobhojit Roy

Region / country: Southern Asia - India

Speciality: General surgery, Obstetrics and Gynaecology, Trauma and orthopaedic surgery, Trauma surgery

Background

11% of the global burden of disease requires surgical care or anaesthesia management or both. Some studies have estimated this burden to be as high as 30%. The Lancet Commission for Global Surgery (LCoGS) estimated that 5000 surgeries are required to meet the surgical burden of disease for 100,000 people in LMICs. Studies from LMICs, estimating surgical burden based on enumeration of surgeries, are sparse.

Method

We performed this study in an urban population availing employees' health scheme in Mumbai, India. Surgical procedures performed in 2017 and 2018, under this free and equitable health scheme, were enumerated. We estimated the surgical needs for national population, based on age and sex distribution of surgeries and age standardization from our cohort.

Result

A total of 4642 surgeries were performed per year for a population of 88,273. Cataract (22.8%), Caesareans (3.8%), surgeries for fractures (3.27%) and hernia (2.86%) were the commonest surgeries. 44.2% of surgeries belonged to the essential surgeries. We estimated 3646 surgeries would be required per 100,000 Indian population per year. One-third of these surgeries would be needed for the age group 30-49 years, in the Indian population.

Conclusion

A total of 3646 surgeries were estimated annually to meet the surgical needs of Indian population as compared to the global estimate of 5000 surgeries per 100,000 people. Caesarean section, cataract, surgeries for fractures and hernia are the major contributors to the surgical needs. More enumeration-based studies are needed for better estimates from rural as well as other urban areas.

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13. EVALUATION OF PORTABLE TABLET-BASED AUDIOMETRY IN A SOUTH INDIAN POPULATION

Indian Journal Of Otolaryngology And Head & Neck Surgery

Authors: Sreeya Yalamanchali, Rita Ruby Albert, Hinrich Staecker, Rohit Nallani, P Naina & Kevin J Sykes

Region / country: South-eastern Asia - India

Speciality: ENT surgery

While a comprehensive booth audiogram is the gold standard for diagnosis of hearing loss, access to this may not be available in remote and low resource settings. The aims of this study were to validate a tablet-based audiometer in a tertiary medical center in India and explore its capacity in improving access to hearing healthcare. Subjects presenting to Ear-Nose-Throat clinics for conventional booth audiometry testing were recruited for subsequent tablet-based audiometric testing. Testing with the tablet was conducted in a non-sound-treated hospital clinic room. Bilateral air and bone conduction hearing threshold data from 250 through 4000 Hz were validated against conventional booth audiometry. In addition, a small feasibility study was conducted in rural clinics. 70 participants (37 adults and 33 children between the ages 5-18) were assessed. 69% were male, with a mean age of 29.7 years. Sensitivity and specificity for the tablet were 89% (95% CI 80-94%) and 70% (95% CI 56-82%), respectively. While median differences in air conduction thresholds between conventional and tablet audiograms showed statistical significance at 250, 500, and 1000 Hz ($p < 0.001$), the threshold results of the tablet audiometer were within 5 dB of the conventional audiogram and not clinically significant. Ten patients were successfully screened in rural clinics with tablet audiometry. Tablet portable audiometry is a valid tool for air and bone conduction threshold assessment outside of conventional sound booths. It can accurately identify hearing impairment and offers a screening tool for hearing loss in low resource settings.

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14. PALLIATIVE SURGERY IN GASTROINTESTINAL MALIGNANCY: EXPERIENCE FROM A REGIONAL CANCER CENTRE

International Surgery Journal

Authors: Prafulla Kumar Das, Kalyan Pandey, Padmalaya Deavi, Swodeep Mohanty, Kunal Goutam, Subrat Samantara, Bharat Bhushan Satpathy, Nilesh B. Patil, Subhranshu Lekha

Region / country: South-eastern Asia - India

Speciality: General surgery, Surgical oncology

Background: With so much burden of advanced incurable disease, the role of palliative surgery is paramount for gastrointestinal malignancies improving quality of life. Aim of the study was to study the indications, risks and outcome of palliative surgeries in gastrointestinal malignancies, the burden of disease requiring palliative surgery, and to describe strategies to improve end of life care.

Methods: All the patients diagnosed with gastrointestinal malignancy and who underwent palliative surgery between January 2017 and December 2017 were analysed.

Results: A total of 186 cases underwent palliative surgery. The most common age group affected was between 50-60 years and the mean age was 54.55 years. Stomach was the most common primary consisting of 58.60% followed by colorectal (23.66%), small intestine (9.68%), hepato-pacreatico-biliary (4.30%), and oesophageal (3.76%) primary. Major complications were seen in 4.84% of cases. Average symptomatic relief was observed for 5.5 months in cases of stomach and 7 months in case of colorectal malignancies. 35.48% cases were alive at the end of one year.

Conclusions: Present study concludes that palliative surgery improves quality of life of the patient, provides them with time to accept death and live rest of the life in a dignified manner.

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15. TOWARDS A FRAMEWORK APPROACH TO INTEGRATING PATHWAYS FOR INFECTION PREVENTION AND ANTIBIOTIC STEWARDSHIP IN SURGERY: A QUALITATIVE STUDY FROM INDIA AND SOUTH AFRICA

Research Square

Authors: Singh S, Mendelson M, Surendran S, Bonaconsa C, Mbamalu O, Nampoothiri V, Boutall A, Hampton M, Dhar P, Pennel T, Tarrant C, Leather A, Holmes A, Charani E

Region / country: Southern Africa, Southern Asia - India, South Africa

Speciality: Health policy

Background The surgical pathway remains a hard to reach, critical target for antimicrobial stewardship (AMS) and infection prevention and control (IPC). We investigated the drivers for surgical AMS and IPC, across cardiovascular and thoracic surgery (CVTS) and gastrointestinal surgery teams in two academic hospitals in South Africa (SA) and India. **Materials and methods** An ethnographic observational study of IPC and AMS was conducted (July 2018–August 2019), with data gathered from 190 hours of non-participant observations (138 India, 60 SA); face-to-face interviews with patients (6 India, 7 South Africa), and healthcare professionals (HCPs) (44 India, 61 SA); and, in-depth patient case studies (4 India, 2 SA). A grounded theory approach aided by Nvivo 11 software, analyzed the emerging themes. An iterative and recursive process of moving between the coded data and the higher-level themes, ensured saturation of the themes. The multiple modes of enquiry enabled cross-validation and triangulation of findings. **Results** Across surgical pathways, multiple barriers exist impeding effective IPC and AMS practices. The existing, implicit roles of HCPs (including nurses, and senior surgeons) are overlooked as interventions target junior doctors, bypassing the opportunity for integrating care across the surgical team members. Critically, the ownership of decisions remains with the operating surgeons and entrenched hierarchies restrict the integration of other HCPs in IPC and AMS. **Conclusions** IPC and AMS are not integrated in surgery. Identifying the implicit existing HCPs roles in IPC and AMS is critical and will facilitate the development of effective and transparent processes across the surgical team for IPC and AMS. Developing a framework approach that includes nurse leadership, empowering pharmacists and engaging surgical leads is essential for integrated care.

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16. CONTINUING EDUCATION FOR PREHOSPITAL HEALTHCARE PROVIDERS IN INDIA - A NOVEL COURSE AND CONCEPT

Open Access Emerg Med

Authors: Benjamin D Lindquist, Kathryn W Koval, Peter C Acker, Corey B Bills, Ayesha Khan, Sybil Zachariah, Jennifer A Newberry, G V Ramana Rao, Swaminatha V Mahadevan, and Matthew C Strehlow

Region / country: Southern Asia - India

Speciality: Emergency surgery, Obstetrics and Gynaecology, Trauma surgery

Background

Emergency medical services (EMS) in India face enormous challenges in providing care to a geographically expansive and diverse patient population. Over the last decade, the public-private-partnership GVK EMRI (Emergency Management and Research Institute) has trained over 100,000 emergency medical technicians (EMTs), with greater than 21,000 currently practicing, to address this critical gap in the healthcare workforce. With the rapid development and expansion of EMS, certain aspects of specialty development have lagged behind, including continuing education requirements. To date, there have been no substantial continuing education EMT skills and training efforts. We report lessons learned during development and implementation of a continuing education course (CEC) for EMTs in India.

Methods

From 2014 to 2017, we employed an iterative process to design and launch a novel CEC focused on five core emergency competency areas (medicine and cardiology, obstetrics, trauma, pediatrics, and leadership and communication). Indian EMT instructors and providers partnered in design and content, and instructors were trained to independently deliver the CEC. Many challenges had to be overcome: scale (>21,000 EMTs), standardization (highly variable skill levels among providers and instructors), culture (educational emphasis on rote memorization rather than practical application), and translation (22 major languages and a few hundred local dialects spoken nationwide).

Lessons Learned

During the assessment and development phases, we identified five key strategies for success: (1) use icon-based video instruction to ensure consistent quality and allow voice-over for easy translation; (2) incorporate workbooks during didactic videos and (3) employ low-cost simulation and case discussions to emphasize active learning; (4) focus on non-technical skills; (5) integrate a formal training-of-trainers prior to delivery of materials.

Conclusion

These key strategies can be combined with innovation and flexibility to address unique challenges of language, system resources, and cultural differences when developing impactful continuing educational initiatives in burgeoning prehospital care systems in low- and middle-income countries.

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17. A NOVEL AND SIMPLE TECHNIQUE OF RECONSTRUCTING THE CENTRAL ARCH MANDIBULAR DEFECTS-A SOLUTION DURING THE RESOURCE-CONSTRAINED SETTING OF COVID CRISIS

Indian Journal Of Surgical Oncology

Authors: Shiv Rajan, Naseem Akhtar, Vijay Kumar, Sameer Gupta, Sanjeev Misra, Arun Chaturvedi, Puneet Prakash, and Tashbihul Azhar

Region / country: South-eastern Asia - India

Speciality: ENT surgery, Maxillofacial and oral surgery, Plastic surgery, Surgical Education

The current COVID 19 pandemic has a major impact on healthcare delivery globally. Oral cancer involving anterior arch of mandible is difficult to reconstruct and ideally, requires free fibular osteomyocutaneous flap. During this time of resource constraint situation, these free flaps are not a great choice, as it increases exposure of both patient and surgical team to the deadly virus. We are describing a novel method of reconstruction after resection of oral cancer involving anterior arch of mandible. In this new technique, we have reconstructed central arch defect by hanging bipaddle pectoralis major myocutaneous flap with orbicularis oris muscle using ethylene terephthalate suture. Operative time, early postoperative complications and early cosmetic and functional outcome were assessed. We have used this novel technique in eight patients of T4a oral cancer involving anterior arch of mandible and skin over chin. Mean operative time was 180 min. One patient had minor flap loss with surgical site infection (Clavien-Dindo grade I). In all patients, we were able to discharge all patients on eighth postoperative day. Cosmetic outcome and functional outcomes were mostly satisfactory. All patients were able to oppose their lips without any oral incompetence and drooling. Tongue mobility was good. There was no incidence of 'Andy Gump deformity'. This is a feasible option for reconstructing anterior arch defect in resource- and time-limited setting of COVID 19 pandemic. This technique can also be used in comorbid conditions where it is not advisable to do very long surgery.

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18. EVALUATION OF GASLESS LAPAROSCOPY AS A TOOL FOR MINIMAL ACCESS SURGERY IN LOW- TO MIDDLE-INCOME COUNTRIES: A PHASE II NON-INFERIORITY RANDOMIZED CONTROLLED STUDY

J Am Coll Surg

Authors: Anurag Mishra, Lovenish Bains, Gnanaraj Jesudin, Noel Aruparayil, Rajdeep Singh, Shashi

Region / country: Southern Asia - India

Speciality: General surgery

Background: Minimal access surgery [MAS] is not available to most people in the rural areas of Low Middle-Income Countries [LMIC]. This leads to an increase in the morbidity and the economic loss to the poor and the marginalized. The Gasless laparoscopic surgeries [GAL] are possible in rural areas as they could be carried out under spinal-anaesthesia. In most cases, it does not require the logistics of providing gases for pneumoperitoneum and general anaesthesia. The current study compares GAL with conventional Laparoscopic surgeries [COL] for general surgical procedures **METHODS:** A single-centre, non-blinded randomized control trial [RCT] was conducted to evaluate non - inferiority of GAL versus COL at a teaching hospital in New Delhi. Patients were allocated into two groups and underwent MAS (Cholecystectomies and appendectomies). The procedure was carried out by two surgeons by randomly choosing between GAL and COL. The data was collected by postgraduates and analyzed by a biostatistician.

Results: 100 patients who met the inclusion criteria were allocated into two groups. No significant difference was observed in the mean operating time between GAL group (52.9 min) vs COL group (55 minutes) [p=0.3]. The intraoperative vital signs were better in the GAL group [p < 0.05]. The postoperative pain score was slightly higher in the GAL group [p = 0.01]; however, it did not require additional analgesics.

Conclusions: No significant differences were found between the two groups. GAL can be classed as non-inferior compared to COL and has the potential to be adopted in low resource settings.

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19. ANTIBIOTIC PRESCRIBING TO PATIENTS WITH INFECTIOUS AND NON-INFECTIOUS INDICATIONS ADMITTED TO OBSTETRICS AND GYNAECOLOGY DEPARTMENTS IN TWO TERTIARY CARE HOSPITALS IN CENTRAL INDIA

Antibiotics

Authors: Anna Machowska, Kristoffer Landstedt ,Cecilia Stålsby Lundborg, Megha Sharma

Region / country: Southern Asia - India

Speciality: Obstetrics and Gynaecology

Background: Patients admitted to obstetrics and gynaecology (OBY) departments are at high risk of infections and subsequent antibiotic prescribing, which may contribute to antibiotic resistance (ABR). Although antibiotic surveillance is one of the cornerstones to combat ABR, it is rarely performed in low- and middle-income countries. Aim: To describe and compare antibiotic prescription patterns among the inpatients in OBY departments of two tertiary care hospitals, one teaching (TH) and one nonteaching (NTH), in Central India. Methods: Data on patients' demographics, diagnoses and prescribed antibiotics were collected prospectively for three years. Patients were divided into two categories- infectious and non-infectious diagnosis and were further divided into three groups: surgical, nonsurgical and possible-surgical indications. The data was coded based on the Anatomical Therapeutic Chemical classification system, and the International Classification of Disease system version-10 and Defined Daily Doses (DDDs) were calculated per 1000 patients. Results: In total, 5558 patients were included in the study, of those, 81% in the TH and 85% in the NTH received antibiotics ($p < 0.001$). Antibiotics were prescribed frequently to the inpatients in the nonsurgical group without any documented bacterial infection (TH-71%; NTH-75%). Prescribing of broad-spectrum, fixed-dose combinations (FDCs) of antibiotics was more common in both categories in the NTH than in the TH. Overall, higher DDD/1000 patients were prescribed in the TH in both categories. Conclusions: Antibiotics were frequently prescribed to the patients with no documented infectious indications. Misprescribing of the broad-spectrum FDCs of antibiotics and unindicated prescribing of antibiotics point towards threat of ABR and needs urgent action. Antibiotics prescribed to the inpatients having nonbacterial infection indications is another point of concern that requires action. Investigation of underlying reasons for prescribing antibiotics for unindicated diagnoses and the development and implementation of antibiotic stewardship programs are recommended measures to improve antibiotic prescribing practice.

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20. TRAUMATIC BRAIN INJURY IN MUMBAI: A SURVEY OF PROVIDERS ALONG THE CARE CONTINUUM

Asian Journal Of Neurosurgery

Authors: Saksham Gupta, Monty Khajanchi, Harris Solomon, Nakul P. Raykar, Blake C. Alkire, Nobhojit Roy, Kee B. Park, and Vineet Kumar

Region / country: South-eastern Asia - India

Speciality: Anaesthesia, Neurosurgery, Trauma and orthopaedic surgery, Trauma surgery

Introduction:

Traumatic brain injury (TBI) represents a significant burden of a global disease, especially in low- and middle-income countries (LMICs) such as India. Efforts to curb the impact of TBI require an appreciation of local factors related to this disease and its treatment.

Methods:

Semi-structured qualitative interviews were administered to paramedics, anesthesiologists, general surgeons, and neurosurgeons in locations throughout Mumbai from April to May 2018. A thematic analysis with an iterative coding was used to analyze the data. The primary objective was to identify provider-perceived themes related to TBI care in Mumbai.

Results:

A total of 50 participants were interviewed, including 17 paramedics, 15 anesthesiologists, 9 general surgeons, and 9 neurosurgeons who were involved in caring for TBI patients. The majority of physicians interviewed discussed their experiences in public sector hospitals (82%), while 12% discussed private sector hospitals and 6% discussed both. Four major themes emerged: Workforce, equipment, financing care, and the family and public role. These themes were often discussed in the context of their effects on increasing or decreasing complications and delays. Participants developed adaptations when managing shortcomings in these thematic areas. These adaptations included teamwork during workforce shortages and resource allocation when equipment was limited among others.

Conclusions:

Workforce, equipment, financing care, and the family and public role were identified as major themes in the care for TBI in Mumbai. These thematic elements provide a framework to evaluate and improve care along the care spectrum for TBI. Similar frameworks should be adapted to local contexts in urbanizing cities in LMICs.

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21. SYSTEMATIC REVIEW OF BARRIERS TO, AND FACILITATORS OF, THE PROVISION OF HIGH-QUALITY MIDWIFERY SERVICES IN INDIA

Birth

Authors: Alison McFadden RM PhD, Sunanda Gupta MBBS MS MPH, Joyce L. Marshall RM MPH PhD, Shona Shinwell RM MSc, Bharati Sharma PhD, Fran McConville SRN SCM MA , Steve MacGillivray PhD

Region / country: South-eastern Asia - India

Speciality: Obstetrics and Gynaecology

Background

The Indian government has committed to implementing high-quality midwifery care to achieve universal health coverage and reduce the burden of maternal and perinatal mortality and morbidity. There are multiple challenges, including introducing a new cadre of midwives educated to international standards and integrating midwifery into the health system with a defined scope of practice. The objective of this review was to examine the facilitators and barriers to providing high-quality midwifery care in India.

Methods

We searched 15 databases for studies relevant to the provision of midwifery care in India. The findings were mapped to two global quality frameworks to identify barriers and facilitators to providing high-quality midwifery care in India.

Results

Thirty-two studies were included. Key barriers were lack of competence of maternity care providers, lack of legislation recognizing midwives as autonomous professionals and limited scope of practice, social and economic barriers to women accessing services, and lack of basic health system infrastructure. Facilitators included providing more hands-on experience during training, monitoring and supervision of staff, utilizing midwives to their full scope of practice with good referral systems, improving women's experiences of maternity care, and improving health system infrastructure.

Conclusions

The findings can be used to inform policy and practice. Overcoming the identified barriers will be critical to achieving the Government of India's plans to reduce maternal and neonatal mortality through the introduction of a new cadre of midwives. This is unlikely to be effective until the facilitators described are in place.

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22. RESUMING ELECTIVE SURGERIES IN CORONA PANDEMIC FROM THE PERSPECTIVE OF A DEVELOPING COUNTRY

Journal Of Pediatric And Adolescent Surgery

Authors: Yogesh Kumar Sarin

Region / country: South-eastern Asia - India

Speciality: Other

Since the COVID-19 pandemic, healthcare facilities have entered into a “crisis mode”. One of the measures used to allow hospitals to surge their capacity and serve the patient population with COVID-19 infection was the suspension of elective activity, most importantly elective surgery and other procedures. Now as the infection is fading, efforts are being made to resume elective surgical services keeping in mind the safety of the patient and health care workers. Resuming surgical services in developing countries is an uphill task.

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23. RESURGENCE OF “BOW AND ARROW” RELATED OCULAR TRAUMA: COLLATERAL DAMAGE ARISING FROM COVID-19 LOCKDOWN IN INDIA?

Indian Journal Of Ophthalmology

Authors: Maneesh M Bapaye , Akshay Gopinathan Nair , Pankaj P Mangulkar , Charuta M Bapaye , Meena M Bapaye

Region / country: South-eastern Asia - India

Speciality: Ophthalmology, Trauma surgery

Penetrating ocular trauma in children often presents late and may be associated with complications due to delayed presentation as children are not always able to verbalize their injuries. Previous studies have shown that children aged 5 and above were more frequently affected and it was also noted that boys were more frequently affected than girls. Children involved in unsupervised games often get injured and “bow and arrow” injuries were known to be a fairly common cause of penetrating trauma in children, in the past.

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24. ALL INDIA OPHTHALMOLOGICAL SOCIETY - OCULOPLASTICS ASSOCIATION OF INDIA CONSENSUS STATEMENT ON PREFERRED PRACTICES IN OCULOPLASTY AND LACRIMAL SURGERY DURING THE COVID-19 PANDEMIC Indian Journal Of Ophthalmology

Authors: Mohammad Javed Ali , Raghuraj Hegde , Akshay Gopinathan Nair , Mandeep S Bajaj , Subhash M Betharia , Kasturi Bhattacharjee , Apjit K Chhabra , Jayanta K Das , Gagan Dudeja , Ashok K Grover , Santosh G Honavar , Usha Kim , Lakshmi Mahesh , Bipasha Mukherjee , Anita Sethi , Mukesh Sharma , Usha Singh

Region / country: South-eastern Asia - India

Speciality: Ophthalmology

Oculoplastic surgeries encompass both emergency surgeries for traumatic conditions and infectious disorders as well as elective aesthetic procedures. The COVID-19 pandemic has brought about a drastic change in this practice. Given the highly infectious nature of the disease as well as the global scarcity of medical resources; it is only prudent to treat only emergent conditions during the pandemic as we incorporate evidence-based screening and protective measures into our practices. This manuscript is a compilation of evidence-based guidelines for surgical procedures that oculoplastic surgeons can employ during the COVID-19 pandemic. These guidelines also serve as the basic framework upon which further recommendations may be based on in the future, as elective surgeries start being performed on a regular basis.

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25. ASSESSMENT OF EUSTACHIAN TUBE FUNCTIONING FOLLOWING SURGICAL INTERVENTION OF ORAL SUBMUCUS FIBROSIS BY USING TYMPANOMETRY & AUDIOMETRY

Journal Of Oral Biology And Craniofacial Research

Authors: Sreea Roy , Abhay Taranath Kamath , Manish Bhagania , Adarsh Kudva , Kishan Madikeri Mohan

Region / country: South-eastern Asia - India

Speciality: ENT surgery, Maxillofacial and oral surgery

Oral Submucous fibrosis has been reported to cause variation in hearing sensitivity & changes in middle ear function. This study was conducted to validate the influence of OSMF and its surgical correction on middle ear function and hearing sensitivity. In this study, 20 patients (40 ears) suffering from biopsy proven OSMF (Group 2 & 3) were tested for Middle ear dysfunction and hearing sensitivity using Tympanometry & Audiometry. On Tympanometry, Type A curve was obtained in 29 ears, Type B curve in 11 ears preoperatively. Immediate postoperatively TYPE A curve was obtained in 27 ears, TYPE B curve in 13 ears. After 1 month and 3 month Type B curve was not obtained in any ear. On Audiometry, 28 ears showed normal hearing and 12 ears showed minimal conductive hearing loss preoperatively and Immediate postoperatively. Tests after 1 month and 3 months showed all 40 ears having normal hearing. Results were found statistically significant with p value 0.000 and F value of 11.331 in Tympanometry and 11.143 in Audiometry. Pearson correlation test revealed that results from both the test are highly co related (0.902). OSMF causes fibrotic changes in paratubal muscles which in addition with restricted mouth opening hampers proper Eustachian tube functioning in turn causing changes in Middle ear function. This feature is seldom/infrequently found in Group 2 and 3 and if encountered can be dealt effectively with surgical intervention.

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26. THE IMPACT OF CLEFT LIP/PALATE AND SURGICAL INTERVENTION ON ADOLESCENT LIFE OUTCOMES: EVIDENCE FROM OPERATION SMILE IN INDIA

Uc Berkeley: Center For Effective Global Action

Authors: Wydick, BruceZahid, MustafaManning, SamMaller, JeremiahEvsanaa, KiraSkjoldhorne, SusannBloom, MatthewDas, AbhishekDeshpande, Gaurav

Region / country: South-eastern Asia - India

Speciality: ENT surgery, Maxillofacial and oral surgery

Cleft Lip/Palate (CLP) is a congenital orofacial anomaly appearing in approximately one in 700 births worldwide. While in high-income countries CLP is normally addressed surgically during infancy, in developing countries CLP is often left unoperated, potentially impacting multiple dimensions of life quality. Previous research has frequently compared CLP outcomes to those of the general population. But because local environmental and genetic factors both contribute to the risk of CLP and also may influence life outcomes, such studies may present a downward bias in estimates of both CLP status and restorative surgery. Working with the non-profit organization Operation Smile, this research uses quasi-experimental causal methods on a novel data set of 1,118 Indian children to study the impact of CLP status and CLP correction on the physical, psychological, and social well-being of Indian teenagers. Our results indicate that adolescents with median-level CLP severity show statistically significant losses in indices of speech quality (-1.55%), academic and cognitive ability (-0.43%), physical well-being (-0.35%), psychological well-being (-0.23%), and social inclusion (-0.35%). We find that CLP surgery improves speech if carried out at an early age, and that it significantly restores social inclusion.

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27. COVID 19 AND LAPAROSCOPIC SURGEONS, THE INDIAN SCENARIO - PERSPECTIVE

International Journal Of Surgery

Authors: Nikhil Gupta , Himanshu Agrawal
Region / country: South-eastern Asia - India
Speciality: Other

Coronavirus Disease 2019(COVID 19) had emerged as a global pandemic in recent times. The healthcare sector is at the epicentre of this unprecedented global pandemic challenge. Hospitals all over the world have reduced the number of non-emergency surgeries in order to utilize the staff and resources in a more efficient way. Severe acute respiratory syndrome coronavirus (SARS-CoV-2) is most transmitted via respiratory droplets, but risk of transmission is hugely increased while doing aerosol generating procedures (AGPs). Laparoscopy remains the preferred surgical approach for most surgical indications. There is theoretical possibility of generation of aerosols contaminated with COVID-19 from leaked CO2 and smoke generation after energy device use. The aim of this paper is to review available evidence evaluating the risk of spread of COVID-19 during necessary laparoscopic procedures and to compile guidelines from relevant professional organizations to minimize this risk.

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28. URO-ONCOLOGY IN TIMES OF COVID-19: THE AVAILABLE EVIDENCE AND RECOMMENDATIONS IN THE INDIAN SCENARIO

Indian Journal Of Cancer

Authors: Tushar A Narain , Gagan Gautam , Amlesh Seth , Vikas K Panwar , Sudhir Rawal , Puneet Dhar , Harkirat S Talwar , Amitabh Singh , Jiten Jaipuria , Ankur Mittal

Region / country: Southern Asia - India

Speciality: Surgical oncology, Urology surgery

The Corona Virus Disease-2019 (COVID-19), one of the most devastating pandemics ever, has left thousands of cancer patients to their fate. The future course of this pandemic is still an enigma, but health care services are expected to resume soon in a phased manner. This might be a long drawn process and we need to have policies in place, to be able to fight both, the SARS-CoV-2 virus and cancer, simultaneously, and emerge triumphant. An extensive literature search for impact of delay in management of various urological malignancies was carried out. Expert opinions were sought wherever there was paucity of evidence, in order to reach a consensus and come up with recommendations for directing uro-oncology services in the times of COVID-19. The panel recommends deferring treatment of patients with renal cell carcinoma by 3 to 6 months, except for those with ongoing hematuria and/or inferior vena cava thrombus, which warrant immediate surgery. Metastatic renal cell cancers should be started on targeted therapy. Low grade non-muscle invasive bladder cancers can be kept on active surveillance while high risk non-muscle invasive bladder cancers and muscle invasive bladder cancers should be treated within 3 months. Neoadjuvant chemotherapy should be avoided. Management of low and intermediate risk prostate cancer can be deferred for 3 to 6 months while high risk prostate cancer patients can be initiated on neoadjuvant androgen deprivation therapy. Patients with testicular tumors should undergo high inguinal orchiectomy and be treated according to stage without delay, with stage I patients being offered surveillance. Penile cancers should undergo penectomy, while clinically negative groins can be kept on surveillance. Neoadjuvant chemotherapy should be avoided and adjuvant therapy should be deferred. We need to tailor our treatment strategies to the prevailing present conditions, so as to fight and defeat both, the SARS-CoV-2 virus and cancer. Protection of health care workers, judicious use of available resources, and a rational and balanced outlook towards different malignancies is the need of the hour.

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29. IMPLEMENTING ANTIMICROBIAL STEWARDSHIP TO REDUCE SURGICAL SITE INFECTIONS: EXPERIENCE AND CHALLENGES FROM TWO TERTIARY-CARE HOSPITALS IN MUMBAI, INDIA.

Journal Of Global Antimicrobial Resistance

Authors: Bhakht Sarang, Anurag Tiwary, Anita Gadgil, Nobhojit Roy

Region / country: Southern Asia - India

Speciality: General surgery

Surgical site infections (SSIs) contribute significantly to post-surgical morbidity globally. Antimicrobial stewardship programmes (ASPs) are essential to reduce SSI rates and to curb antimicrobial resistance, especially in low-and-middle-income countries. This prospective study aimed to show the reproducibility of ASP implementation and SSI prevention measures in a semi-private institution with high perioperative prophylactic antimicrobial consumption beyond guidelines. The prevalence of SSIs in clean surgeries was analysed in a government hospital adhering to SSI prevention guidelines including antimicrobial prophylaxis (phase 1; n = 335) and in a surgical department unit of a semi-private hospital where the same guidelines were subsequently implemented (phase 2; n = 235). SSI rates were compared to check the hypothesis that ASPs and infection control policies are reproducible with similar SSI rates. Moreover, antimicrobial prophylaxis costs were compared between units with and without guideline adherence. Among a total of 570 clean surgeries analysed, SSI rates were similar in both phases (6.0% vs. 5.1%; $P = 0.659$). SSI rates were higher in patients aged >50 years in both phases ($P = 0.0009$ and 0.045), whilst there was no difference in SSI rates between diabetics and non-diabetics ($P = 0.475$ and 0.835). The cost of antimicrobial prophylaxis was lower in the guideline-oriented group (US\$0.42 vs US\$9 per patient; $P = 0.0042$). Implementing SSI prevention guidelines, including proper antimicrobial prophylaxis, is feasible and reproducible among different hospital settings, leading to a significant decrease in prophylaxis costs. SSI rates do not differ following the same international standards.

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30. IS QUALITY OF LIFE AFTER MASTECTOMY COMPARABLE TO THAT AFTER BREAST CONSERVATION SURGERY? A 5-YEAR FOLLOW UP STUDY FROM MUMBAI, INDIA

Quality Of Life Research

Authors: K V Deepa , A Gadgil , Jenny Löfgren , S Mehare , Prashant Bhandarkar , N Roy

Region / country: South-eastern Asia - India

Speciality: Plastic surgery, Surgical oncology

Purpose

Breast cancer is the commonest cancer in women worldwide. Surgery is a central part of the treatment. Modified radical mastectomy (MRM) is often replaced by breast conserving therapy (BCT) in high-income countries. MRM is still the standard choice, in low- and middle-income countries (LMICs) as radiotherapy, a mandatory component of BCT is not widely available. It is important to understand whether quality of life (QOL) after MRM is comparable to that after BCT. This has not been studied well in LMICs. We present, 5-year follow-up of QOL scores in breast cancer patients from India.

Methods

We interviewed women undergoing breast cancer surgery preoperatively, at 6 months after surgery, and at 1 year and 5 years, postoperatively. QOL scores were evaluated using FACT B questionnaire. Average QOL scores of women undergoing BCT were compared with those undergoing MRM. Total scores, domain scores and trends of scores over time were analyzed.

Results

We interviewed 54 women with a mean age of 53 years (SD 9 ± years). QOL scores in all the women, dipped during the treatment period, in all subscales but improved thereafter and even surpassed the baseline in physical, emotional and breast-specific domains ($p < 0.05$) at 5 years. At the end of 5 years, there was no statistically significant difference between the MRM and BCT groups in any of the total or domain scores.

Conclusion

QOL scores in Indian women did not differ significantly between MRM and BCT in the long term. Both options are acceptable in the study setting.

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31. 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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32. COMPARISON OF EMERGENCY DEPARTMENT TRAUMA TRIAGE PERFORMANCE OF CLINICIANS AND CLINICAL PREDICTION MODELS: A COHORT STUDY IN INDIA

Bmj Open

Authors: Ludvig Wärnberg Gerdin, Monty Khajanchi, Vineet Kumar, Nobhojit Roy, Makhan Lal Saha, Kapil Dev Soni, Anurag Mishra, Jyoti Kamble, Nitin Borle, Chandrika Prasad Verma, Martin Gerdin Wärnberg

Region / country: South-eastern Asia - India

Speciality: Emergency surgery, Trauma surgery

Objective: The aim of this study was to evaluate and compare the abilities of clinicians and clinical prediction models to accurately triage emergency department (ED) trauma patients. We compared the decisions made by clinicians with the Revised Trauma Score (RTS), the Glasgow Coma Scale, Age and Systolic Blood Pressure (GAP) score, the Kampala Trauma Score (KTS) and the Gerdin et al model.

Design: Prospective cohort study.

Setting: Three hospitals in urban India.

Participants: In total, 7697 adult patients who presented to participating hospitals with a history of trauma were approached for enrolment. The final study sample included 5155 patients. The majority (4023, 78.0%) were male.

Main outcome measure The patient outcome was mortality within 30 days of arrival at the participating hospital. A grid search was used to identify model cut-off values. Clinicians and categorised models were evaluated and compared using the area under the receiver operating characteristics curve (AUROCC) and net reclassification improvement in non-survivors (NRI+) and survivors (NRI-) separately.

Results:The differences in AUROCC between each categorised model and the clinicians were 0.016 (95% CI -0.014 to 0.045) for RTS, 0.019 (95% CI -0.007 to 0.058) for GAP, 0.054 (95% CI 0.033 to 0.077) for KTS and -0.007 (95% CI -0.035 to 0.03) for Gerdin et al. The NRI+ for each model were -0.235 (-0.37 to -0.116), 0.17 (-0.042 to 0.405), 0.55 (0.47 to 0.65) and 0.22 (0.11 to 0.717), respectively. The NRI- were 0.385 (0.348 to 0.4), -0.059 (-0.476 to -0.005), -0.162 (-0.18 to -0.146) and 0.039 (-0.229 to 0.06), respectively.

Conclusion: The findings of this study suggest that there are no substantial differences in discrimination and net reclassification improvement between clinicians and all four clinical prediction models when using 30-day mortality as the outcome of ED trauma triage in adult patients.

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33. IMPACT OF DELAYING SURGERY AFTER CHEMORADIATION IN RECTAL CANCER: OUTCOMES FROM A TERTIARY CANCER CENTRE IN INDIA

Journal Of Gastrointestinal Oncology

Authors: Praveen Kammar, Aditi Chaturvedi, Masillamany Sivasanker, Ashwin de'Souza, Reena Engineer, Vikas Ostwal, Avanish Saklani

Region / country: Southern Asia - India

Speciality: Surgical oncology

Background

Delaying surgery after chemoradiation is one of the strategies for increasing tumor regression in rectal cancer. Tumour regression and PCR are known to have positive impact on survival.

Methods

It's a retrospective study of 161 patients undergoing surgery after neoadjuvant chemoradiation (NCRT) for locally advanced rectal cancer (LARC). Patients were divided into three categories based on the gap between NCRT and surgery, i.e., 12 weeks. Tumor regression grades (TRG), sphincter preservation, post-operative morbidity-mortality and survival were evaluated.

Results

Sphincter preservation was significantly less in >12 weeks group compared to the other two groups (P=0.003). Intraoperative blood loss was significantly higher in >12 weeks group compared to 8-12 weeks group (P=0.001). There was no difference in major postoperative morbidity and hospital stay among the groups. There was no significant correlation between delay and TRG (P=0.644). At Median follow up of 49.5 months the projected 3-year overall survival (OS) and disease free survival (DFS) were not significantly different among the 3 groups (OS: 79.5% vs. 83.3% vs. 76.5%; P=0.849 and DFS 50.4% vs. 70.6% vs. 62%; P=0.270 respectively).

Conclusions

Delaying surgery by more than 12 weeks causes more blood loss but no change in morbidity or hospital stay. Increased time interval between radiation and surgery does not improve tumor regression and has no effect on survival.

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