

2nd World Congress on Clinical Surgery and Anesthesia

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Scientific Tracks & Abstracts



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Non-operating room anesthesia: Strategies to improve performance

Anjum Anwar

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Non-operating room anesthesia (NORA) case volumes have increased in both hospital and non-hospital settings. Anesthesiologists must be ready to meet the challenges associated with providing care outside operating rooms (ORs). Anesthesiologists face many challenges associated with providing care at these sites. The first is that anesthesia care in NORA sites must meet the same standard of care as in the ORs. Additional challenges include the physical location, patient and procedure characteristics, scheduling issues, and multidisciplinary patient management. These challenges should be identified and addressed before a NORA site assumes functionality. Thorough planning and streamlining by educating staff and simulating real-life scenarios can be helpful. The locations should be prepared and equipped to deal with all anticipated urgent or emergent situations. Patients should be triaged in advance to determine the level of preoperative assessment required, whether immediately before surgery or in advance with the assistance of a preoperative clinic. The hospital should invest in developing care coordination teams to help with urgent, emergent, and add-on cases. Unusually sick or complex patients should be scheduled early in the day to ensure that appropriate personnel can be involved, and that help is readily available. There should be open communication among all teams involved regarding procedural duration, proceduralist's expectations, anesthetic, and recovery plans. Multidisciplinary teams should set expectations and discuss concerns before the procedure to manage unanticipated situations. Post-anesthetic care after NORA cases can potentially be streamlined by considering standardized handoff tools and fast-track recovery protocols. The COVID-19 pandemic presented additional challenges for NORA care. Multidisciplinary collaboration and appropriate guidelines were developed at many institutions to maintain patient safety and to protect staff. Successful interventions described during the COVID-19 response can serve as templates for future large-scale contingency planning for NORA locations. Finally, quality improvement and performance metrics, including regular audits, can help improve site utilization, patient experience and help maximize physician and staff efficiency. With careful attention, NORA sites can combine the efficiency of procedural suites with the safety expectations of traditional ORs.

Recent Publications:

1. Positive Microbiological Stains of Corneal Scrapings among Patients with Keratitis in a Tertiary Care Centre: A Descriptive Cross-sectional Study, JNMA J Nepal Med Assoc . 2022 Jun 1
2. COVID-19 in patients with end stage kidney disease at a large community hospital in Eastern Saudi Arabia. A prospective study, Saudi Med J . 2022 Jun
3. Gouveris H, Koirala N, Anwar AR, Ding H, Ludwig K, Huppertz T, Matthias C, Groppa S, Muthuraman M. Reduced Cross-Frequency Coupling and Daytime Sleepiness in Obstructive Sleep Apnea Patients. *Biology*. 2022; 11(5):700. <https://doi.org/10.3390/biology11050700>, *Biology* (Basel) 2022 May 2..

Biography

Anwar is an anesthesiologist who comes from a diverse background and is passionate about simulation teaching endeavors. She has done her anesthesia training across three countries and three continents. She has done a fellowship in medical education in anesthesia from Stanford University, a fellowship in obstetric anesthesia, and a fellowship in patient safety and quality improvement in anesthesia from the University of Florida. Currently, she is an Assistant Professor, lead for Obstetric anesthesia simulation, and patient safety, and quality improvement education lead in the Department of Anesthesiology and Pain Medicine at the University Of Washington School Of Medicine. She is also an Adjunct Assistant Professor for the Division of Healthcare Simulation Science in the Department of Surgery at the University Of Washington School Of Medicine.

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The Direct medical cost of Acute Appendicitis Surgery in a resource-limited setting of Papua New Guinea

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Alotau Provincial Hospital, Papua New Guinea

Background: Acute appendicitis is a common surgical emergency, and challenges in access to surgery in a low middle-income country can direct cost implications.

Methods: A prospective cost of illness study was conducted at Alotau Provincial Hospital (APH) from October 14, 2019, to June 1, 2020. A bottom-up approach of microcosting was used to estimate the direct medical cost of consecutive patients with acute appendicitis undergoing surgery.

Results: The mean cost of acute appendicitis surgery for each patient was K39,517.66 (US\$11,460.12) for uncomplicated appendicitis, K45,873.99 (US\$13,303.46) for complicated appendicitis and K38,838.80 (US\$ 11,263.25) for a normal appendix. In total, the direct medical cost for acute appendicitis in this study was K4,562,625.29 (US\$ 1,323,161.33) with the majority of expenditure incurred by surgical ward expenses.

Conclusion: This study demonstrates that direct medical costs for uncomplicated appendicitis surgery in a resource-limited hospital are less expensive. As the pathology progresses, the cost also exponentially increases. Policy makers and clinicians must establish appropriate curative surgical services at secondary (NOM of acute appendicitis and laparoscopic surgery) and primary health-care levels to address acute appendicitis surgery as this can reduce costs.

Recent Publications:

1. Ian Umo, et al., The direct medical cost of trauma aetiologies and injuries in a resource limited setting of Papua New Guinea: A prospective cost of illness study. *The Lancet Regional Health - Western Pacific* 2022;20: 100379 Published online 24 January 2022 <https://doi.org/10.1016/j.lanwpc.2021.100379>
2. Borchem I, Umo I, James K, Ikasa R. Tracheostomy in Papua New Guinea: A Retrospective Analysis of 33 Cases in a Subspecialty Limited Setting. *Am J Otolaryngol Head Neck Surg.* 2022; 5(5): 1189.
3. The direct medical cost of trauma aetiologies and injuries in a resource limited setting of Papua New Guinea: A prospective cost of illness study Umo, Ian et al. *The Lancet Regional Health – Western Pacific*, Volume 20, 100379
4. Factors associated with loss to follow up among TB patients in Rural Papua New Guinea. *Public Health Action.* 2021. Volume 11. No 4. December
5. Umo, I., James, K. The Direct Medical Cost of Acute Appendicitis Surgery in a Resource-Limited Setting of Papua New Guinea. *World J Surg* 45, 3558–3564 (2021). <https://doi.org/10.1007/s00268-021-06290-2>.

Biography

Ian Umo obtained his MBBS degree from the University of Papua New Guinea in 2016. He have worked in various rural hospitals in Papua New Guinea and currently aspiring to be a surgeon.

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Sequential use of Midazolam and Dexmedetomidine for long term sedation may reduce weaning time in selected critically ill, mechanically ventilated patients: A randomized controlled study

Yongfang Zhou

West China Hospital of Sichuan University, China.

Background: Current sedatives have different side effects in long-term sedation. The sequential use of midazolam and dexmedetomidine for prolonged sedation may have distinct advantages. We aimed to evaluate the efficacy and safety of the sequential use of midazolam and either dexmedetomidine or propofol, and the use of midazolam alone in selected critically ill, mechanically ventilated patients.

Methods: This single center, randomized controlled study was conducted in medical and surgical ICUs in a tertiary, academic medical center. Patients enrolled in this study were critically ill, mechanically ventilated adult patients receiving midazolam, with anticipated mechanical ventilation for ≥ 72 hours. They passed the spontaneous breathing trial (SBT) safety screen, underwent a 30-min-SBT without indication for extubation and continued to require sedation. Patients were randomized into group M-D (midazolam was switched to dexmedetomidine), group M-P (midazolam was switched to propofol), and group M (sedation with midazolam alone), and sedatives were titrated to achieve the targeted sedation range (RASS -2 to 0).

Results: Total 252 patients were enrolled. Patients in group M-D had an earlier recovery, faster extubation, and more percentage of time at the target sedation level than those in group M-P and group M (all $P < 0.001$). They also experienced less weaning time (25.0 hours vs. 49.0 hours; HR 1.47, 95% CI 1.05 to 2.06; $P = 0.025$), and a lower incidence of delirium (19.5% vs. 43.8%, $P = 0.002$) than patients in group M. Recovery ($P < 0.001$), extubation ($P < 0.001$), and weaning time ($P = 0.048$) in group M-P were shorter than in group M, while the acquisition cost of sedative drug was more expensive than other groups (both $P < 0.001$). There was no significant difference in adverse events among these groups (all $P > 0.05$).

Conclusions: The sequential use of midazolam and dexmedetomidine was an effective and safe sedation strategy for long-term sedation and could provide clinically relevant benefits for selected critically ill, mechanically ventilated patients.

Trial Registration: clinicaltrials.gov, NCT02528513.

Recent Publications:

1. Zhang, Q., Xu, L., Zhang, Y. et al. A novel ViewRNA in situ hybridization method for the detection of the dynamic distribution of Classical Swine Fever Virus RNA in PK15 cells. *Virology* 14, 81 (2017). <https://doi.org/10.1186/s12985-017-0734-4>
2. Liu, H., Liu, J., Wang, S. et al. Enterolactone has stronger effects than enterodiol on ovarian cancer. *J Ovarian Res* 10, 49 (2017). <https://doi.org/10.1186/s13048-017-0346-z>
3. Ma, G., Jiang, A., Luo, Y. et al. Aquaporin 1 is located on the intestinal basolateral membrane in *Toxocara canis* and might play a role in drug uptake. *Parasites Vectors* 12, 243 (2019). <https://doi.org/10.1186/s13071-019-3500-1>

Biography

Zhou has her expertise in respiratory care and analgesia and sedation in critical care. After years of experiences in clinical practice, teaching, and research in West China Hospital of Sichuan University, as the principal research member, she developed a novel sedation strategy—the sequential use of midazolam and dexmedetomidine based on ventilator weaning process in selected critically ill, mechanically ventilated patients for improving outcomes. This approach was built based on the previous sequential use of midazolam and propofol. This sedation strategy was a safe and more effective sedation strategy and may provide clinical benefits for selected critically ill, mechanically ventilated patients.

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Using machine learning to establish indications for damage control approach in patients with acute non-traumatic intra-abdominal emergencies

Michelle TD Smith

University of KwaZulu-Natal, South Africa

Patients undergoing laparotomy for an emergency general surgery (EGS) condition constitute a high-risk group with poor outcomes. Attempts have been made to extrapolate damage control principles established for the severely injured trauma patient to the EGS population in order to improve outcomes. Using trauma indications in this patient subset has not consistently improved results and may not be appropriate. This study aims to define indications for a staged or abbreviated surgical approach specific to the EGS patient.

Methodology: In a retrospective analysis of all patients undergoing an emergency laparotomy at Greys Hospital from December 2012 to December 2018, we use decision tree discrimination to identify high-risk subgroups and thus indications for an abbreviated approach. These include patient factors, physiological factors and composite models that differ depending on the presence or absence of enteric breach at index laparotomy.

Results: Our cohort included 1461 patients with a mortality rate of 12.4 % (181). Nine hundred and ten patients (62.3%) had at least one known comorbidity on admission. There was a higher rate of comorbidities among those that died (154; 85.1%). Patient factors found to be associated with mortality were age of 46 years or more ($p < 0.001$), current tuberculosis ($p < 0.001$), hypertension ($p = 0.014$), at least one comorbidity (0.006) and malignancy (0.033). Significant physiological risk factors found were base excess less than -6.8 mmol/L ($p < 0.001$), serum urea greater than 7.0 mmol/L ($p < 0.001$) and waiting time from admission to operation ($p = 0.014$). In patients with an enteric breach, those younger than 46 years and a Shock Index of more than 1.0 were high-risk. Patients without an enteric breach were high-risk if operative duration exceeded 90min ($p = 0.004$) and serum urea exceeding 7 mmol/dl ($p = 0.016$).

Conclusion: In EGS patients, patient factors as well as physiological factors should be included as indications for an abbreviated approach at index laparotomy in order to improve outcomes.

Recent Publications:

1. Spectrum and Outcome of Emergency General Surgery Laparotomies at a Tertiary Center in South Africa Smith, Michelle T.D. et al. Journal of Surgical Research, Volume 262, 65 – 70
2. The impact of government- and institution-implemented COVID-19 control measures on tertiary- and regional level intensive care units in Pietermaritzburg, KwaZulu-Natal Province, South Africa. Southern African Journal of Critical Care 2022;38(1):33.
3. Smith, M.T.D. and Clarke, D.L. (2021), Staged laparotomy for acute non-traumatic intra-abdominal emergencies in a tertiary South African unit. ANZ Journal of Surgery, 91: 2637-2643. <https://doi.org/10.1111/ans.17270>.

Biography

Michelle TD Smith is a specialist general surgeon and critical care fellow at Greys Hospital, Pietermaritzburg, South Africa. She has a keen interest in clinical research and serves as a clinical lecturer at the University of KwaZulu-Natal and is a member of the university's bio research ethics board. Smith recently completed her PHD entitled "Defining modifiers and predictors of adverse outcome in patients undergoing emergency laparotomy for non-trauma".

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Resection of a Mediastinal paraganglioma: Why all the fuss?

Laura M Staunton

St. James's Hospital, Ireland

Objective: Mediastinal paragangliomas are rare and account for 0.3% of mediastinal tumours^{1,2} 15-35% of paragangliomas undergo malignant transformation and are resistant to chemotherapy and radiotherapy² Surgical resection is the gold standard treatment however it can be challenging as these tumours are highly vascular and can claim an intimate relationship with the great vessels, heart, trachea and oesophagus.^{1,2,3} Surgery for mediastinal paragangliomas is usually performed via a median sternotomy +/- cardiopulmonary bypass.^{1,3} We present a case demonstrating resection of a mediastinal paraganglioma via a left-sided posterolateral thoracotomy.

Methods: A 53 year old woman was incidentally found to have a mediastinal paraganglioma during investigation of anaemia. Positron emission tomography-computed tomography (PET-CT) demonstrated a Flurodeoxyglucose (FDG) avid 4.5 x 4.0 cm left-sided mediastinal mass adjacent to the aortic arch and left pulmonary artery (Figure 1). A CT-guided biopsy favoured a paraganglioma.

Results: Following a left-sided posterolateral thoracotomy, a large extensively vascular mass abutting the aortic arch and proximal left pulmonary artery with extension into the aortic-pulmonary window was evident. The mass was dissected free from the phrenic and vagus nerves, which were both preserved. The RLN was never identified and assumed sacrificed as the mass was dissected off the underside of the aortic arch. On post-operative day 2, vocal cord medialisation was performed due to an expected vocal cord palsy. Histopathology revealed a 38mm Paraganglioma with direct invasion of station 5 lymph node and an R0 resection. The patient is under assessment for succinate dehydrogenase subunits B (SDHB) genetic mutation, which if positive would indicate familial paraganglioma syndrome type 4 (PGL-4).³ Due to the potential for late recurrence, the patient has entered long term surveillance.

Conclusions: Paragangliomas are rare mediastinal tumours that can be locally aggressive with the potential for malignant transformation. In select cases, surgical resection can be safely undertaken via a left-sided posterolateral thoracotomy.



Figure 1: PET-CT demonstrating a left-sided mediastinal mass densely adherent to the aortic arch and left pulmonary artery

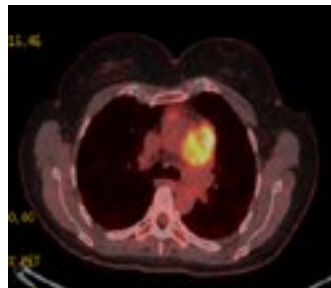


Figure 2: Intra-operative picture of the 38mm mediastinal paraganglioma prior to resection

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References:

1. Shah, MUA, Al-Saadi, N, Leatherby, R, Xylas, D, Shah, S. Aortopulmonary paraganglioma masquerading as an anterior mediastinal mass: A fine line between confusion and chaos! *J Card Surg.* 2020; 35: 2044– 2046. <https://doi.org/10.1111/jocs.14751>
2. Wald, O., Shapira, O.M., Murar, A. et al. Paraganglioma of the mediastinum: challenges in diagnosis and surgical management. *J Cardiothorac Surg* 5, 19 (2010). <https://doi.org/10.1186/1749-8090-5-19>
3. Nguyen, DM, Gonzalez, JN, Villamizar, NR. Surgical management of mediastinal paraganglioma: All hands on deck! *J Card Surg.* 2020; 35: 2047– 2049. <https://doi.org/10.1111/jocs.14746>.

Biography

Laura Mary Staunton is working at St. James's Hospital in Ireland under the department of Cardiothoracic Surgery.

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The need for women's leadership in anaesthesia in low income countries

Peniel Kenna Dula

Debrebrehan University, Ethiopia

I was a graduating 12th grade student who was trying to decide where and what to study for my bachelor degree when the name Anaesthesia mentioned by my friend. "They [anaesthetists] are paid lots of money". She said and I was interested to hear more about it. I contacted some health professionals to find out more about anaesthesia. Now here I am, an anaesthesia professional focused on playing a role for providing safe anaesthesia for everyone in my developing country, Ethiopia, which is located in north-eastern Africa.

Despite wonderful natural gifts Ethiopia is struggling with a lack of resources (ranging from human power to equipment) which have resulted in a health care delivery system with so many apertures. Though these gaps exist I believe a healthcare provider should not be limited from participating in bringing forth a generation who will keep up the good work continuously. This could be achieved from encouragement, educating others and by working with government and higher education centres or teaching hospitals. I suggest we need also to give special attention for women's participation. When female participation is low, there will be a lot to miss as a profession, as well as a country. This uplift for women should not be limited to education, it should go beyond. Beyond to the level of women occupying higher positions and engaged in leadership. Hopefully, this story will encourage females working in anaesthesia in other low income countries to unveil their concealed potential in leadership, towards delivering quality anaesthesia care for all.

References:

1. Burger JWA, van't Riet M, Jeekel J. Abdominal Incisions: Techniques and Postoperative Complications. *Scandinavian Journal of Surgery*. December 2002;315-321. doi:10.1177/145749690209100401.
2. Alberto Santoro, Carlo Boselli, Claudio Renzi, Francesca Gubbiotti, Veronica Grassi, Giorgio Di Rocco, Roberto Cirocchi, Adriano Redler, "Transverse Skin Crease versus Vertical Midline Incision versus Laparoscopy for Right Hemicolectomy: A Systematic Review—Current Status of Right Hemicolectomy", *BioMed Research International*, vol. 2014, Article ID 643685, 16 pages, 2014. <https://doi.org/10.1155/2014/643685>.
3. Amir M. Shabana, Manzoor Dar & Mohamed A. Ghanem (2013) Surgically performed rectus sheath block – Effect of morphine added to bupivacaine versus bupivacaine only: A prospective randomized controlled double blinded trial, *Egyptian Journal of Anaesthesia*, 29:4, 401-405, DOI: 10.1016/j.egja.2013.07.002.

Biography

Peniel Kenna Dula is teaching health science anaesthesia students at Debrebrehan University since 2015 G.C to date. While her focus is in teaching theory and practical anaesthesia, she also involves in research activities and provides anaesthesia service for patients to be operated in public hospital. She received her education at Addis Ababa University both for her bachelor's and master's degree in anaesthesia science. She has participated in various trainings and seminars related to her profession and teaching – learning process. She has also published different articles on various journals.

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