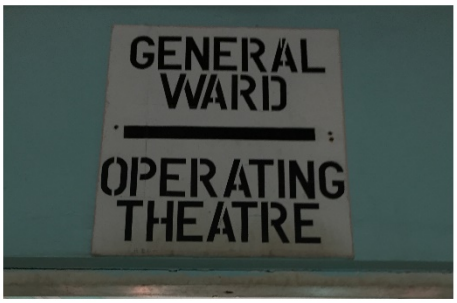




An Elective in Anaesthetics

Western Regional Hospital, Belize

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Background

I undertook my elective at Western Regional Hospital (WRH), a small hospital located in Belmopan, the capital city of Belize. Belize, classified as an upper middle-income country according to the World Bank, houses 366,000 people to form part of the Commonwealth Caribbean (1). The official language spoken is English, however, Spanish is the most widely spoken first language. Government hospitals operate throughout Belize with private clinics in bigger cities offering access to specialists and medical imaging such as CT, Ultrasound and MRI. Mobile clinics from non-governmental organisations provide healthcare in rural communities. The Ministry of Health (MoH) oversees all provision of healthcare and offers residents free healthcare provisions in state facilities.

WRH houses one of only three functioning operating theatres in the country, a team of ten doctors assists in providing primary and secondary levels of care to a population of over 66,000 people in the Western region (2, 3).

Anaesthetics in Belize

Whilst on anaesthetics and surgery, I clerked patients and undertook procedural skills such as cannulation, venepuncture, ECG, observations, assisting with intubation and suturing. In addition, I observed surgeries ranging from open cholecystectomies to amputation (mainly due to diabetic neuropathy) to appendicectomies.

I worked alongside two full time anaesthetists and four anaesthetic nurses (ODPs). One anaesthetist covers the entire hospital (Medicine, Surgery, O&G and the ED) in 12-hour shifts. For uncomplicated procedures, the standard induction regimen consisted of 1-2mg/kg Propofol and Fentanyl. Maintenance was with either Sevoflurane or Isoflurane. After induction of anaesthesia, the anaesthetist would then leave the care of the patient to the anaesthetic nurse. The anaesthetist would then conduct preoperative assessments of other patients before returning to theatre just before the end of the operation. Postoperative nausea and vomiting (PONV) are managed through a regimen of Metoclopramide and Ranitidine. Pain management ranged from Paracetamol to IM Morphine and was sparsely prescribed.

Some limitations for delivery of anaesthesia was that there were no pumps for total intravenous anaesthesia (TIVA) and no ultrasound machines for guided nerve blocks. Many of the drugs in use had passed their expiry date and were donated from

larger hospitals in neighbouring countries. The hospital was also unable to afford epidural kits so spinal blocks were the only option, however, both anaesthetists working at the hospital felt spinal anaesthesia were adequate for their patients.

Reflections

a) Poor adherence to the WHO Surgical Safety Checklist

Spending four weeks in the theatres at WRH enabled me to see the lack of adherence to the WHO Checklist/ Prior to surgery, the anaesthetist would consult with the patient on the ward before seeing them in theatre, no further checks were made by the surgeon or rest of the team. However, there were elements of the Checklist such as at 'Time Out', the anaesthetist would mention if there were any concerns or not before leaving the patient with the ODP, the team would say a prayer together across the patient and the operation would begin. At 'Sign Out', the scrub nurse would count instruments, swabs and sharps. I spoke with both anaesthetists working at the hospital, they both described having experience of the WHO Checklist whilst training in other Central American countries but described not using it here due to surgeon preference.

b) High incidence of pulmonary embolism in pregnancy

I observed that pulmonary embolism in pregnancy was not unusual at WRH. At a clinical incident review, we discussed the affordability of diagnostic blood tests such as D-dimer (£35) and anticoagulant prophylaxis or treatment (over £40) - these are unaffordable with most patients declining them. The outcome of this finding resulted in firstly a clinical tutorial to all obstetrics staff on signs and symptoms of PE which was then followed by an application to the MoH to secure more funding for diagnostic tests, prophylaxis and treatment. In this context, I was impressed that good management plans required the best history taking and physical examination skills from astute clinicians. I observed this regularly in the ED for patients presenting with an acute abdomen, breathlessness and pyrexia where management plans – medical, surgical or conservative options were effectively sought using few if none investigations. However, I saw that in the case of VTE prophylaxis and management the only

limiting factor was the affordability of Heparin and unfortunately even with the ability to diagnose it there is no immediate solution until funding has been made available.

c) Differences in prescribing: amioda-everything

Patients were managed with a cephalosporin for all chest infections, clinicians explained to me that this was the drug of choice because they don't always request cultures and it was the most cost-effective option for patients. Following on, in paediatrics; for neonates with fever, the regime was of Ampicillin and Gentamycin which is the same as NICE guidelines - a Penicillin and Gentamycin combination. In contrast, Albendazole is given every six months when a child starts school – this practise is not used in the UK and adumbrates the different infections children are at risk of in Belize. Furthermore, I noticed that all patients attending an outpatient clinic with atrial fibrillation were on Amiodarone as their first line treatment. I learnt that the rationale behind this was that it is cheaper for the patient and the clinicians felt this was their only prescribing option regardless of disease severity or comorbidities.

d) Immune reconstitution syndrome: compromises in patient safety

With the incidence of HIV on the rise and a large background prevalence of tuberculosis already present in the community, the risk of immune reconstitution inflammatory syndrome has also been on the increase. I encountered a clinical incident at the hospital where a patient developed immune reconstitution syndrome after starting immunosuppressive drugs for HIV. WRH learnt from this case and has implemented an advanced screening assessment before starting a patient on antiretroviral medication involving a detailed history and CXR.

Research

Introduction: A qualitative mixed methods project on the recognition, diagnosis and management of perioperative acute kidney injury (AKI) using NICE guidelines as the gold standard. I developed the research proposal, conducted the questionnaires and interpreted the data using thematic analysis independently.

Significance: The sharing of findings and practices that we follow in the UK is something that I wanted to share. I chose this audit topic as there is a lack of literature on perioperative AKI and this work has the potential to influence future policy at a local level. Observing posters throughout the hospital, I thought that having an infographic to assess and recognise AKI risk would be useful to patient outcomes.

Ethical considerations: Prior to undertaking the research, I debriefed with my educational supervisor at WRH regarding ethical considerations concerning the patients, doctors and the hospital as a whole. We weighed up the risks and benefits alongside issues that may pertain to data handling and confidentiality, this was a low risk project that adhered to MoH regulations.

Methods: Interviews were carried out with the medical staff working in internal medicine, surgery and anaesthetics using a questionnaire. The questionnaire consisted of six questions asking about aetiology, risk factors and treatment to establish current levels of understanding surrounding AKI. I sought consent from 10 doctors of whom 9 agreed to being interviewed and filling in a questionnaire.

Findings and outcome: The research findings from this questionnaire were analysed to highlights strengths and weaknesses in the identification of AKI. One recurring theme that cropped up in over 80% of questionnaires was the failure to recognise ACEI and NSAIDs as a risk factor. The largest recurring theme in management consisted of electrolyte monitoring, diuretics and hydration. Clinical staff overall had a good understanding of risk factors for AKI that applies to the local population, however the omittance of NSAIDs and ACEI as risk factors is an important finding and has been stressed on the infographic design. The infographic was emailed to one of the anaesthetists to distribute in the hospital alongside the findings of the analysis.

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