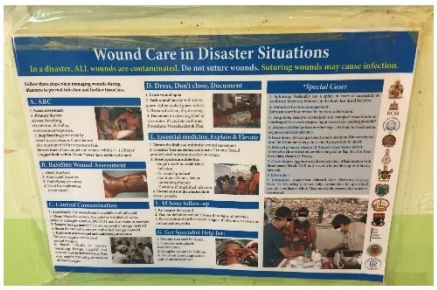
2018

Elective Report

Western Regional Hospital, Belize







Shane D'Souza
Year 4 Medical Student
University of Liverpool Medical School

Acknowledgements
The author would like to extend his grateful thanks to the **Association of Anaesthetists of Great Britain and Ireland (AAGBI),** the **Baker-Bates Medical Scholarship** and the **Renal Association** who enabled me to embark on a life changing experience.

Background

I undertook my elective at Western Regional Hospital (WRH), a small community hospital located in Belmopan, the capital city of Belize. WRH houses one of only three functioning operating theatres in the country; a team of ten doctors assist in providing primary and secondary levels of care to a population of over 66,000 people in the Western region (1, 2). At WRH, there are some flat rates the hospital charges such as $5 BZD (£1 GBP ~ $2.5 BZD) to see a specialist in an outpatient clinic and $50 BZD for a surgical procedure. There are no nephrologists in Belmopan and limited expertise in Belize City. 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 public spending on health was 4% of the GDP in 2012 (versus 9.8% in the UK) (3), this is overseen by the Ministry of Health (MoH).

Poverty is increasingly common, more so in rural areas with just over 41% of the population below the poverty line.

Nephrology in Belize

Whilst on anaesthetics and surgery, I was able to experience different elements of renal medicine through seeing patients and carrying out a research project. On surgical ward rounds, I clerked patients and undertook procedural skills such as cannulation, bloods, ECG, observations and suturing. I observed surgeries ranging from open cholecystectomies to amputation to appendicectomies. During anaesthetics, I was able to undertake practical procedures such as setting up IV lines, attend cardiac arrests and assist with intubation.

At WRH, there are limited options for patients presenting with renal pathology. There are no renal specialists at WRH with few facilities for dialysis in Belize City. Visiting nephrologists from the USA and afar sporadically attend to provide clinics. At WRH, patients who require imaging of the urinary tract need to attend a private clinic. In the ED, the only ultrasound machine is a FAST scan; patients in acute urinary retention are catheterised before being transferred for an ultrasound if necessary. The costings of specialist investigations are the ambulance transportation cost and that of the test: ultrasound (£50+), plain abdominal CT (£150+), Electrolytes (Na+/K+/Cl) (£25) and CRP (£20). Diagnostic testing for rarer autoimmune causes sets patients

back over £90, the second most expensive set of laboratory tests after a female hormone panel. Furthermore, patients with urolithiasis were managed with medical expulsive therapies such as Tamsulosin; for complicated stones not responsive to medical treatment, surgical approaches such as percutaneous nephrolithotomy or extracorporeal shockwave lithotripsy are only available in Mexico.

Reflections

Limited treatment for nephrotic syndrome

Whilst on paediatrics, I observed the management of an oedematous child who had suspected nephrotic syndrome based on a urine analysis (protein ++) and clinical judgement. The mainstream treatment available in Belize is Prednisolone and Furosemide. In steroid-sensitive nephrotic syndrome, best practice guidelines recommend the use of cyclophosphamide or chlorambucil for eight weeks to reduce the risk of a relapse (4). Unfortunately, this child had attended four times in the last year due to relapses. I saw the impact it had on the child and their family who had travelled from a distant village. I also found out from clinicians that in steroid-resistant nephrotic syndrome calcineurin inhibitors were unavailable and they would have to be transferred to Mexico for treatment. Nephrotic syndrome is a common glomerular disease in children and the limited treatment options made me appreciate what choices we have in the NHS. In addition to limited treatment options here, a striking difference between the UK and Belize is that there are no oncology facilities; radio- or chemotherapy and diagnostic testing all occur internationally. Ophthalmology is also completely private.

The importance of physical examination and history

In a resource scarce setting, history taking, and physical examination is of fundamental importance where more than 60% of patients attending cannot afford specialist laboratory tests and medical imaging. In the ED, I saw patients presenting with acute abdomens whose work up predominantly consisted of history and examination. Patients were examined by senior doctors over the course of few hours. I compared this to how this patient would have been investigated back in the UK such as by requesting FBC/CRP/U&Es/LFTs/Amylase/Ultrasounds or X-rays. I was impressed by the efficient use of investigations and the fast turnover time for patients in the ED.

Overall, the skills I developed here in history taking and examination can be translated in to my future practice as a doctor when examining patients and assist in initiating management plans prior to obtaining laboratory results.

Elective benefits to myself and the host institution

	Benefits to myself	Benefits to the host institution and community
1.	***Clinical skills:*** one of the skills I developed the most was suturing. I was given plenty of opportunities to suture under supervision and independently for patients with traumatic wounds. I developed important skills of manual dexterity, aseptic technique, knowledge of suturing techniques and the importance of using Lidocaine for local anaesthetic.	***International healthcare:*** I felt that the local doctors benefited from having us around as they enjoyed discussing with us how we'd manage the same patient in an NHS environment and what resources we had available to us. I was able to impart using a range of resources such as Radiopaedia, Patient Professional, GP Notebook and BMJ Best Practice as a useful resource.
2.	***Writing discharge summaries:*** this is an essential skill for a foundation year doctor and over the course of the elective I had written more than ten discharge summaries. I was taught to use the SOAP framework which is a concise summary which defines a subjective view of how the patient feels, an objective view from the clinician, an analytical work up summarising results and a follow up plan such as discharge with antibiotics and booking a follow up appointment.	***A chance for patients to express themselves:*** a striking difference is that patient choice is very limited. I felt that my presence on ward rounds and in the ED enabled patients to express any concerns or worries they had about what was happening and why they needed medication. One example I came across was for a patient whom was diagnosed with diabetes and started on Metformin, I was able to explain to the patient about the drug, why to take it and associated life style changes he could consider.
3.	***An appreciation of the NHS:*** working in such a resource scarce environment and one that had poor hygiene standards made me appreciate the resources and access we have to such a large repertoire of drugs, specialists and allied healthcare professionals. Some patients would walk from rural villages up to six hours away just to see a specialist.	***Reducing the workload for clinicians:*** my presence on the elective improved the efficiency of the running of both the wards and ED. Being able to clerk patients, undertake history and examinations alongside writing discharge summaries enabled the clinicians to undertake more complicated tasks and dedicate more time to their patients.
4.	***Enhancing my continuing professional development (CPD):*** my elective enabled me to see disease presentations that would be rare to come by in the North West of England. Seeing patients with HIV, TB and snake bites daily enabled me to develop my understanding of diagnosis and treatment of these conditions. In addition, I was able to develop my clinical and administrative skills which are essential competencies of a foundation year doctor.	***Donations to the hospital:*** myself and my student colleagues left copies of the BNF, Oxford Handbooks, tourniquets, gloves and the scrubs we brought with us. Observing the limited resources and unreliable internet connect I believe that these resources we left would make a difference to future patients being treated.
	Future learning needs for myself	
1.	***To improve my understanding of infectious and tropical diseases:*** having seen infectious diseases such as HIV and TB, I would like to read further in to these conditions and how they are managed in the UK. I was also personally intrigued by snake and spider bites and will read in to the pharmacopathology of how venom acts on the body.	
2.	***To improve my awareness of suturing techniques:*** having had exposure to suturing in the ED using simple running and interrupted sutures, I would like to develop my skills by using chicken breasts and banana skin to practise these sutures alongside more complicated ones such as horizontal and vertical mattress sutures.	

Research

Introduction: I undertook 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 then interpreted the data using thematic analysis.

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.

Bibliography

1. The Electives Network. *Western Regional Hospital (Belmopan). http://www.electives.net/hospital/515/preview#overview (accessed 2nd September 2018).*

2. Pearl Ellis. *Western Health Region. http://www.health.gov.bz/whr/ (accessed 2nd September 2018).*

3. James Lewis. *Statistical bulletin: UK Health Accounts: 2016. https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthcaresystem/bulletins/ukhealthaccounts/2016 (accessed 2nd September 2018).*

4. Pravitsitthikul N, Willis NS, Hodson EM, et al*; Non-corticosteroid immunosuppressive medications for steroid-sensitive nephrotic syndrome in children.* Cochrane Database Syst Rev. 2013 Oct 29(10):CD002290. doi: 10.1002/14651858.CD002290.pub4.