J. WESTON-PRICE

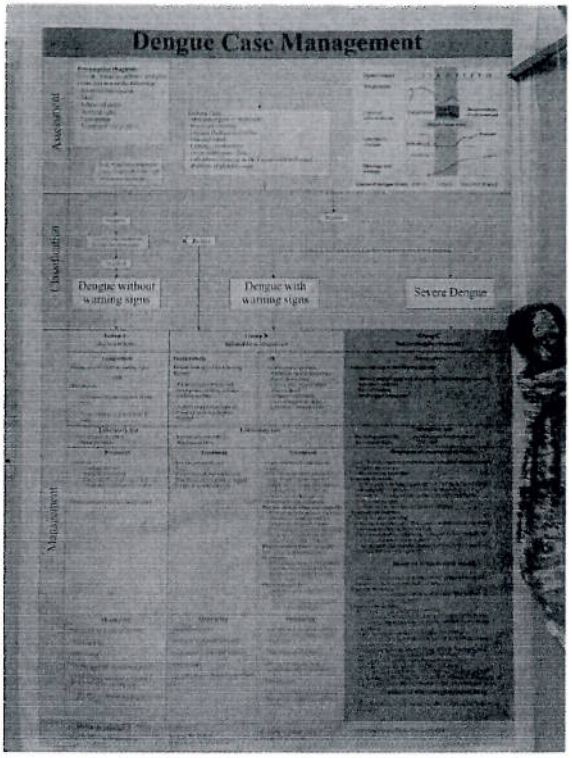
GENERAL MEDICINE

Elective Summary

1. What common presentations to the healthcare system in Belize will I observe and will they be similar to those that I have seen in the United Kingdom? Does the tropical environment and presence of land land borders with neighbouring countries affect disease demographics?

I observed a variety of different disease presentations during my time in the Western regional Hospital in Belmopan, Belize. In Accident and Emergency, I saw both major and minor trauma as well as acute infections particularly in young children. This is in line with my experiences of General Practice presentations and Accident and Emergency admissions back home in the United Kingdom. Trauma was similar in origin, with domestic trauma, occupational trauma, and road traffic injuries prevalent in the same fashion as I might expect to see in the Royal London Hospital's Emergency Department. Also childhood infections and acute fever were common and this is the same as what I would expect to observe in British primary care.
There was a large maternity unit at the hospital and many women were there for anti natal care, delivery of new borns and the complications of pregnancy. This department took up a considerable area of the hospital and this was a surprising comparison with the UK where obstetric medicine is not always the biggest use of resources on a hospital site. Also HIV presentation is higher in Belize than in the UK with 2.3% of the Belizean population currently infected which compares to only 0.2% in the UK (1). This therefore provides a substantial drain on the hospital resources and I was made aware by staff that this is the situation countrywide. In the UK, I would say that the impact of HIV and the proportion of total patients presenting is much smaller and whilst it is still a concern it does not govern the same amount of resources as in Belize.

The tropical environment of Belize does affect the demographics of disease in comparison to the United Kingdom. The first major difference is the presence of Malaria in this region of the world. Cases of Malaria have been reported in the country of Belize regularly but tend to be quite isolated in nature. However as a traveller to country I was advised to take anti malarials and there was public health information to the local population about its dangers and what to look out for. Chloroquine and Doxycycline were readily available in pharmacies country wide and were fairly affordable for the general public.
Dengue fever is far more widespread in Belize and presentation numbers spike during the rainy season of June through to September. The government spends a substantial amount of its healthcare budget on making the public aware of the threat of Dengue fever and has a management plan set in place for all newly reported cases. This obviously differs from the United Kingdom because very few patients present to Accident and Emergency in our hospitals with Dengue fever during any month of the year.



A Dengue Fever Management Plan on the wall of the Out Patient Clinic Consulting Room

Chagas Disease which is known as the 'kissing bug' also commands a fair amount of the health education budget with leaflets and fliers handed out to teach people how to spot the early warning signs of the disease and to know who is at risk. The Triatoma dimidiate fly which transmits the infection tends to live in damp wood piles or poorly maintained thatch roofs so part of the local healthcare policy is to teach this in schools and work places so as to reduce the number of reported cases via better education.

The presence of land borders with Guatemala and Mexico means that health tourism can be an issue in this part of the world. The Belizean health system is still fairly primitive though and upon discussion with medical and clerical staff at the hospital I came to the conclusion that it is far less of a problem then I expected. Many Belizeans who live in the north of the country who require private health care will tend to migrate across the northern border to Chetumal in Mexico to access a higher standard of private healthcare there. It is relatively uncommon for people from this richer and more affluent area of Mexico which borders Belize to travel in the opposite direction. Land borders with Guatemala tend to be very strict after years civil unrest across the border coupled with longstanding tension over Guatemala's claims to Belizean territory. I was therefore unable to find any evidence of either Guatemalans or Belizeans crossing the border in either direction in search of a better standard of healthcare.

Another issue regarding tourism is the provision of health care to those people who visit Belize every year on holiday to experience its Mayan ruins or its Caribbean coastline. The country is a popular destination for SUBA divers the world over with such sites as the Blue Hole and the barrier reef. This means that Bariatric medicine is becoming more common in those areas with decompression chambers available near

to the coastline. This healthcare provision is mixed between private and public and is starting to become a major part of the national system of care delivery.

2. View the provision of healthcare in a country with only 300,000 people. Compare the allocation of health care resources in this country's capital with that of London where over 8 million people require health care services.

The population of Belize is spread out over the country and for Central America it is relatively under populated. There are hospitals in the major cities, San Ignacio, Orange Walk, Belmopan, Belize City, Dangria and Punta Gorda. The Western Regional Hospital in Belmopan is larger then the others with the exception of the hospital in Belize City and as such covers most of the population in the Cayo district and people living in the northern region as well. Regional Accident and Emergency departments provide the basis of emergency healthcare nationally and after initial assessment at one of these centres it is decided whether a patient will benefit from transfer to a larger hospital for their care.

Emergency medicine does not make up the entire scope of healthcare in Belize however as I observed other very important areas which are producing very positive results. I attended a public services fair in the capital which had stalls and information on all of the nation's public services from the police department, army and fire brigade to the hospitals and hurricane warning team. The hospital stall had information on a wide range of health initiatives that were wanting to inform the population about. Tropical diseases such as Chagas and Dengue fever were being educated about including prevention and early warning signs of infection. There was also advice about good sanitation techniques in the event of hurricane strikes or floods and what system will be set in place by the government to provide healthcare in such an emergency. Finally there was education about HIV and its spread, particularly focussing on the use of contraceptives and highlighting the risks as well. All of this information was not limited to this fair as I saw numerous billboards by the road side and posters in hospitals and public areas which reinforced all of the above information.

I found this very interesting as it showed that public health and health education is a big part of Belizean healthcare in the same way that the British Government provides millions of pounds of its NHS budget to this area. The idea that prevention and education can reduce future drain on health resources was clearly evident in this country.

The Western Region Health stall at the Public Services Fair

Healthcare provision in the country's capital is a bit different in Belize to that in the United Kingdom. Following on from Hurricane Hattie in 1961 the Belizean government decided to relocate administrative buildings from Belize City to a new capital in land called Belmopan. Rather than a sprawling metropolis like other worldwide capitals, Belmopan is more of a quiet newly built town with government offices and lower levels of poverty and crime compared to the rest of the country. Western Region Hospital was built at the same time as much of the rest of the city yet is responsible for patients beyond the city boundaries. A better comparison would therefore be made between the main hospital in Belize City which is the largest city in the country and hospitals in London.

3. Establish the management, investigation and treatment of common presentations in Belize and see how this differs from my understanding. Also compare the 'Gold Standard' for treatment of major diseases between the UK and Belize.

Upon presentation to the Accident and Emergency department at Western Regional Hospital there is a set out plan for patient management and this is very similar to what I have experienced in the UK. There are nurses who will triage patients with minor injuries and then the more junior doctors will clerk the cases. There was a consultant physician on hand also to over see the department and be involved in the care of more complex cases. The standard presentations tended to be trauma either major or minor and acute infections particularly in the young. As mentioned before there is a large intake of obstetric patients with added complications in their care and they have to be triaged to the large maternity unit on site where the speciality nurses, midwifes and doctors are on hand to deal with their management. There is an ability to treat patients surgically in emergencies with an Anaesthetist and an on call Surgeon in the hospital

at all times to provide this service. Unfortunately the lack of Intensive Care Medicine on site is a great problem and patients requiring that form of care have to be transferred to the only ITU in the country which is in Belize City. This transfer is via ambulance and takes about 50 minutes, during which time the patient must be manually ventilated and in some cases the ambulance must be shared by more than one patient.

In order to demonstrate the way in which the management of common presentations takes place I will compare two separate cases which I observed. The first was a young gentleman with an acute abdomen which after admission and examination there was a suspicion of an appendicitis with possible rupture and peritonitis. He was treated surgically within the hour with an open procedure and his abdomen thoroughly washed out before recovering on the ward for the following days. There was a second case where a young man of similar age presented with an abdominal knife wound and he was again treated surgically immediately in what appeared to be a very similar procedure and was admitted to the ward for recovery. Both clerkings and procedures were performed by the same consultant from Accident and Emergency who followed his patients through to discharge. This is very different from my experiences in this country as I have never seen an individual doctor care for a patient from first presentation to Accident and Emergency, perform the surgical procedure and then be the consulting doctor during his post operative care right the way through to discharge.

Working with the on call anaesthetist at the hospital

When I was observing the health workers in Belize it became apparent very quickly that there really is not a gold standard approach to disease management as such. The management has an aim of prolonging human life, reducing the level of suffering and doing these things within the confines of limited resources. There really is not the availability of equipment and diagnostic tools to allow the Belizean Health System to provide healthcare in any other way than in a compassionate way and with the aim of reducing mortality. Innovative procedures, expensive imaging devices, laparoscopic procedures and better intensive care facilities are just not available and as such do not form part of the framework of care.

In an environment where resources are limited and diagnostic materials are not as readily available, doctors must rely on their clinical knowledge, skill and ability to manage patients more than in the United Kingdom. To be able to do this it takes a vast

amount of experience in working in that environment and the doctors I encountered were more than competent in working under such conditions.

4. Be able to review my skills and application in a new environment which will help me for my job as a doctor where I will be expected to work in new and challenging settings.

For myself I found the transition from NHS to Belizean Healthcare rather large and would very much have struggled to work as a junior doctor in Western Regional Hospital. As stated before, the doctors in the hospital rely heavily on their clinical knowledge and instinct based diagnostic skills rather than complex investigations and imaging which they do not have access to. The consultants that I met were extremely knowledgeable on patient care and presentations of diseases and this has come entirely from experience of treating patients in that environment for many years. As a junior doctor starting to work in this sort of setting it would be very difficult because experience is not a resource that is available to us which is why we more heavily rely on diagnostic tools. This for me highlighted the most striking difference between Belizean and British hospitals and where I felt I learnt the most about my own limitations.

That said there were great similarities between the hospital I observed and hospitals in this country that I have shadowed or had firms at. The vacutainer system for Blood sampling is available in Western Regional and therefore I was able to use my skills in Blood taking from my training in order to assist the doctors over there. There was also a similar system of ward rounds, out patient clinics, operating theatre cleanliness and good practice which I am used to in UK hospitals. Finally the out patient clinics involved a very similar process to my experiences over here as they worked on the principle of a single room with a doctor and patient consultation and all medical records were electronically recorded via a computer in the consultation room. This paperless system is not evident everywhere in the UK and showed a surprising difference between healthcare in Belize than that in the United Kingdom. How widespread this paperless system is in the other hospitals, I am not aware, but this is a case where I experienced a more advanced system in Belize to that of the UK.

Overall I felt this was a really useful exercise just before I embark on my Foundation Year at a new hospital because I saw how things can be very different from place to place but good clinical practice and clinical knowledge should always supersede this. There will also always be some parts of the provision of care which will be the same and it is very important to clarify what those are and how the ones that differ can be added to my repertoire of skills.

(1) World Factbook statistics, 2011 estimate