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Elective Report

Trinidad and Tobago is a twin island country in the Caribbean. I had the opportunity to experience medicine in Trinidad and therefore will be focusing more on my experiences in Trinidad. During the six weeks of the elective, I have spent five weeks in the Pediatrics Emergency Department (PED) and a week in the Radiology Department in Mount Hope General Hospital. Mount Hope is a large state operated hospital, which provides free healthcare.

A common condition seen in Trinidad is dengue fever. The dengue virus is contracted from the bite of a striped Aedes aegypti mosquito that has previously bitten an infected person. The mosquito flourishes during the rainy season (June-Dec) but can breed in water-filled flowerpots, drains or any areas with stagnant water. It is prevalent throughout the tropics and subtropics; outbreaks occur frequently in the Caribbean, but cases have also been imported via tourists returning from areas with widespread dengue. Other areas that have a high incidence of dengue fever are Southeast Asia, India and the Middle East. There is a similar distribution to the areas of the world that harbor malaria and yellow fever as well.

The prevention of dengue fever in Trinidad and Tobago is highly dependent on the sustained effectiveness on the Asdes aegypti mosquito prevention program. The Health Belief Model (HBM) framework was used to explore the persuade people to acknowledge their susceptibility to dengue fever and the benefits of undertaking mosquito control while storing water for domestic use.

The incubation period ranges from 3-15 days before the signs and symptoms of dengue appear. It starts with chills, headache, pain upon moving the eyes, and low backache. Painful aching in the legs and joints occurs during the first hours of illness. Fever and other signs of dengue last for two or four days. A characteristic rash appears along with the fever and spreads from the extremities but spares the face.

Since dengue is caused by a virus the treatment is symptomatic relief. Rest and fluid for adequate hydration is important. NSAIDS and acetaminophen are given for pain and fever. It is important to hold all intramuscular injections since there is an associated drop in platelets and it may lead bleeding from the patient. Serial full blood counts are done to monitor platelet levels, which usually recover on their own.

The local hospital has a dengue protocol that provides instructions on identification of dengue and its complications. It then goes on to instruct either to seek senior help or manage in cases without complications. I have attached a copy of the protocol.

Trinidad and Tobago healthcare system is similar to that of the United Kingdom, it operates under two-tier. They have both public and private health care facilities.

The Ministry of Health is accountable for governing the health sector. The provision of heath care services is the responsibility of newly created departments, the Regional Health Authorities (RHAs). The Ministry of Health does not directly run the health care facilities. However, it play a key role ensuring that they are properly run, by setting targets, policies and goals for

regions bases on their health needs. The ministry also allocates financial resources to the RHAs to finance their operations.
Free healthcare is available to citizens at public health care facilities where they are not required to have health insurance. Health care services are provided on a walk-in basis and there are a few major hospitals thought out the county as well as smaller health centers and clinics located regionally.
However, there is a significant lack of clinical specialists in particular specialties. For examples, through out the country there is only one pediatric cardiologist. She does not work for the government and works privately and a visit can cost 4000tt, which is roughly £400.

The immunization schedules for the UK and Trinidad are similar in most respects with a few key differences. Both receive immunization against diphtheria, tetanus, pertussis, haemophilus influenza type b and polio within 4 months in the UK and 6 months in Trinidad. Due to the high incidence of HIV in the Caribbean population and as hepatitis B infections coexist and therefore introduced in the immunization schedule which is not present in the UK. Absent from the Trinidad schedule is rotavirus vaccine. In 2009, MOH in Trinidad introduced the Pneumococcal (PCV) vaccine, however, its use remains controversial.
Both UK and Trinidad vaccinate against measles, mumps and rubella around the same time. However, due to occasional outbreaks of yellow fever, in Trinidad they receive attenuated yellow fever vaccine. As a result the frequency for these outbreak have been dramatically reduced.
In summary, the immunization schedules for the UK and Trinidad are very similar with some exceptions. In the UK, it is the addition of the rotavirus vaccination and in Trinidad its is Hepatitis B and yellow fever vaccination.

Immunization Schedule in Trinidad and Tobago

Age	Immunization to be given against	Vaccine
3 months	Diphtheria, Tetanus and Pertussis (Whooping Cough)	Pentavalent (DPT / Hep B / Hib)
	Hepatitis B infection,	Attenuated trivalent oral poliomyelitis vaccine (OPV)
	Haemophilus Influenzae type b, Poliomyelitis	
4 -5 months	Diphtheria, Tetanus and Pertussis (Whooping Cough)	Pentavalent (DPT / Hep B / Hib)
	Hepatitis B infection,	
	Haemophilus Influenzae type b, Poliomyelitis V	
6 months	Diphtheria, Tetanus and Pertussis (Whooping Cough)	Pentavalent (DPT / Hep B / Hib)
	Hepatitis B infection,	
	Haemophilus Influenzae type b, Poliomyelitis	
12-15 months	Measles, Mumps, Rubella	Combined Measles, Mumps, Rubella
	Yellow Fever	

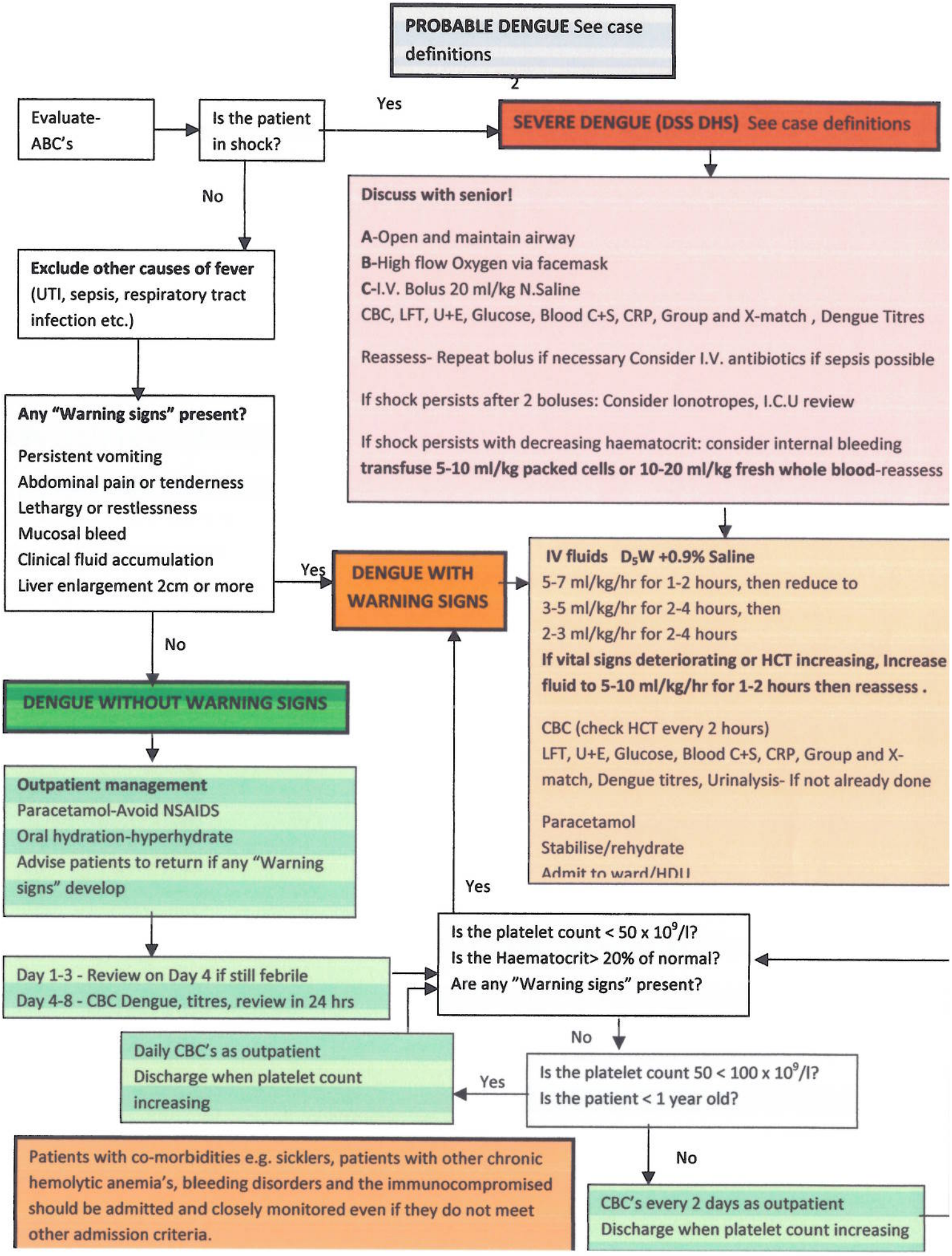
		(MMR) Attenuated Yellow Fever vaccine
18 months	Diphtheria, Tetanus and Pertussis (Whooping Cough) Poliomyelitis	Booster DPT OPV
5 years	Diphtheria, Tetanus and Pertussis (Whooping Cough) Poliomyelitis Measles, Mumps, Rubella	Boosters DPT OPV MMR
9-12 years	Diphtheria, Tetanus, Yellow Fever	Tetanus, Diphtheria (Td), Yellow Fever vaccine
19-45 years	MMR, Hep B	
Pre-Natal for Mothers	Neonatal Tetanus, Tetanus	Td (Adult Tetanus, Diphtheria)
Post-Natal for Mothers	Rubella	MMR

Spending time in the paediatric department and radiology has helped me prepare for my future role as a junior doctor. In the paediatric emergency department I was able to see patients independently, I would take a clinical history and exam the patients and then form a differential and request any relevant clinical investigations and a management plan. I would then review the patient with a senior staff member and make any changes to the plan if required. The skills I have gained from this experience will be vital as for my foundation training I have two emergency department jobs. Teamwork was also another crucial skill I have gained. Most importantly escalating to senior when needed and if I faced any difficulty in managing any of the patients. Given the heavy workload and the time constraints efficient patient handover was also required.

Radiology was quite a different experience. I had the opportunity to observe ultrasound and barium scans being performed. CT and MRI reporting were the majority of the workload and I had the opportunity to discuss and interpret a few cases as well as receive teaching on several important topics such as anatomy on CT and MRI scans.

Although neither of the specialities in the future I wish to pursue, I have learned and gained several transferable skills. One of which is how to request radiological investigations effectively and what relevant information should be provided. Also, how to interpret basic x-rays for emergencies and their management.

Communicating with patients was initially challenging. Although the main language spoken was English, it was spoken in a strong accent with several locally specific words added to it. For example, "tea" was used to describe breast milk. As the days progressed it became easier to understand. I learnt from this experience to ask and clarify if I am unsure or misunderstand the patients as incorrect or unclear histories can lead to clinical error. I did this by either asking the patients to talk slow so that I could understand and also clarify and words I was not familiar with either with them or with a local staff member.


PROBABLE DENGUE See case definitions
Evaluate- ABC's
Is the patient in shock?
Yes
SEVERE DENGUE (DSS DHS) See case definitions
No
Discuss with senior!
A-Open and maintain airway
B-High flow Oxygen via facemask
C-I.V. Bolus 20 ml/kg N.Saline
CBC, LFT, U+E, Glucose, Blood C+S, CRP, Group and X-match , Dengue Titres
Reassess- Repeat bolus if necessary Consider I.V. antibiotics if sepsis possible
If shock persists after 2 boluses: Consider Ionotropes, I.C.U review
If shock persists with decreasing haematocrit: consider internal bleeding
transfuse 5-10 ml/kg packed cells or 10-20 ml/kg fresh whole blood-reassess
Exclude other causes of fever (UTI, sepsis, respiratory tract infection etc.)
Any "Warning signs" present?
Persistent vomiting
Abdominal pain or tenderness
Lethargy or restlessness
Mucosal bleed
Clinical fluid accumulation
Liver enlargement 2cm or more
Yes
DENGUE WITH WARNING SIGNS
IV fluids D5W +0.9% Saline
5-7 ml/kg/hr for 1-2 hours, then reduce to
3-5 ml/kg/hr for 2-4 hours, then
2-3 ml/kg/hr for 2-4 hours
If vital signs deteriorating or HCT increasing, Increase fluid to 5-10 ml/kg/hr for 1-2 hours then reassess .
CBC (check HCT every 2 hours)
LFT, U+E, Glucose, Blood C+S, CRP, Group and X-match, Dengue titres, Urinalysis- If not already done
Paracetamol
Stabilise/rehydrate
Admit to ward/HDU
No
DENGUE WITHOUT WARNING SIGNS
Outpatient management
Paracetamol-Avoid NSAIDS
Oral hydration-hyperhydrate
Advise patients to return if any "Warning signs" develop
Day 1-3 - Review on Day 4 if still febrile
Day 4-8 - CBC Dengue, titres, review in 24 hrs
Yes
Is the platelet count < 50 x 10^9/l?
Is the Haematocrit> 20% of normal?
Are any "Warning signs" present?
No
Daily CBC's as outpatient
Discharge when platelet count increasing
Yes
Is the platelet count 50 < 100 x 10^9/l?
Is the patient < 1 year old?
No
CBC's every 2 days as outpatient
Discharge when platelet count increasing
Patients with co-morbidities e.g. sicklers, patients with other chronic hemolytic anemia's, bleeding disorders and the immunocompromised should be admitted and closely monitored even if they do not meet other admission criteria.