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TRAUMA

Elective Report: Trauma Medicine

1. Describe the epidemiology of various types of trauma in UK and compare this to another in a developing country.

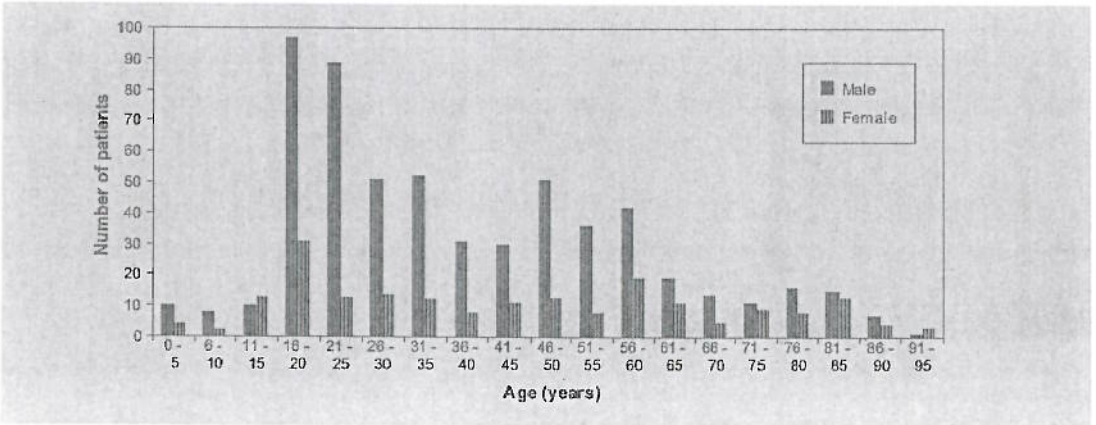
Major trauma refers to physical injuries that can be caused blunt forces or penetrating injury. These can be caused by assaults, blasts, crushes, burns, self-inflicted and have the possibility of causing morbidity or death. Major trauma is a leading cause of death in people under the age of 40 and about 75% of patients are male. The National Audit Office estimated that there were at least 20,000 cases of major trauma cases in England resulting 5,400 deaths in 2007 of which 2,440 occurred pre-hospital and 3000 post-hospital admission. Injuries caused by blunt forces make up about 98% of trauma cases that most commonly include road traffic collisions and falls. The remaining 2% of cases are made up of penetrating injuries that include knife and gunshot wounds. Furthermore, the National Confidential Enquiry into Patient outcome and Death found that road traffic collisions made up 56% of trauma cases in 2007 (Table 1).(1)

Table Mechanism of injury of Trauma Patients in England.(1)

Table 1. Mechanism of injury

	Number of patients	%
RTC (driver/passenger)	319	40.6
RTC (pedestrian)	123	15.7
Fall from height	136	17.3
Assault	72	9.2
Industrial/agricultural	21	2.7
Sport/leisure	18	2.3
Self harm	15	1.9
Other	81	10.3
Subtotal	785	
Not recorded	10	
Total	795	

Table: Age and Gender of Trauma Patients in England 2007.(1)



A questionnaire conducted by Matzopoulos et al. of 242 of all 356 facilities (including 28 hospitals that did not treat trauma) in South Africa found that the annual caseload for the facilities that responded to the survey was over 1 million. Furthermore the paper estimated that there were over 1.5 million cases for all state facilities in 1997. The highest cases originated from the north of the country with hospitals reported an average of 11,023 cases per year, or 30 per day. Hospitals from southern regions reported an average caseload of 2500 cases per year. While most of the cases were due to violence and traffic injuries, more than half of the cases reported were attributed to violence.(2)

2. Describe the provision of healthcare for a trauma patient at a specialist trauma centre as compared to non-specialist hospital.

The Trauma service at the Royal London Hospital (Barts Health) has developed an international reputation for providing care to patients with multiple injuries. The centre is part of a network of four trauma centres in London (i.e. The Royal London, King's College Hospital, St. Georges Hospital and St. Mary's). The Royal London benefits from being home to London's Helicopter and Emergency Medical Service (HEMS) and receives patients 24 hours a day, 7 days a week and provides comprehensive treatment for both minor and major injuries from the scene of incident till discharge.(3)

The dedicated trauma team at the centre is made up of mainly vascular surgeons and have a designated ward for trauma patients. The team also benefits from a designated bleep system for trauma calls. The centre also benefits from an effective communication system between the hospital and the HEMS or ambulance service that enables the trauma team to be prepared on arrival of the patient. By having a designated ward to trauma cases enables a hub point to coordinate care and benefits from input other medical specialities available at the trust (e.g. orthopaedics, maxillofacial, plastics, neurosurgeons) as well as a specialised MDT consisting of specialised trauma nurses. Furthermore, being a specialised trauma centre enables the patient to receive different surgical inputs from different surgical specialities during the same operation.(3)

Non-specialised centres are unable to provide dedicated care to trauma patients who can present with multiple and complex injuries. Such hospitals do not have the capacity to receive the patient from the scene and provide specialised care with a wealth of empirical clinical practice and knowledge. Furthermore, as most of the life-saving activities occur during primary and secondary surveys, a delay of being transferred from a non-specialised centre to a specialised trauma centre can be catastrophic.

3. How are trauma cases triaged or referred to the BLT Trauma Centre as opposed to a non-specialist centre.

The Trauma Service at the Royal London provides cover for major trauma in East London. The London Ambulance Services (LAS) and the Helicopter Emergency Medical Service (HEMS) triage the trauma patients at the site of incident and inform the closest or most suitable trauma centre (depending on injuries) of the transit. About a quarter of the 1800 cases managed by HEMS are received at The Royal London Hospital every year.(3)

4. Personal and Professional Development Goals

A) To become more confident in working and communicating with team members and other medical professionals.

The trauma team is essentially a melt-pot of different specialities that work together to provide effective and efficient care. Communication is a vital component of the dynamics of this team, where information has to be relayed effectively to plan ahead. This is particularly true in the resuscitation room where a several people can surround the patient carrying out individual tasks. At first I was hesitant of including myself in the resuscitation team carrying out even the simplest of tasks of taking blood lest I delay the team or my voice gets lost in the confluence. However, with time I realised that good communication and reporting back to the lead was the essential ingredient of an effective resuscitation team. So I began by handling and moving patients (e.g. across

beds, boards etc.) that requires following instructions and working as team; and then slowly progressed to taking bloods whilst making sure I continued reporting back to the lead when the job was done.

B) To be able to build good rapport with patients.

I have always been comfortable talking to patients, however, I have never had to negotiate with a non-cooperating patient. I was asked to do a tertiary survey on 21 years pregnant lady who was brought to hospital after falling down a flight of stairs. The patient had severe pain in both her hips and had been impatiently waiting for analgesia. The nurses advised not to approach the patient as she was being rude and non-cooperating.

However, I took this as a challenge and was confident that if I was able to build rapport with patient then she will allow a tertiary survey. On approaching the room, the patient was crying and upset. I started by offering the patient some water and showing empathy and acknowledgement of her pain. I explained the reason for delay and that in the meantime I could help by providing pillows to provide comfort. Although I had to make several visits to the linen room to fetch several pillows, the end result was that patient was more confortable and cooperating. After stating the reason why I had came to see the her and suggesting that perhaps it was the wrong time to carry out a "head to toe" examination, the patient most politely insisted that I carry out the examination. The nurses were surprised.

This proves the importance of building good rapport with patient and adopting a patient-centred approach when managing patients as an effective way of reaching goals.

C) To become more confident and efficient in taking histories and examining patients in acute situations.

I was unable to take a history or examine patients in acute situations due to the nature of the trauma service. However, I was able to take brief histories and examine patients on the wards when they were stable. Conducting numerous tertiary surveys on patients gave me the confidence to carry out full examination and then accurately document these in the notes. I was quickly able to pick up a routine for the examination and this methodology helped me for all trauma patients. I became more confident in memories multiple and complex positive finding and waiting till the end to document, rather than filling in an extensive pro-forma as I was doing the survey.

References

1. Trauma: Who Cares? National Confidential Enquiry into Patient Outcome and Death; 2007.

2. Matzopoulos RG, Prinsloo M, Butchart A, Peden MM, Lombard CJ. Estimating the South African trauma caseload. Int J Inj Contr Saf Promot. 2006 Mar;13(1):49–51.

3. Trauma Centre - Barts and the London NHS Trust - [Internet]. [cited 2012 Jun 1]. Available from: http://www.bartsandthelondon.nhs.uk/our-services/trauma-centre/