

Derby Medical Society

'One Night in May – The Ariana Grande Concert Bombing'

12th March 2019

Apologies

Dr McIntyre

Dr Chapman

The meeting was opened by Miss Hewitt, guest members were welcomed. It was with great sadness that Miss Hewitt reported the death of Dr Bill Pavely to the society. Dr Pavely was a GP at Park Medical Practice and will be greatly missed.

Speaker

Miss Hewitt welcomed Professor Simon Carley, a Professor in Emergency Medicine at the Manchester Royal Infirmary and Royal Manchester Children's Hospital. Professor Carley has an interest in the science and philosophy of Emergency Medicine and has been instrumental in orchestrating influential learning opportunities for clinicians with interest in EM. The audience were directed to - bestbets.org – a site with evidence based answers for many questions. Also - stemlynsblog.org – a medical education blog. Professor Carley also shares useful information on his twitter account - @emmmanchester.

'One night in May - The Ariana Grande Concert Bombing'

Professor Carley prefaced his talk saying that some aspects of what would be covered would be emotional and images and videos used to illustrate points may be upsetting. He also acknowledged the need to discuss what happened and lessons learnt whilst always keeping the victims at the forefront. Due to this he asked that any posting on social media about the talk be kept respectful. The audience agreed.

What happened?

In May 2018, after an amazing concert, as parents arrived to pick up their children, there was a blast at Manchester arena.

22.35 – Detonation of Improvised Explosive Device (IED) in the lobby of the arena

The audience saw footage on phones of the bombing at 22.35. News footage from the time was also shown and discussed. The audience agreed it was disturbing and anxiety provoking even watching the footage. It invokes different emotions to that of an accident, because it is due to a deliberate, violent act. Professor Carley is able to fully understand this as his teenage daughter's friends were at the concert and he talked about the huge impact it has had on them and the rippling effect of fear.

One thing which made this incident particularly difficult to manage medically was that the IED had many screws and bolts wrapped around it. These do not behave like other projectiles such as bullets. These things fly with high velocity and when they hit something are very destructive. The team at Manchester had knowledge of how to deal with this but it posed a challenge as it is not normally seen in civilian medicine.

22.42 - First ambulances arrived at the scene. The first dispatched ambulances didn't get there as they were flagged down by walking wounded further away from the scene.

22.58 - First patients arrived in A&E, these were the walking wounded. Interesting point that the first patients through the door may be actually the least wounded.

The emergency response to the incident was complex and difficult. People were dealing with limited information. There was also a worry about similarity to Bataclan incident, i.e. secondary devices. Therefore the fire service were not allowed in for 2 hrs.

Professor Carley showed an outline of Manchester arena. The arena did have a major incident plan and casualty clearing station. However, in this incident the casualties themselves chose where the clearing station was. People do not always behave as per the plan. He then showed a map of Manchester, outlining the multiple major trauma centres in the area. The site of the incident was 5 minutes from the MRI and about 15 minutes from Salford hospital.

A discussion about what would have happened if this would have happened in a smaller area, such as Derby, then followed.

The patients

There was an estimated total of 143 patients treated in Greater Manchester. 31 of these were priority 1 patients, in need of immediate attention. Professor Carley explained the P1-P3 scoring and the significance of the injuries.

Anonymised radiological imaging of some of the patients was shown. CT scans illustrated bolts and screws shattering bone, from high energy fractures, along with the scattering nature of the injuries.

The fragmented nature with which the shrapnel flies through the air meant that in a few cases, some penetrating injuries were missed, due to management of more obvious and serious wounds. Professor Carley recommended a 'lesson learned' - everybody gets a top-to-toe CT and a CT angiogram of the area of interest, so as not to miss anything.

There was one case of a patient who had a bolt lodged in the neck. Ordinarily they would be intubated asap, however in this case they had to have the CT before intubation, due to the availability of the CT and flow of patients through A&E. This illustrated how the management of one sick patient is very different to treating many sick people. In this case, the patient went straight from CT to theatre and was intubated by an anaesthetic team there.

Reflections

'To fail to plan is to plan to fail' - advice to read the major incident plan, think about possibilities and make plans

'No plan survives contact with the enemy' - need ability to adapt and change

'Plan for what people are GOING to do, not what you want them to do'

In this incident there was lots of first aid administered from the public. Professor Carley showed a video of a tourniquet application by a non-medical with best intentions, which probably was not very helpful.

Professor Carley showed a graph depicting patient flow through the emergency department, there was a peak between 12-3am. There was a quick peak for A&E, with a lag of workload into operating theatres and critical care etc.

Many patients needed surgery, due to the nature of the injuries. Surgeries started at 01:00 and within the first day there was 400 hrs of operating clocked.

Teamwork

There was lots of mutual support that night and in the days following. The way Manchester hospitals are divided means different specialities are in different hospitals. In this case different specialities made sub teams to go to different hospitals, resulting in very little secondary transfers.

There was also lots of advice received from the military. The Manchester hospitals held daily trauma meetings, modelled on expertise from medics who had served in Afghanistan. They also used expertise from the French following the Bataclan attack, which was delivered at a conference in Birmingham only a few months prior to the attack.

There was concern about sensorineural hearing loss and teams of audiologists arrived from day one. They used Dexamethasone to treat those at risk.

At one point in the night one of the doctors asked the question 'Should we cover these people for Hepatitis B?'. This due to the concern regarding mixing of bodily fluids. This was discussed with Public Health England and very quickly there was official advice regarding immunisation against Hepatitis B.

Hearts and minds

With such a violent, emotional and tragic event it is normal to be upset. The ripples of this event are far and wide.

VIP visitors such as the Queen and Ariana Grande gave a huge morale boost when they came to visit.

Learning Points

- Normal practice is best
- Distribute and support the workload
- Plan for the unthinkable such as kids and bombs

- Whole Body CTs are great – worry less about the radiation in a major incident
- Blood Borne Viruses can be transmitted, don't forget about them
- Eyes and ears are potentially missed
- VIPs are a pain but also great for morale

Professor Carley ended with a nod to the teamwork displayed that night, along with images of the victims as a tribute to those who lost their lives. The talk was closed with an image of a Manchester bee mural.

Questions were taken from the floor.

There was a collection for the Derby Medical Benevolent Society as the meeting ended.

Full members - 27

Guest Members - 3

Doctors in Training - 1

Medical Students - 119

Total attendance - 150

Summary

Last meeting Professor Simon Carley gave the talk 'One night in May – Lessons from the Ariana Grande Concert Bombing'. It was an emotional and awe-inspiring talk, paying tribute to the victims and outlining displays of mutual support and incredible teamwork by the medics involved.

There were many memorable learning points, three of which being:

1. In a crisis incident, whole body CTs are a great way to make sure nothing is missed. Worry less about the radiation in this type of event.
2. Distribute the workload and support other teams
3. Plan for the unthinkable because to 'fail to plan is to plan to fail' - however, be open to adapting because as we know 'No plan survives contact with the enemy'.