EM Cases Course 2017

Trauma Module



Chris Hicks & JP Champagne

Podcasts to listen to prior to the course

Link to: Trauma Pearls and Pitfalls Part 1 Link to: Trauma Pearls and Pitfalls Part 2 Link to: Update in Trauma Literature Link to: Critical Care Controversies

Case 1

You are working in a small community hospital and a 29 year-old woman who was the driver in an MCV arrives in shock with a BP of 80/40 and a GCS of 10. The primary survey reveals decreased air entry to the left lung base. The secondary survey reveals a huge temporal hematoma, a positive FAST exam, and when you examine the pelvis you note that the iliac crests seem mobile.

Q1: What specific things will you do immediately to manage this poly-trauma patient?

Q2: Will you proceed with the standard log roll and rectal exam in this patient?

Q3: Will you intubate this patient now or later? Will you use video or direct laryngoscopy?

Q4: What induction strategy and medications will you use in this head injured patient if you decide to intubate before transport to a trauma center?

Q5: What investigations would you order before transport?

Q: What considerations might sway you to request air transport rather than ground transport for this patient?

Case 1 Continued

Despite aggressive resuscitation the patient loses her pulse.

Q: What is the role of CPR or thoracotomy in this situation? What if this was a GSW to the chest?

Case 2

You get a call patched in to North York General that a 62 year-old man with no major comorbidities has fallen 10 feet from a ladder and is coming to your ED via EMS. He is complaining of abdominal pain. Vitals are HR 120bpm, BP100/40mmHg, RR26, O2 saturation 96% on room air, GCS13. Abdomen is distended, tender, and guarded.

Q: Prior to this patient's arrival how will you prepare your ED team?

Q: What are the most useful ways to predict prognosis in this patient from vital signs? Lab values? POCUS?

Q: How do the 5 components of Damage Control Resuscitation colour your ED management of this patient?

- Avoiding hypothermia
- Permissive hypotension
- 1:1:1 RBC:FFP:PLT transfusion

- Coagulopathy correction
- Damage control surgery

Q: What would the optimal fluid and transfusion strategy be in this patient? What kind of vascular access would you get?

Q: What role, if any, would hemostatic agents have here? Are there any contraindications to the use of hemostatic agents in trauma?

Q: How would you clear the c-spine of this patient?

References

- American College of Surgeons Committee on Trauma (2012). Advanced trauma life support (9th ed.). Chicago, IL: American College of Surgeons.
- Leech C, Porter K, Bosanko C. Log-rolling a blunt major trauma patient is inappropriate in the primary survey. Emerg Med J. 2014;31(1):86.
- Hsu JM, Hiltos K, Fletcher JP. Identifying the bleeding trauma patient: Predictive factors for massive transfusion in Australasian trauma population. Journal of Trauma and Acute Care Surgery. 2013;75(3):359-364.
- 4. Kaafarani HM, Velmahos GC. Damage control resuscitation in trauma. Scandanavian Journal of Surgery. 2014;103(2):81-88.

- Napolitano LM, Cohen MJ, Cotton BA, Schreiber MA, Moore EE. Tranexamic acid in trauma: How should we us it? Journal of Trauma and Acute Care Surgery. 2013;74(6). 1575-86.
- 6. PROPPR Study Group. Transfusion of plasma, platelets, and red blood cells in a 1:1:1 vs a 1:1:2 ratio and mortality in patients with severe trauma: the PROPPR randomized clinical trial. JAMA. 2015;313(5):471-82.
- Roberts I, Shakur H, Coats T, et al. The CRASH-2 trial: a randomised controlled trial and economic evaluation of the effects of tranexamic acid on death, vascular occlusive events and transfusion requirement in bleeding trauma patients. Health Technol Assess. 2013;17(10):1-79.
- 8. Shlamovitz GZ, Mower WR, Bergman J, Crisp J, DeVore HK, Hardy D, Sargent M, Shroff SD, Snyder E, Morgan MT. Poor test characteristics for the digital rectal examination in trauma patients. Ann Emerg Med. 2007 Jul;50(1):25-33, 33.e1. Epub 2007 Mar 27.