

Monash Practice Exam

March 2019

Question Number : 13

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Question 13

- An 80 year old man is brought to your Rural Emergency Department after a fall at home. He complains of severe pain in the right buttock. Examination reveals a swollen right buttock. There are no other injuries. His medications include metoprolol and dabigatran.

Question a)

- a) Other than measuring the compartment pressure, list 4 (four) other features of assessment that would help you confirm or exclude compartment syndrome of the buttock in this man. (4 marks)
- Severe ongoing pain -out of proportion to clinical findings ; poorly responsive to parenteral analgesia
- Marked buttock tenderness ,firmness, “woodiness” ,on palpation
- Severe pain on passive movement around hip joint
- Sciatic nerve palsy (paraesthesia) ** (See References)
- Abnormal CT Scan [fullness of gluteal muscles ; loss of tissue planes]

Question b)

- What compartment pressure in the buttock would confirm compartment syndrome? (1 mark)
- > 30 mmHg
- *It is worth having this number in your brain as the number that you will communicate in escalating the need for surgical intervention.*
- * Dunn - Indications for fasciotomy at pressure > 30 mmHg
- Note : * Tintinalli - The ***delta pressure*** that is most commonly used to diagnose acute compartment syndrome- is 30 mm Hg [range 10-35]
[Diastolic BP - intracompartmental pressure]

Question c)

- You confirm compartment syndrome of the buttock. State your five (5) management priorities for this man. (5 marks)

- Analgesia [Morphine-fentanyl ; ketamine] “dose ; titrate to effect “
- Early engaging with : [Note: Rural Setting]
 - Surgical / Orthopaedic team --→ Fasciotomy (in Theatre ! - Some answers suggested in ED)
 - Retrieval Service Early discussion with Tertiary Centre {Haematology ; Surgical /Orthopaedic }
- Urgent consultation with Tertiary Haematology Team regarding DOAC reversal
 - Tranexamic acid
 - Idarucizumab {??} ***Context answer [\$20,000 per dosing]

overt, uncontrollable, or life-threatening bleeding where reversal of anticoagulant effect will improve clinical outcome

- ## emergency surgery or other invasive procedures are required that cannot be delayed for at least 8 hours and for which normal haemostasis is required

Question c)

{Continued }

- Discussion with Patient and NOK/Family
re: provisional Dx / outcomes
- CT imaging [vascular bleeding ; associated fractures]
- Generous IV fluids { dabigatran clearance ; risk of rhabdomyolysis and AKI } to maintain U/O > 0.5-1.0 mL/kg/Hr
- Exclude Hyperkalaemia - actively manage if elevated [IVF ; Insulin-dextrose]
- Patient positioning - normal buttock down / abnormal buttock up

Question d)

- What is the role of Idarucizumab for this patient? State four (4) points. (4 marks)
-A slightly complex question....
-How many people can pronounce it correctly ? Eye-da-roo-ciz-oo-mab

- { It effectively binds and rapidly clears dabigatran from the circulation }

- May reduce bleeding pre / peri and post OT ##
- May reduce PRBC transfusion requirements
- May be Access Issues being a Rural centre -therefore may have no role
- not currently TGA approved so only available in Australia under the special access scheme
- Will require Specialist Haematology Consultation
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Things to know

1. Compartment Syndrome - The top 5 body locations (Buttock is 5th)
2. Compartment Pressures : normal vs abnormal
3. Measuring compartment pressures
4. DOACS :
 - due to the better safety of rivaroxaban and apixaban compared to warfarin, these agents should now be considered first line agents for non-valvular stroke prophylaxis and VTE treatment
 - few, if any, indications for initiating dabigatran therapy given other alternatives
 - DOACs are first line agents for stroke prophylaxis in atrial fibrillation if the creatinine clearance is > 30mL/min

References

- Taken from a real case I managed in Rural NSW
- Dunn (Emergency Medicine Manual Online) - A great read on DOACS as well as compartment syndrome - \$77.00 Annual access
- Tintinalli 8th edn.
- Life In The Fastlane :
<https://lifeinthefastlane.com/ccs/compartment-syndrome/>
- <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2783145/>
Gluteal compartment syndrome: a case report
{ Excellent read this one-highly recommended }