Obstetric Anaesthesia
Annual Scientific Meeting 2021 goes virtual
10-11 June 2021

Unusual leg pain in pregnancy – a case report of acute compartment syndrome

Dr. Simon Wydall, Dr. Nat Nguyen-Lu and Dr. Kate Cheesman
Guy's and St. Thomas' NHS Foundation Trust

Introduction

Acute compartment syndrome (ACS) is a rare but potentially fatal complication in pregnancy. Chronic compartment syndrome (CCS) is well described in orthopaedic literature, but its incidence may be more common in pregnancy than previously understood. We present a case of acute on chronic compartment syndrome requiring fasciotomy post caesarean.

Case report



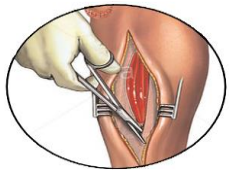
36 female, induced at 39 weeks for reduced foetal movements

- Pregnancy induced hypertension managed with labetalol
- C-section under epidural top-up for failure to progress after 13 hours of labour
- Routine dalteparin and intermittent pneumatic compression devices used



Haemorrhagic shock 4 hours post delivery:

- Acute blood loss requiring multiple unit transfusion
- Acute kidney Injury
- Hyperkalaemia (6.8mmol/L)
- Pelvic collection on USS



Fasciotomy performed 18 hours post delivery

- 8 hours post epidural top up, the patient complained of right sided anterior lower leg pain
- This progressively worsened and became resistant to opioid analgesia
- Pain on passive stretch and raised compartment pressure
- Tense compartment with dusky muscles found at fasciotomy



Considerations

- Exertional anterior leg pain and cramping in the preceding 4 weeks
- Diagnosis of acute on chronic compartment syndrome
- Fasciotomy under GA to enable assessment of pain post operatively.
- Pain resolution immediate and delayed split skin graft

Acute Compartment Syndrome (ACS)

Rare but potentially fatal complication in pregnancy
Late signs, but remember the 6 Ps:

Pain	**P**assive stretch test
Paraesthesia	**P**aralysis
Pulseless	**P**ressure (compartment)

Risk Factors for ACS

Patient	Anaesthetic	Obstetric
Chronic compartment Sx	Neuraxial techniques	Large volume blood loss
Peripheral vascular disease	Prolonged hypotension	Lithtomy position
Sympathetic blockade	Intermittent compression	Use of oxytocin

Chronic Compartment Syndrome (CCS)

Well described in orthopaedic literature
Incidence may be more common in pregnancy

- Aching, burning, tightness or cramping after 24/40
- Weakness of the affected limb
- Foot drop (in severe cases)
- If exertional:
  - Usually begins at same exercise tolerance
  - Progressively worsens as you exercise
  - Improves after 15 mins rest

Risk Factors for CCS

Age – most common in athletes under age 30.
Type of exercise - repetitive impact activity
Overtraining[3]

Discussion

- The common symptom of leg cramps experienced after week 25 of pregnancy may be due to CCS.
- CCS should be considered in women experiencing analgesic resistant lower limb cramping or pain which interrupts sleep[1].
- Unilateral ACS is a rare phenomenon in pregnancy with bilateral presentations being more common.
- Bilateral ACS is estimated to have a prevalence of approximately 1 in 5,000 births[2].
- The authors have been directly involved in the care of two obstetric patients with ACS in the last 6 months, both presenting with worsening lower leg pain after neuraxial anaesthesia which may have masked initial milder pain.
- Functional outcome following ACS is directly related to time until surgical intervention[2], therefore it is of paramount importance that midwives, obstetricians and anaesthetists consider this diagnosis in obstetric patients with the described risk factors.

References

1. Orlin JR, Øen J, Andersen JR, et al. Leg cramps in pregnancy caused by chronic compartment syndrome and relieved by fasciotomy after childbirth. Clin Case Rep 2014;2:103–107.
2. Radosa JC, Radosa MP, Sütterlin M. Acute lower limb compartment syndrome after Cesarean section: a case report. J Med Case Rep 2011;5:161.
3. Mayo Clinic. Chronic exertional compartment syndrome [Internet]. 2021. [cited 16 March 2012]. Available from: *https://www.mayoclinic.org/diseases-conditions/chronic-exertional-compartment-syndrome/symptoms-causes/syc-20350830*