

Multidisciplinary management of pain following bilateral below knee amputation in a patient with contraindicated epidural analgesia

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Background

- 30 year old male patient, ASA3, BMI 30
- Hereditary severe mitochondrial myopathy (see Fig 1&2)
- Multiple presentations including
 - Recurrent leg ulcers
 - Compartment syndromes and fasciotomies
 - Seizures
 - Dysrhythmias
- Chronic pain syndrome with high opiate consumption and spinal cord stimulator
- PTSD (post military service)
- Courageous decision to have bilateral BKAs to improve quality of life (increase mobility, decrease pain and opiate consumption)

Perioperative Management

Pre-op

- Detailed preoperative anaesthetic assessment
- Neurosurgical advice re: spinal cord stimulator- epidural to be avoided; spinal anaesthesia is safe
- Detailed MDT with the surgeons, anaesthetist, HDU and acute pain service (APS) team

Anaesthesia and postop

- 5hr procedure
- Spinal and bilateral popliteal & adductor canal blocks
- Minimal sedation (ketamine + propofol) and Optiflow
- Arterial line and ABGs
- HDU, APS and anaesthetist's follow-up
- Morphine PCA & regular analgesics
- Repeat bilateral popliteal and adductor canal blocks on POD2

References:

1. Shipton EA et al. Mitochondrial myopathies and anaesthesia. Eur J Anaesthesiol. 2004 Mar;21(3):173-8
2. Ahuja V et al. Strategies for prevention of lower limb post-amputation pain: A clinical narrative review. J Anaesthesiology Clinical Pharmacology 2018;34:439-49
3. Aladin H et al. Major lower limb amputation audit – introduction and implementation of a multimodal perioperative pain management guideline. British Journal of Pain 2018, Vol 12(4) 230–237

Clinical Features of Mitochondrial Myopathies by Organ System

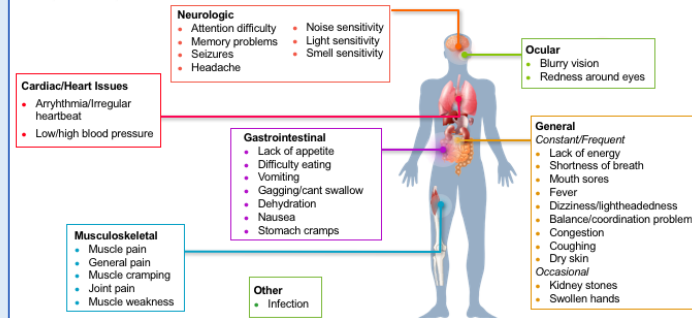


Fig 1&2: Mitochondrial myopathy (MM) multisystem involvement and patient's affected lower limb. MM is a complex multisystem disease with structurally / functionally abnormal mitochondria. It can be due to mutations in either mitochondrial or nuclear DNA. Results in reduced ATP production and increased formation of free radicals.

Post-op: patient's reported experience

- “80% reduction in pain” (compared to before the operation)
 - “Outcome exceeded expectations!”
- “I have come through this because of the blocks”

Learning points

- Management of bilateral post amputation pain is challenging when continuous epidural is not possible
- Detailed preoperative assessment and MDT approach in complex patients is vital
- Spinal anaesthesia in combination with PNBs and multi-modal analgesia
- If continuous PNBs are not possible, be prepared to repeat the blocks
- Close involvement of APS and MDT follow-up are crucial for positive patient's outcome and experience

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