

The anaesthetic management of a patient with bilateral foot drop for caesarean Section

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Introduction

Neuraxial techniques are considered safer than general anaesthesia, for the purpose of caesarean section, and result in less maternal and neonatal morbidity[1]. However, in patients with pre-existing neurological deficits, there is often a concern amongst anaesthetists about impacting their neurology. In this case we describe the safe use of neuraxial technique for elective caesarean section, in a 27-year-old female with a background of chronic bilateral footdrop.

Case report

A 27-year-old nulliparous woman, with a normal BMI, was referred to the pre-operative assessment clinic prior to her planned Caesarean section. She had sustained multiple injuries during a road traffic accident 15 years prior and now suffered from bilateral foot drop and neuropathic lower limb pain, leaving her dependent on crutches for mobilisation. Other issues included multiple pelvic surgeries, fat embolism, and a right sided nephrectomy, all related to the accident. The obstetric team were concerned about a loose screw in her iliopubic area and hence deemed it unsafe to allow her to labour.

A pre-operative assessment of her neurological findings was carried out and documented using the American Spinal Injury Association (ASIA) scale. Sensory deficits were present in the L5-S1 dermatomes bilaterally, and motor deficits from L4-S1 myotomes. Previous nerve conduction studies were obtained which showed complete denervation in the lateral peroneal, tibialis anterior and hallux extensor on the right . A pre-operative echo was performed on account of her previous fat embolism which was normal .This information aided in the discussion of risks with the patient and in the decision making process.

On the day of surgery, ultrasound guidance was used to identify the L3/4 interspace, so as to avoid any interference with L4/L5/S1 interspaces and to increase successful first-pass spinal. A good block was achieved, and she delivered a healthy female infant. Post-operatively she was assisted with frequent position changes to avoid any pressure sores or nerve compressions. She was monitored closely until she returned to her baseline mobility. On follow up she denied any new neurological issues and was satisfied with the care she received.

Discussion

Pre-existing neurological deficits present a challenge to anaesthetists in the decision to use neuraxial anaesthetic techniques. The concern is that any insult from anaesthetic technique may result in new or worsening postoperative neurologic impairment (as described in the “double-crush injury” hypothesis[2]). However, neuraxial techniques are preferable in patients presenting for caesarean section, so they may be considered, if they can be carried out safely.

This case highlights the importance of thorough pre-operative assessment . Nerve conduction studies reported absent nerve conduction, which correlated closely with the patient’s clinical examination and allowed us to be certain of the pre-procedure pathology. Detailed discussion with the patient regarding risks, and consideration of patient wishes were an extremely important part of her management. Using ultrasound guidance we could identify the appropriate vertebral interspace. She received close neurological monitoring post-operatively, as per 2020 guidelines by the Association of Anaesthetists and the Obstetric Anaesthetists’ Association[3].

Pre-operative documentation of her neurological status provided an element of medico-legal protection and more importantly aided post-operative monitoring . The development of any new neurology that was not her baseline would have been identified promptly .

References

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