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Utilisation of sympathetic block as a modality of block assessment for caesarean section under neuraxial anaesthesia

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Introduction

Loss of touch sensation up to and including T5 is widely regarded as the most reliable modality to prevent pain during caesarean section (CS) under neuraxial anaesthesia. Unilateral or absent sympathetic block may be associated with inadequate labour analgesia or CS anaesthesia. [1,2]

A literature review examining block assessment methods for CS from 1984-2014 looked at the use of sensory and motor block but not sympathetic block. [3]

We aimed to examine the utilisation of sympathetic block assessment to evaluate block adequacy before CS under neuraxial anaesthesia, in published articles from 1984-2020

Methods

- We analysed the manuscripts identified by Hoyle (1984-2014) and identified further manuscripts from 2015-2020 using the same search strategy as Hoyle (English language, randomised controlled trials, Major Subject Headings - 'Cesarean Section', 'Spinal' and 'Epidural').
- Each study was read to assess whether sympathetic block had been included as a modality to evaluate the adequacy of the neuraxial block for caesarean section.

Results

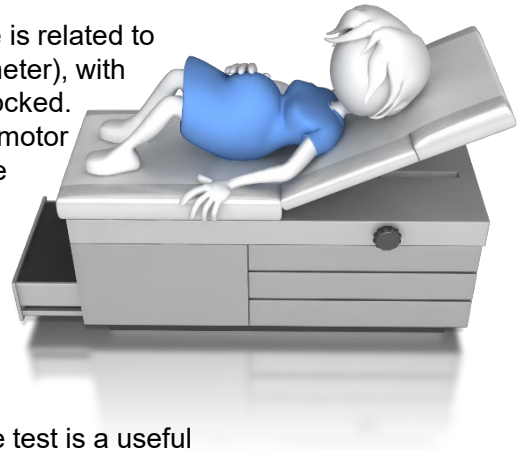
We identified 18 manuscripts in addition to the 284 originally studied by Hoyle. Four manuscripts were unavailable for reviews leaving 298 for assessment.

Only two manuscripts described the assessment of sympathetic block as a modality used to assess the adequacy of neuraxial block for CS.

Discussion

Despite the potential role for sympathetic block to contribute to block assessment of neuraxial anaesthesia for CS, it is almost never used as a supplementary modality to sensory or motor testing.

The ability of a local anaesthetic to block a nerve is related to the characteristics of the nerve (e.g. length, diameter), with smaller, myelinated nerves being more easily blocked. However, the relationship between sensory and motor blockade in neuraxial block is not consistent. The difficulties and imprecision around block height assessment are widely recognised. [4]



Sympathetic block associated with neuraxial anaesthesia is evidenced by bilateral warm dry feet and is therefore simple to assess.

We would suggest that the addition of this simple test is a useful adjunct to more widely used sensorimotor testing.

References

1. Hoyle J, Yentis SM. Assessing the height of block for caesarean section over the past three decades: trends from the literature. Anaesthesia 2015; 70: 421-8
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3. Collis RE, Harding S, Baxandall ML, Morgan BM. The relationship between sensory, motor and sympathetic characteristics of a regional block for CS and pain felt by the mother. Int J Obstet Anest 1994; 3: 112-113
4. Yentis SM. Height of confusion: assessing regional blocks before caesarean section. Int J Obstet Anesth 2006; 15: 2-6