Development of a neuraxial assessment pathway for labour epidural analgesia

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Introduction

Neurological complications relating to epidural catheters are rare, however failure to recognise and manage potential issues such as vertebral canal haematomas can have devastating consequences. A recent consensus guideline highlighted recommendations for neurological monitoring during labour epidural analgesia [1]. These include the ability to straight-leg raise during labour, return of motor function within four hours post neuraxial anaesthesia, informing the woman of the likely timescale for resolution of block, and a pathway for escalation of care should a problem arise.

In our institution, the assessment tool for neurological monitoring post epidural anaesthesia during labour has until now included hourly sensory monitoring of block height without a motor assessment. Follow up after removal of catheter has also been limited to cases where concern is raised regarding prolonged block and, in some instances, outside the acceptable duration of four hours. This in turn potentially delays diagnosis and management of serious complications.

Objectives of project

- Revision of labour epidural monitoring document to include assessment of motor function as well as sensory block, initial plan was to use the modified Bromage score
- Midwife education and training on importance of motor assessment
- Implementation of a yellow wristband with the time of expected return of power/sensation to allow more timely recognition of neurological complications – recently implemented in an NHS hospital with success[2]
- Formal epidural follow-up day 1 post- delivery by an anaesthesia trainee as part of the post-operative acute pain round

Methods





- Addition of a motor assessment scale – modified Bromage changed to straight leg raise for practicality
- Discussion of revised form at hospital clinical risk meeting
- Education sessions with anaesthesia trainees as well as midwives and postnatal ward nurses on the rationale for motor assessment
- Educational posters placed around the delivery suite and on postnatal wards[3]
- Introduction of yellow wristbands with the time of expected return of power – encourages the parturient to raise concern with midwifery staff should there be a delay
- Epidural follow-up round established

Results

Above changes established in practice. Currently auditing compliance with assessment forms, wrist bands and follow-up.

Conclusions

Necessary update of labour epidural monitoring in line with current best practice.

Will likely lead to more timely recognition of neurological complications relating to epidural catheters.

References

1. Yentis SM, Lucas DN, Brigante L, et al. Safety guideline: neurological monitoring associated with obstetric neuraxial block 2020: a joint guideline by the Association of Anaesthetists and the Obstetric Anaesthetists' Association. *Anaesthesia.* 2020; 75: 913-919

2. Mathers R. Letter to the editor: Regional anaesthetic alert bracelet. *Anaesthesia News.* 2022; 414: 28

3. https://www.oaa-anaes.ac.uk/assets/_managed/cms/files/Trainee-Hub/OAA%20Neurological%20Monitoring%20Poster%20v1.pdf

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