

Improving Labour Epidural Monitoring through Midwife Education

Background

Severe complications from epidurals in the obstetric setting are rare but can lead to significant morbidity or mortality. There are local and national guidelines (1) that state blood pressure (BP), sensory block (SB) and motor block (MB) should be monitored regularly during insertion and maintenance of epidural analgesia. There was anecdotal evidence that these monitoring standards were not being followed at our centre.

Methods

The methodology for this project was two-fold. First, to evaluate adherence with monitoring standards, we randomly selected ten patients that had received an epidural for intrapartum analgesia for each month of a three-month period (30 patients total) before and after our change to practice. Paper notes were reviewed to identify if BP, SB and MB were documented in line with current guidelines. Second, to identify ways to improve our service an anonymous questionnaire was sent out to midwives to evaluate previous epidural training, knowledge of current standards and knowledge of epidural complications.

- Intervention**
1. Production of epidural information poster for display on the delivery unit education board.
 2. Integrated epidural teaching and simulation into pre-existing local teaching as part of PROMPT.

Epidural Information
A recent audit has shown some ways we can improve how we manage epidurals

Monitoring
When an epidural is given, the following patient monitoring is required:

- Check blood pressure every 5 minutes for 15 minutes after insertion and top-up
- Every 40 minutes, check:
 - Blood pressure
 - Sensory level
 - Motor block

Troubleshooting
Always call the anaesthetist if any issues arise, but also consider the suggested actions below:

1. **Too low/in pain** – PCEA bolus, oral analgesia
2. **Too high/motor block** – Sit upright, reduce rate/stop epidural
3. **Unilateral block** – PCEA bolus, lie painful side down

Risks
Be aware of these risks associated with epidurals:

- Headache
- Fentanyl - itching/urinary retention
- Nausea and vomiting
- Infection/meningitis
- Hypotension
- Epidural haematoma/abscess
- Nerve injury
- Risk of instrumental delivery

Local anaesthetic toxicity
Excitatory then inhibitory:

- Perioral tingling, tinnitus, dizziness, agitation, seizures
- Reduced GCS/coma

INTRALIPID
Treatment: Intralipid 20%

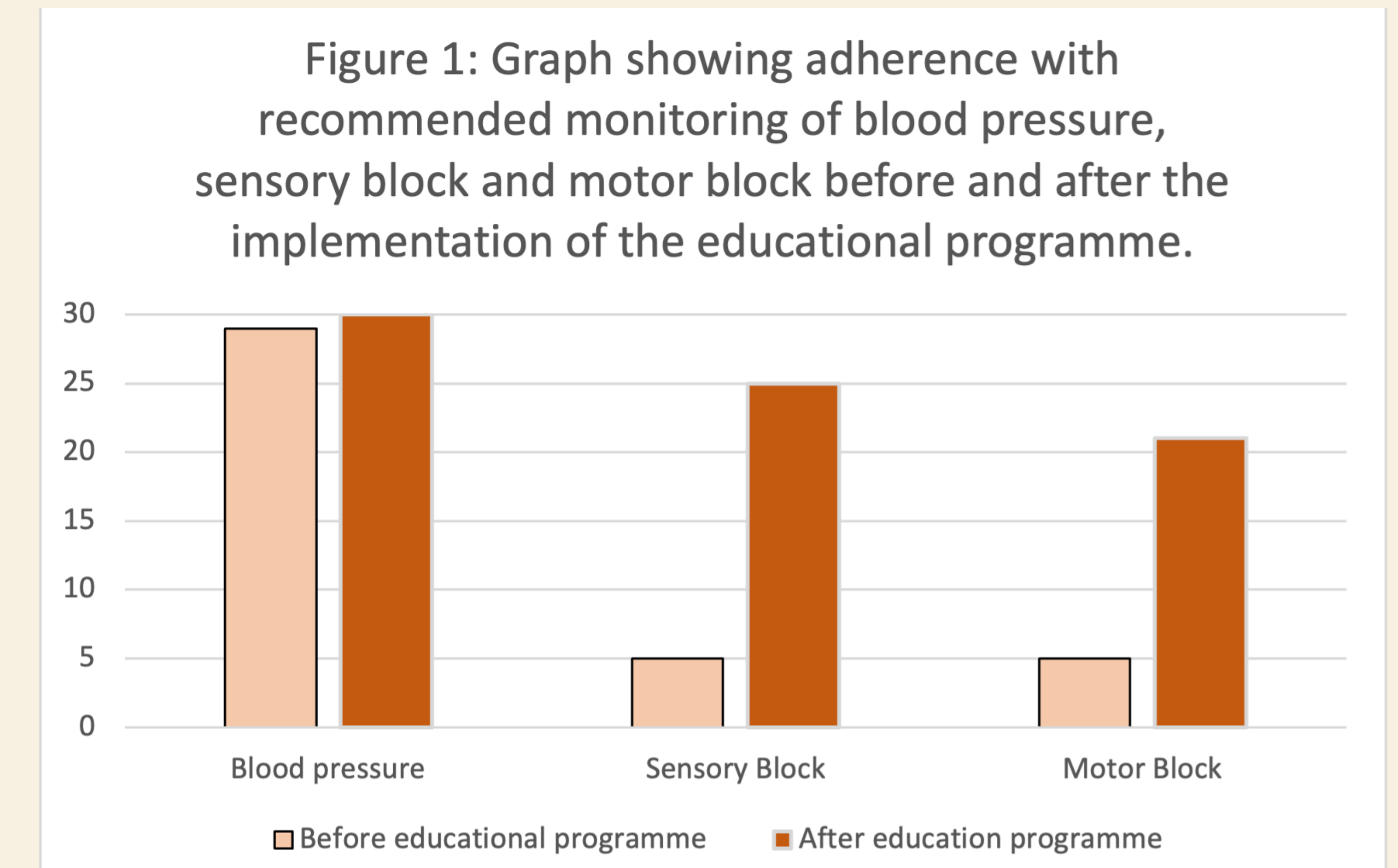
Audit Results
A cohort of 30 epidural patients (10 each month for 3 months) were audited for adherence to trust monitoring guidelines. As the graph shows, around 97% had their BP monitored, but only 10-20% had sensory and motor blocks checked.

We also sent an anonymous questionnaire to 16 midwives. Their responses show that:

- 4 had received formal epidural training
- Nearly all aware of BP monitoring guidelines and confident assessing sensory block
- 6 confident assessing motor block
- 5 able to troubleshoot epidural issues
- 2 know local anaesthetic toxicity symptoms
- 5 know the location of intralipid

Results

Prior to intervention, BP was monitored correctly for 29 (97%) patients, SB and MB were monitored correctly for five (17%) patients. Sixteen questionnaires were completed by midwives, findings included only four (25%) midwives having received formal epidural training and six (43%) felt confident checking for motor block. After intervention, blood pressure was monitored correctly in 30 (100%) patients, sensory block in 25 (83%) patients and motor block in 21 (70%) patients.



Discussion

Following the introduction of an educational programme, we have seen an improvement in the monitoring of sensory and motor block for the parturient with intrapartum epidural analgesia. This may allow for early recognition of both inadequate analgesia and potential complications.

References

1) National Institute for Health and Clinical Excellence. Intrapartum care. September 2023. <https://www.nice.org.uk/guidance/ng235>