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"To PIE (B) or not to PIE (B)?" – A prospective audit of patient controlled epidural analgesia (PCEA) efficacy for labour at a large tertiary centre.

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Introduction

- The **optimal protocol** for epidurals in labour remains **unknown**.
- Our institution aims to introduce a programmed intermittent epidural bolus (PIEB) protocol.
- We currently have the following PCEA regimen:10mL bolus, 20 minute lockout, no background infusion, 0.1% Bupivicaine and 2mcg/mL Fentanyl.
- We wanted to **prospectively review our PCEA service for labour** to see if there was a need for improvement and change.

Methods

- Hospital audit committee approval obtained
- **Prospective data collection** over two months:
  1. Patient demographics
  2. Cervical dilatation
  3. Maternal satisfaction scores
  4. Breakthrough pain
  5. Need for anaesthetic troubleshooting
  6. Would women like an automatic top-up?
  7. Degree of mobility
  8. Mode of delivery

Results (n=49)

Demographics	Cervical dilatation	Maternal Satis-faction	Mode of delivery	Break-through pain	Anaesthetic troubleshoot	Would like automatic top-up	Mobility
mean age 32 ±4.9 years mean BMI 25 ±5.8 kg/m^2	mean 3.8 ±2.1cm	85% scored > 7/10	26.5% spontaneous vaginal delivery	4.9% epidurals wore off	Required in 32.7% epidurals	63.3% women	51% reported poor mobility
93% trainee operators	8.5% epidurals sited at >7cm	91.8% would have epidural again	36.7% instrumental 34.7% caesarean section		8.5% epidurals re-sited		

Discussion

- There is a **need for improvement**:

Our satisfaction rate (85%) is below the Royal College of Anaesthetists' standard (98%)[1]

- We have a **high degree of breakthrough pain** with need for anaesthetic troubleshooting perhaps secondary to:
  1. A high number (93%) of trainee operators[2]
  2. A need for anaesthetic administered top ups in 14%.[3]
- Our re-site rate meets the standard of <15%.
- **Motor block occurs in over half.**
- **Operative vaginal deliveries are high** at 36.7% (UK rates of between 10-13%)[4]
  This may be due to our high risk patient cohort.
- The introduction of PIEB has the potential to improve:[5]
  1. Breakthrough pain
  2. Motor block
  3. Maternal satisfaction,
  4. Instrumental delivery rate
- A **re -audit** is planned using a PIEB protocol to allow comparison against PCEA.





References

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