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Programmed intermittent epidural bolus protocols - an international survey of programmes currently used.

C Lloyd[1], A Dean[1], N Nguyen-Lu[2]
Anaesthetics, Guy's and St Thomas' NHS Foundation Trust, London, UK
[1]Specialist Registrar, [2]Consultant

NHS Guy's and St Thomas' NHS Foundation Trust

Introduction

Programmed intermittent epidural bolus (PIEB) is a protocol for epidural analgesia in which a **bolus** dose is automatically given at a designated interval.
It is not widely adopted in the UK.
In the last decade, evidence of the advantages of PIEB in labour has emerged including

- **less breakthrough pain**[1]
- **less motor block due to local anaesthetic sparing**[2]
- **fewer instrumental deliveries**[3]
- **greater patient satisfaction**[2]

Currently, there is no standardised epidural programme for labouring analgesia.
This survey aimed to **investigate the PIEB protocols** that have already been adopted by obstetric hospitals to look for the most widely implemented programme to guide implementation of new protocols.

Methods

30 surveys were sent to hospitals in the UK, Canada and Ireland.
We asked whether they were using the PIEB function and if so, which pump manufacturer, which local anaesthetic drug and concentration used, details of PIEB bolus dose and interval time, PCEA (patient controlled epidural analgesia) bolus dose and lockout time and details of loading doses and background infusions.

Results

- Response rate of 53%.
- Of those respondents, 9 hospitals (56%) use the PIEB function, 1 hospital (6%) was using PIEB but has now reverted back to midwife top up boluses and 6 hospitals (38%) have the PIEB function but don't use it.
- The most commonly used drug was **0.1% Levobupivicaine and 2mcg/mL Fentanyl.**
- One major obstetric unit in Canada uses 0.0625% Levobupivacaine and 2mcg/mL Fentanyl.
- All hospitals were using **PCEA in conjunction with PIEB**
- One hospital was using a **background infusion** (0-4ml/h)
- **Initial clinician loading doses** were variable between 10-20mL
- 2 hospitals commented on their lockout interval between loading and first PIEB dose (30-40mins)
- **Most common protocols** used are demonstrated in **Diagram 1**
- The need for **high flow giving sets** and **NRFit™ compatibility** were also commented on.

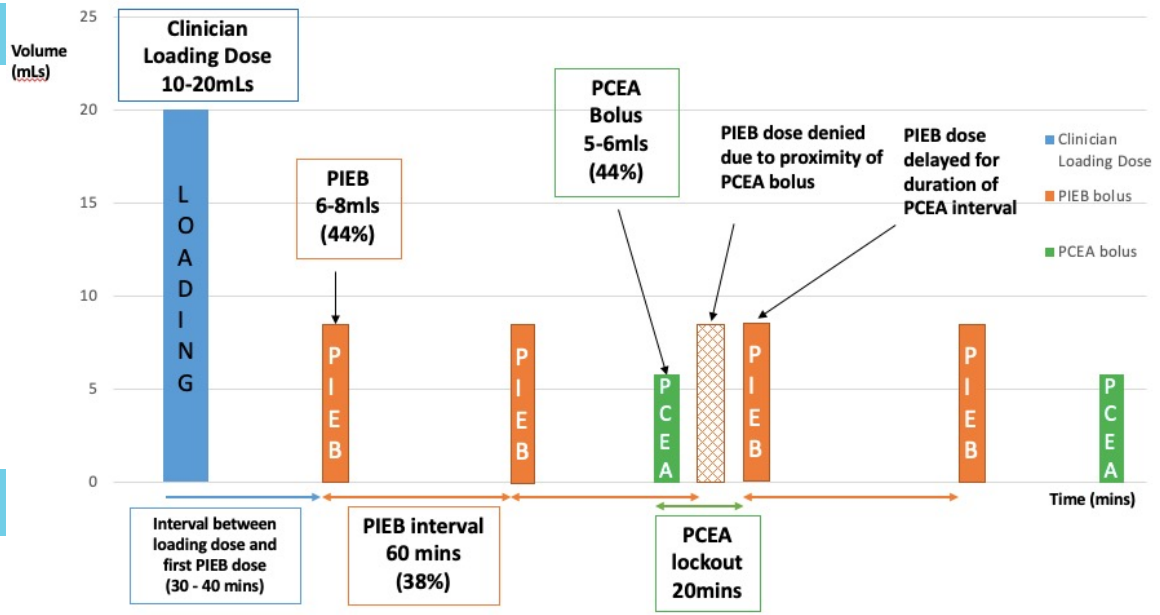


Diagram 1:

Most Common Protocols Used

Discussion

- The **uptake of PIEB** function in labouring epidurals is low at 56%. Some units (44%), despite having the correct pump device, choose not to use the PIEB function.
- There is **wide variability in PIEB protocols,** but common themes emerge amongst choice of drug and concentration used, bolus dose and interval time for PIEB and PCEA drug delivery.
- This survey highlights the need to **standardise the provision of epidural analgesia in labour**, using a pump device that complies with **NRFit™ connection** for neuraxial medication safety.
- An internationally standardised PIEB programme for labour epidurals to deliver effectiveness and safety remains unknown.

References

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