

P1 An evaluation of a programmed intermittent epidural bolus technique for labour analgesia

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Introduction: Programmed intermittent bolus (PIB) epidural analgesia compared to continuous epidural infusion for labour has been associated with reduced local anaesthetic (LA) consumption,¹ reduced motor block² and better patient satisfaction.¹ We evaluated a PIB with PCEA regimen for labour analgesia, using a PCEA pump incorporating novel technology that delivers both PIB and PCEA boluses of low-dose epidural mixture (LDM) of 0.1% bupivacaine with fentanyl 2 µg/mL.

Methods: The evaluation took place over a three-month period. Labour analgesia was initiated by epidural or combined spinal-epidural using LDM. A regimen consisting of 8 mL PIB with 45 min bolus interval and 5 mL PCEA, for breakthrough pain, with 20 min lockout period was then commenced. Pain and motor block were assessed throughout labour and patients were followed up after delivery. The primary outcome measure was LA consumption, while secondary outcomes included motor block, pain scores (0-10) and patient satisfaction. Parturients were considered to have a motor block if they had little or no leg movement. Patient satisfaction was considered adequate if it was reported as 'good', 'very good' or 'excellent'.

Results: Data from 86 patients were evaluated.

PIB with PCEA evaluation results

Bupivacaine consumption (mg/h)	13.2 (3.26)
Motor block	40/68 {59%}
Time to motor block (min)	330 [233-375]
PCEA demands per hour	0.55 [0.13-1.18]
PCEA delivered per hour	0.30 [0.12-0.62]
Pain scores (0-10)	0 [0-1]
Spontaneous vaginal delivery	33/86 {38%}
Assisted vaginal delivery	30/86 {35%}
Patient satisfaction adequate	65/68 {96%}

Data are mean (SD), median [interquartile range] and number (%)

Discussion: Despite low pain scores and high patient satisfaction, total anaesthetic consumption was greater than expected, with a large proportion of patients experiencing a motor block. This could be attributed to the 0.1% bupivacaine in our LDM being at a higher concentration compared to other studies evaluating PIB analgesia for labour using 0.0625% bupivacaine.¹ Further studies evaluating different PIB with PCEA dosing regimens are warranted.

References

1. Wong CA, Ratliff JT, Sullivan JT, Scavone BM, Toledo P, McCarthy RJ. A randomized comparison of programmed intermittent epidural bolus with continuous epidural infusion for labor analgesia. *Anesth Analg.* 2006; 102: 904-9
2. Capogna G, Camorcia M, Stirparo S, Farcomani A. Programmed intermittent epidural bolus versus continuous epidural infusion for labor analgesia: the effects on maternal motor function and labor outcome. A randomized double-blind study in nulliparous women. *Anesth Analg.* 2011; 113: 826-31