

Co-induction of labour analgesia: epidural test dose and low dose spinal

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Introduction: Immediate epidural test dose in combined spinal-epidural is not practised routinely. Volume effect of effect of epidural top-up is well known. The purpose of this study was to investigate if an epidural test dose will complement the CSE to provide a safe and effective labour analgesia.

Method: After ethics approval and informed consent, 50 healthy women with singleton pregnancy at 3-5cm of cervical dilatation requesting epidural analgesia were recruited into this prospective, randomised, double blind, placebo-controlled trial. 10mls of normal saline (NS) or 0.1% bupivacaine (B), epidural top-up was given 5 minutes after the intrathecal injection of 1mg of bupivacaine with 5 g of fentanyl, followed by infusion of 0.1% bupivacaine with 2 g of fentanyl at 10mls/hr was started. Pain was assessed using verbal analogue scale (VAS=0-100) score and effective pain relief was defined as a VAS <20 after 10min. Pain score, sensory blockade, motor blockade, maternal and foetal vital signs were recorded. To detect a difference of 34% (NS=35% vs B=1%) in the incidence of VAS>20 at 10mins, 25 women were required in each group with a power of 90% and a two-sided test of 5%. Categorical and continuous data were analysed using Fisher's exact, Chi-square and Mann Whitney-U test.

Results: The groups were similar in demographic and obstetric data. B group had higher effective pain relief compared to saline group (Relative Risk = 2.08 ,95% CI 1.38 to 3.38 , p < 0.001). Sensory block at 10mins was higher in B (T7 vs T11; p<0.001) but at safe level. There was no incidence of foetal heart rate deceleration, maternal hypotension (P>0.05, repeated ANOVA) or motor blockade after test dose. The median duration of analgesia was significantly prolonged in B (670 vs 90mins; p< 0.001). B had less breakthrough pain 12% vs 69.23% (Odds ratio = 16.39, p < 0.001).

Conclusion: 10mls of 0.1% bupivacaine can be used as an epidural test dose immediately after the intrathecal injection of 1mg bupivacaine with 5 g of fentanyl in 2ml, to provide safe effective analgesia with a lower incidence of breakthrough pain in early labour. It does enhance the analgesic effect of very low dose spinal.