

**2002 Fall A20**

**CONTINUOUS INFUSION OF A COMBINATION OF EPIDURAL CLONIDINE WITH BUPIVACAINE FOLLOWING ELECTIVE CORONARY ARTERY BYPASS GRAFTING**

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We aimed to establish the optimum analgesic concentration of epidural clonidine, when combined with 0.125% bupivacaine, for pain relief following cardiac surgery. Forty patients, with left ventricular ejection fractions greater than 40%, for elective coronary artery bypass grafting (CABG), were consented following ethics committee approval. An epidural was sited at T2/T3 and an epidural block established using 10 mls of 0.5% levo-bupivacaine. After demonstrating an adequate epidural block, anaesthesia was induced using target controlled infusions of propofol and alfentanil. A blinded infusion of 0.125% bupivacaine with clonidine was commenced at 10 mls per hour. Group 1 received 0.6 mcg/ml clonidine, group 2 received 1.2 mcg/ml. At 8, 12, 20, 28 and 36 hours following arrival on the Intensive Care Unit (ITU), observations were made. We recorded visual analogue (VAS) pain scores at rest and on coughing, sedation scores, upper limb motor blockade, bradycardias, inotrope usage, number of top ups and supplementary oral analgesics given. A blinded nurse, not involved in the study, conducted these observations.

Patient characteristics were similar in the two groups. There was no statistically significant difference in any pain score, sedation score or motor score between the two groups, nor a difference in the incidence of top ups, inotrope usage or bradycardias. However group 1 received more additional oral analgesics than group 2 ( $p=0.048$ ). There was a trend towards lower pain scores in group 2, at 28 hours pain scores at rest were lower in group 2 ( $p=0.058$ ).

Pain scores in both groups were low, the median pain scores (+/- interquartile range) on coughing at 8, 12, 20, 28 and 36 hours in group 1 were 2.0 (0.5-2.0), 1.0 (0-1.5), 1.0 (0-2.5), 1.5 (0-3.5) and 0.5 (0-2.5) respectively, in group 2 they were 0.5 (0-3.0), 1.0 (0-3.0), 0.5 (0-3.0), 0.5 (0-2.5) and 0 (0-1.0).

Epidural clonidine in combination with bupivacaine as an infusion gives good analgesia following cardiac surgery. The need for supplementary oral analgesics is less with the higher dose of clonidine although pain scores are similar. There is no increase in the incidence of sedation, inotrope usage or bradycardias with the higher dose of clonidine. We therefore conclude that clonidine 1.2 mcg/ml in combination with 0.125% bupivacaine gives effective and safe analgesia following coronary artery bypass grafting.

Postoperative epidural infusion: a randomized, double-blind, dose-finding trial of clonidine in combination with bupivacaine and fentanyl. Paech MJ, Pavy TJ et al. *Anesth Analg*. 1997 Jun;84(6):1323-8  
A prospective randomised study of the potential benefits of thoracic epidural anesthesia and analgesia in patients undergoing coronary artery bypass grafting. Scott NB, Turfrey DJ et al. *Anesth Analg*. 2001 Sep;93(3):528-35  
An epidural scoring scale for arm movements (ESSAM) in patients receiving high thoracic epidural analgesia for coronary artery bypass grafting. Abd Elrazek E, Scott NB, Vohra A. *Anaesthesia*. 1999 Nov;54(11):1104-9