

BUPIVACAINE IN THE EMERGENCY DEPARTMENT: UNDERUTILIZED AND SCOPE FOR IMPROVED PATIENT CARE

Shen JJ¹, Taylor DMcD^{2,3}, Knott JC²

¹University of Melbourne, Victoria, Australia

²Emergency Department, Royal Melbourne Hospital, Parkville, Victoria, Australia

³Emergency Department, Austin Hospital, Heidelberg, Victoria, Australia

Aims:

To determine the actual patterns of local anaesthetic (LA) use, ED doctor knowledge and perceived use of LA, and barriers to bupivacaine use.

Methods:

This was a multifaceted, observational study undertaken at two large metropolitan EDs. It comprised a retrospective chart review of patients who had been administered LA in the ED, an examination of ED LA ordering records and a cross-sectional survey of ED doctors.

Results:

The charts of 95 patients were reviewed. Most (93.7%) injuries were lacerations and the most common site was the hand (41.4%). 88 (92.6%), 4 (4.2%) and 2 (2.1%) patients were administered lignocaine, prilocaine (Bier's blocks) and bupivacaine (digital blocks), respectively. Four (4.2%) cases were identified where bupivacaine was highly likely to have been a better alternative than the lignocaine used. These were finger/hand injuries likely associated with considerable ongoing pain. The ED pharmacy records indicated that 30 times more lignocaine than bupivacaine was ordered in 2004-5. 30 (88.2%) of 34 doctors completed the survey. Knowledge of LA pharmacology was variable: 33% and 66% did not know that bupivacaine was more cardiotoxic and that lignocaine was more painful, respectively. The main barriers to bupivacaine use were 'habit' using lignocaine (46.7%), cardiac toxicity (40%) and slower onset (30%).

Conclusion:

Bupivacaine appears to be underutilized in some appropriate circumstances. Accordingly, there is scope for improvement in patient care through critical evaluation of LA practice. This is particularly so as barriers to bupivacaine use are frequently non-clinical (habit, availability, familiarity) rather than clinical (toxicity, onset time).