26457 - COMPARISON OF TWO INTRAVENOUS LIDOCAINE-PROPOFOL REGIMENS ON INJECTION RELATED PAIN

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Introduction: Pain upon intravenous injection of propofol is a common and well-documented phenomenon.¹ Multiple medications, given in close proximity or simultaneously with propofol have been examined in an effort to reduce injection related pain. These include nitrous oxide, remifentanyl infusion, nitrous oxide, ondansetron, and alfentanil. Lidocaine remains the most commonly employed drug in clinical practice for treatment of propofol related injection pain. However, no standard technique for lidocaine administration is recommended. In this study, propofol mixed with lidocaine prior to injection is compared with propofol injection immediately following undiluted 2% lidocaine bolus, to determine whether either technique demonstrates a clear superiority in reducing injection related pain.

Methods: One hundred patients between the ages of 18 and 80 years old, undergoing general anesthesia were randomly assigned to receive one of the following two protocols. Group A received 60mg of 2% lidocaine mixed in 200 mg of propofol. Group B received 60 mg of 2% lidocaine, which primed the extension tubing, followed by propofol injection. Both physicians and patients were blinded to the study. Patients' Verbal Analogue Pain Scores (VAS) 0-10 were recorded from time of injection until loss of consciousness. Also recorded were age and sex of the patient. Statistical analysis of results utilized chi square and Wilcoxon rank sum test.

Results: Ninety-nine patients completed the study: 46 males and 53 females. Mean age of Group A was 52.8 ± 14.3 years and Group B was 42.8 ± 17.4 years. There was no significant matching inequality between treatment groups related to sex ($p=0.76$) or age ($p=0.11$). VAS differences between treatment groups failed to reach statistical significance ($p=0.64$). Multiple regression analysis with pain as a primary outcome showed no significant association with sex, age or group as independent explanatory variables.

Discussion: Lidocaine administration to decrease the injection related pain of propofol has included iontophoretic application, use of a "mini- Bier block" technique, sequential injections, and preinjection mixture with the propofol emulsion. It has been suggested that the perceived analgesic superiority of preinjection mixture of lidocaine and propofol may be accounted for by the resultant pH change of the propofol.² In our study, no statistically significant difference in pain was noted between a propofol-lidocaine mixture and immediate undiluted sequential injection of the two drugs.

References:

- 1) King SY. *Anesth Analg* 1992; 74: 246-9
- 2) Eriksson M. *British J Anesthesia* 1997; 78: 502-6