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Evaluation of the remifentanil effect in prevention of propofol intravenous injection pain

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Objectives: Propofol is an ultra short acting intravenous anesthetic used for induction and maintenance of anesthesia and it can also be used for sedation purposes. Pain on injection is one of the main disadvantages of propofol and a common problem during induction of anesthesia. The use of lidocaine was found to be an effective prevention of injection pain. The primary objective of this study was to investigate the effect of remifentanil on the incidence and severity of pain during injection of propofol in comparison with lidocaine. **Methods:** In a randomised, double-blind study we compared the efficacy of continuous remifentanil infusion ($0.25 \mu\text{g}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$) with 40 mg lidocaine and placebo in the prevention of injection pain due to intravenous propofol administration (2 mg/kg) in 90 patients scheduled for elective surgery. Pain severity was evaluated using a four-point scale. **Results:** The incidence of injection pain was 73% in the placebo group and could be reduced significantly by using lidocaine (27%; $p < 0.0015$) or remifentanil (30%; $p < 0.005$). Analysis of the pain scores showed a significant difference between remifentanil and placebo ($p < 0.00002$) as well as between lidocaine and placebo ($p < 0.0005$). There was no significant difference between remifentanil and lidocaine. **Conclusion:** Remifentanil provided effective pain relief, comparable with lidocaine, and is an alternative as part of an intravenous anaesthesia regimen to using another concomitant drug.

Key words: Remifentanil, Propofol, Lidocaine, Pain.

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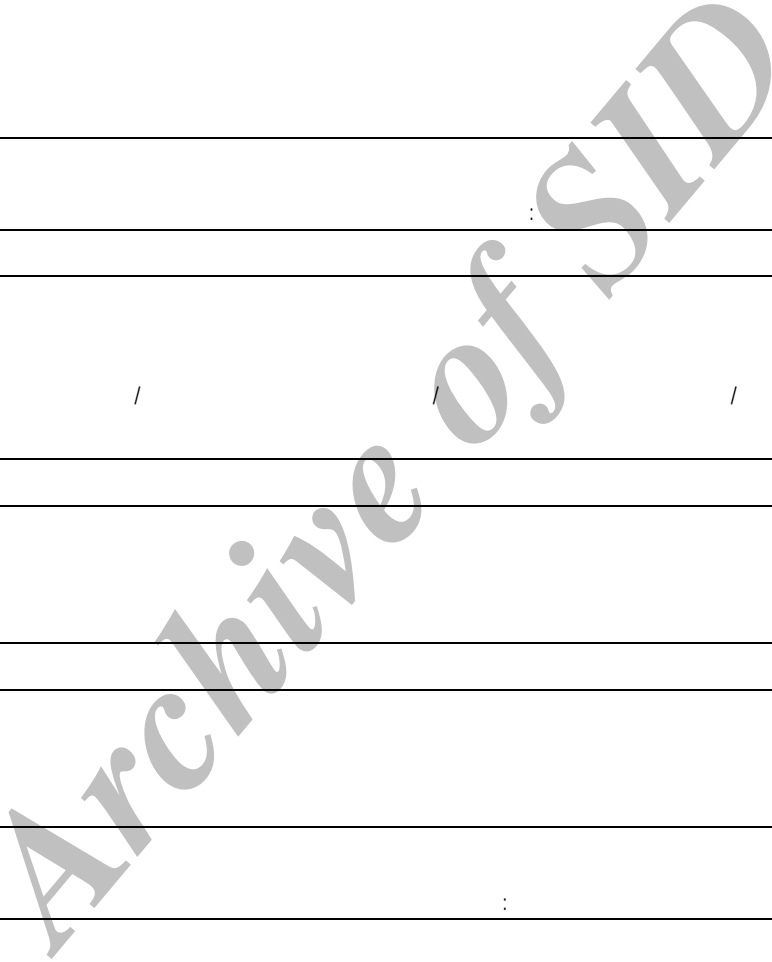
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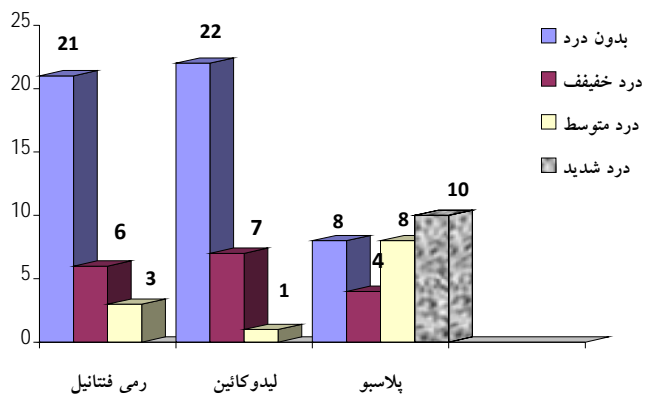
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