



Dental Studies

The Efficacy of Needle-free Injection System (INOJEX™) in
Relieving the Pain of Spinal Needle



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The Efficacy of Needle-free Injection System (INOJEX®) in Relieving the Pain of Spinal Needle Insertion

Summary

Aim: INOJEX® is a needle-free drug delivery system mainly developed for vaccination and insulin applications.

It has been successfully used in various anesthesia procedures. This study was designed to compare the effects of local anesthesia application with INJEX®, a needle free injection system or with dental needle on relieving pain associated with spinal needle insertion and relevant patient satisfaction.

Material and Methods: Sixty patients scheduled for surgical operations under spinal anesthesia were randomly allocated to two groups. Prior to spinal anesthesia, spinal needle insertion area was infiltrated with 1.5 mL of 2 % lidocaine using 27 gauge dental needle in Group 1 and 0.3 mL, 2 % lidocaine by needle-free injection system (INJEX® model 210) in Group 2. Pain intensities during local anesthetic application and spinal needle insertion were assessed immediately after each procedure by visual analogue scale (VAS). Patient satisfaction in each group was also compared on a 4-point scale.

Results: Pain scores measured during local anesthesia administration were significantly lower in the INJEX® group than in the dental needle injection group ($p=0.001$). No significant difference was found between two groups as for pain scores during spinal needle insertion ($p=0.382$). Patient satisfaction was found to be higher with INOJEX® with a limited significance ($p=0,049$).

Conclusion: INOJEX® is an effective alternative to dental needle for lidocaine infiltration during the administration of spinal anesthesia with less pain and higher patient satisfaction.

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*Study was performed using INJEX™ system. INJEX™ system has changed it's Trademark name to INOJEX™

