

ORIGINAL ARTICLE

Intranasal Sufentanil versus Intravenous Morphine Sulfate in Pain Management of Patients with Extremity Trauma

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Abstract

Introduction: Pain is one of the most common complaints of patients referred to emergency department (ED) and its control is one of the most important responsibilities of the physicians. The present study was designed, aiming to compare the efficiency of intranasal sufentanil and intravenous (IV) morphine sulfate in controlling extremity trauma patients' pain in ED.

Methods: In the present clinical trial, extremity trauma cases referred to the ED of Imam Hossein Hospital, Tehran, Iran, from October 2014 to March 2015 were randomly divided into 2 groups treated with intranasal sufentanil (0.3 µg/kg) and IV morphine sulfate (0.1 mg/kg) single-doses. Demographic data and information regarding the quality of pain control such as pain severity before intervention and 15, 30, and 60 minutes after intervention, and probable side effects were gathered using a checklist and compared between the 2 groups. **Results:** 88

patients with the mean age of 35.5 ± 14.8 years were included in the study (81.8% male). 44 patients received IV morphine sulfate and 44 got intranasal sufentanil. No significant difference was detected between the 2 groups regarding baseline characteristics. In addition, there was no significant difference in the groups regarding pain relief at different studied times ($p = 0.12$; $F = 2.46$; $df: 1, 86$). Success rate of the drugs also did not differ significantly at different studied times ($p = 0.52$). No significant difference was seen between the groups regarding side effects ($p = 0.24$). **Conclusion:** Based on the results of this study, it seems that intranasal sufentanil has a similar effect to IV morphine sulfate in rapid, efficient, and non-invasive pain control in patients with traumatic extremity injuries.

Keywords: Sufentanil; administration, intranasal; morphine; administration, intravenous; wounds and injuries; emergency service, hospital; pain management