

Effectiveness of intravenous lidocaine versus intravenous morphine in reducing acute extremity trauma-induced pain: A triple-blind randomized clinical trial

- Foroughian, M.^a, Abiri, S.^b, Akbari, H.^c, Bilandi, V.S.^a, Habibzadeh, S.R.^a, Alsana, F.^d, Taghipour, N.^d, Kalani, N.^d, Dost, E.R.^b

Introduction: The present study aimed to compare analgesic effects of IV lidocaine vs. IV morphine on the management and relief of acute pain caused by the extremity trauma.

Materials and Methods: The present study was a triple-blind randomized clinical trial that was conducted in the emergency department of Peymanieh Hospital of Jahrom. Patients aged 16 to 65 with acute extremity traumas and the need for pain control were eligible for the study. Meaningfully, one group received IV Lidocaine (1.5 mg/kg) and another group received IV Morphine (0.1 mg/kg). Pain scores, side effects, and vital signs were evaluated in the admission, and 15, 30, 45, and 60 minutes after the injection. Data were analyzed by descriptive and inferential statistical tests in SPSS software at a significant level of $P < 0.05$.

Results: 60 patients with a mean age of 35.31 ± 11.10 years were included in the study. Correspondingly, demographic characteristics and pain scores were similar in both groups. Median pain was higher in the intravenous morphine group than the Lidocaine group at the 15th minute after the injection ($P = 0.035$), but it was higher in the Lidocaine group than the IV morphine group at the 60th minute after the injection ($P = 0.045$). There was no significant difference between research groups at other times. Furthermore, there was a significant difference between IV Lidocaine and morphine in terms of pulse rates during the drug injection ($P = 0.012$), but no significant difference was seen in terms of their side effects ($P > 0.05$).

Conclusion: Based on the research results, IV Lidocaine could be considered as an appropriate alternative for the emergency pain management in the emergency department.