

ABSTRACT

Introduction: The use of intranasal fentanyl as an alternative type of analgesia has been shown to be effective in paediatric populations and prehospital settings. Studies on the use of intranasal fentanyl in adult patients in emergency settings are limited.

Methods: An open-label study was conducted to evaluate the effectiveness of the addition of 1.5 mcg/kg intranasal fentanyl to 2 mg/kg intravenous tramadol (fentanyl + tramadol arm, n = 10) as compared to the administration of 2 mg/kg intravenous tramadol alone (tramadol-only arm, n = 10) in adult patients with moderate to severe pain due to acute musculoskeletal injuries.

Results: When analysed using the independent *t*-test, the difference between the mean visual analog scale scores pre-intervention and ten-minute post-intervention was 29.8 ± 8.4 mm in the fentanyl + tramadol arm and 19.6 ± 9.7 mm in the tramadol-only arm ($t[18] = 2.515$, $p = 0.022$, 95% confidence interval 1.68–18.72 mm). A statistically significant, albeit transient, reduction in the ten-minute post-intervention mean arterial pressure was noted in the fentanyl + tramadol arm as compared to the tramadol-only arm (13.35 mmHg vs. 7.65 mmHg; using Mann-Whitney *U* test with $U\text{-value} = 21.5$, $p = 0.029$, $r = 0.48$). There was a higher incidence of transient dizziness ten minutes after intervention among the patients in the fentanyl + tramadol arm.

Conclusion: Although effective, intranasal fentanyl may not be appropriate for routine use in adult patients as it may result in a significant reduction in blood pressure.

Keywords: fentanyl, intranasal drug administration, tramadol