



# Comparison of Anesthesia: Lidocaine Injection or Push Versus Diphenhydramine Injection or Push in Head and Face Wound Healing

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## ABSTRACT

**Introduction:** Patients with trauma presenting to the emergency department with facial lacerations often anticipate forthcoming procedures with apprehension, primarily due to needle injection anxiety preceding reparative interventions. This concern is particularly genuine among pediatric patients and many adults. This study aimed to compare the efficacy of lidocaine and diphenhydramine via injection and push in reducing pain during suturing.

**Methods and Materials:** The present study is an interventional double-masked trial involving conscious trauma patients with the Glasgow Coma Scale, GCS = 15. Patients were randomized into four groups of 50 individuals (receiving diphenhydramine injection, lidocaine injection, diphenhydramine push, and lidocaine push) using Excel randomization software. Numbered medications and syringes were used, with only the researcher aware of their content. After five minutes of achieving anesthesia, suturing was performed. Pain intensity was assessed by using the Visual Analog Scale.

**Results:** The study included 200 patients between 18 and 60 years of age. The mean age of patients was  $34.1 \pm 12.97$  years (95% CI: 32.18-35.81), with a median age of 32 years and an interquartile range of 22 to 42 years. Lidocaine injection resulted in higher pain experienced during injection compared to diphenhydramine, although this difference was not significant ( $p = 0.073$ ). However, the pain experienced was significantly higher with diphenhydramine injection and lidocaine injection compared to diphenhydramine push and lidocaine push ( $p = 0.001$ ). The pain during suturing was lower with lidocaine injection than with diphenhydramine push and lidocaine push; this difference was insignificant with diphenhydramine push ( $p = 0.386$ ) but was significant with lidocaine injection ( $p = 0.001$ ).

**Conclusion and Discussion:** Ultimately, diphenhydramine injection numerically showed more substantial pain reduction than other methods; however, statistically, it did not significantly differ from lidocaine injection but demonstrated significant differences from diphenhydramine push and lidocaine push.

## Citation:

Emami S, Shams Vahdati S, Ala A, Habibollahi P. Comparison of Anesthesia: Lidocaine Injection or Push Versus Diphenhydramine Injection or Push in Head and Face Wound Healing. *Iranian biomedical journal* 2024; 28(7): 311.

**Keywords:** Diphenhydramine, Injections, Lidocaine

