

Comparing Two Different Doses of Intravenous Midazolamin Pediatric Sedation and Analgesia

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Abstract:

Introduction: Midazolam has turned into a common drug for pediatric procedural sedation and analgesia. However, there is not much data regarding its proper dose and potential side effects in the Iranian children population. Therefore, the present study was done to compare 2 doses of IV midazolam in this regard.

Methods: The present clinical trial was performed to compare 0.1 and 0.3 mg/kg doses of IV midazolam in induction of sedation for head trauma infant patients in need of brain computed tomography (CT) scan. Conscious infants under 2 years old, with stable hemodynamic were included. Onset and duration of action as well as probable side effects were compared between the two groups using SPSS version 22.

Results: 110 infants with the mean age of 14.0±5.9 months (range: 4–24) and mean weight of 9.7±2 kg (range: 5–15) were randomly allocated to one of the 2 study groups (54.6% female). Success rate in 0.1 and 0.3 mg/kg groups were 38.2% (21 patients)

and 60% (33 patients), respectively ($p=0.018$). Overall, 56 (50.9%) patients did not reach proper sedation and were sedated receiving ketamine (22 patients) or another dose of midazolam (34 patients, mean additional dose needed was 2.1±1.1mg).

Conclusion: The results of the present study demonstrated the higher success rate and longer duration of action for 0.3 mg/kg midazolam compared to 0.1 mg/kg. The groups were equal regarding onset of action, effect on vital signs and probable side effects.

Keywords: Midazolam; conscious sedation; dose-response relationship, drug; infant; emergency service, hospital