

Comparison of the Efficacy of Ketamine-Propofol versus Thiopental Sodium-Fentanyl in Procedural Sedation in the Emergency Department: A Randomized Double-Blind Clinical Trial

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Abstract : Introduction: Procedural sedation and analgesia have been desirable to handle painful procedures. The trend to find the agent with more efficacy and less complications is still controversial; thus, many sedative regimens have been studied. This study tried to assess the effectiveness and adverse effects of thiopental sodium-fentanyl with the known medication, ketamine-propofol for procedural sedation in the emergency department. Methods: Consenting patients were enrolled in this randomized double-blind trial to receive either 1:1 ketamine-propofol (KP) or thiopental-fentanyl (TF) 1:1 mg: Mg proportion on a weight-based dosing basis to reach the sedation level of American Society of Anesthesiologist class III/IV. The respiratory and hemodynamic complications, nausea and vomiting, recovery agitation, patient recall and satisfaction, provider satisfaction and recovery time were compared. The study was registered in Iranian randomized Control Trial Registry (Code: IRCT2015111325025N1). Results: 96 adult patients were included and randomized, 47 in the KP group and 49 in the TF group. 2.1% in the KP group and 8.1 % in the TF group experienced transient hypoxia leading to performing 4.2 % versus 8.1 % airway maneuvers for 2 groups, respectively; however, no statistically significant difference was observed between 2 combinations, and there was no report of endotracheal placement or further admission. Patient and physician satisfaction were significantly higher in the KP group. There was no difference in respiratory, gastrointestinal, cardiovascular and psychiatric adverse events, recovery time and patient recall of the procedure between groups. The efficacy and complications were not related to the type of procedure or patients' smoking or addiction trends. Conclusion: Ketamine-propofol and thiopental-fentanyl combinations were effectively comparable although KP resulted in higher patient and provider satisfaction. It is estimated that thiopental fentanyl combination can be as potent and efficacious as ketofol with relatively similar incidence of adverse events in procedural sedation.

Keywords : adverse effects, conscious sedation, fentanyl, propofol, ketamine, safety, thiopental

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