Dexmedetomidine versus midazolam as an adjuvant sedating agent for bone marrow aspiration in pediatric patients.

Essam Sharkawy Abd Allah1, Samy AbdERahman Amr2, Ahmed Hassan Othman3, Mohamed Hussein Mahmoud4

Abstract:

Background: Bone marrow aspiration/biopsy, in patients with hematological cancer, is a painful procedure and may be repeated at regular intervals, so we compared the effects of two different sedative agents (Midazolam and Dexmedetomidine) on haemodynamics, sedation and recovery profile in child patients undergoing bone marrow aspiration/biopsy under conscious sedation with ketamine. Methods: 100 Child aged 3–12 years with haematological diseases were enrolled in this randomized, double blind study, divided into two groups: Group I: Patients received midazolam (IV infusion) 0.05 mg/kg. Group II: Patients received Dexmedetomidine (IV infusion) 0.75 µg/kg, and all patients received Ketamine 1 mg/kg intravenously (IV). We started Dexmedetomidine or midazolam infusion over 10 minutes through a peripheral venous cannula, then 5 minutes from the start, ketamine was administered over 10–20 seconds. In both groups haemodynamics, sedation times and Ramsay scores are obtained. Results: Both dexmedetomidine-ketamine and midazolam-ketamine combinations produce stable hemodynamics and satisfactory induction conditions in patients with haematological cancer diseases undergoing bone marrow aspiration. These combinations provide effective sedation with only few side effects and minor hemodynamic fluctuations. With longer sedation time and recovery time were recorded in dexmedetomidine group versus midazolam group. Conclusion: Dexmedetomidine-ketamine is a better sedative combination than midazolam-ketamine and both preserve haemodynamics stable. Trial registration.gov NCT03647579

Keywords:

Sedation, Bone marrow biopsy, ketamine, Midazolam, Dexmedetomidine Short title: Dexmedetomidine versus Midazolam as sedatives.

Published In:

المجلة العلمية لمعهد جنوب مصر للأورام.