ABSTRACT

Background and Aims: Middle ear surgeries require bloodless field for better visibility of the surgical field under operating microscope. Dexmedetomidine, an alpha 2 agonist could provide desired surgical field, sedation and analgesia as suggested by recent studies. Our study was aimed to evaluate the clinical effects of dexmedetomidine infusion during middle ear surgeries under general anaesthesia to provide bloodless field and its effect on requirement of volatile agents.

Methods: sixty adult patients aged 18–45 years, American society of Anaesthesiologists Grades I and II, of both gender were randomized into two comparable equal groups of 30 patients each using standard technique for middle ear surgery under general anaesthesia. After induction patients of Group I were given dexmedetomidine infusion of 0.5µg/kg/hour and patients of Group II were given placebo infusion of normal saline till 20 minutes before end of the surgery. Sevoflurane concentration was titrated to reach target blood pressure of less than 30% of baseline systolic blood pressure or less than 30% of baseline mean arterial pressure whichever was higher. At the end of the procedure surgeon was asked to assess bleeding in a graded scale.

Results: Statistically significant reduction in mean heart rate was observed throughout the procedure (p <0.0001) in dexmedetomidine group than normal saline. Patients receiving dexmedetomidine showed statistically significant reduction in the requirement of sevoflurane to achieve and maintain target blood pressure (0.72±0.13) when compared to those receiving placebo infusions (1.43±0.32). The time taken to reach target blood pressure was significantly less in dexmedetomidine group (24±7.24mins) when compared to those receiving placebo infusion(48.67±8.60mins). Patients receiving dexmedetomidine had statistically significant lesser surgical site bleeding when compared to patients receiving placebo infusion (p<0.0001).

Conclusion: Dexmedetomidine infusion can be given as adjunct to general anaesthesia in middle ear surgeries to provide blood less surgical field, to reduce the requirement of sevoflurane and faster onset of controlled hypotension.

Keywords: Dexmedetomidine, middle ear surgery, bloodless surgical field.