Abstract

This randomized, double-blind, placebo-controlled study was designed to assess the hemodynamic effects of administered i.v magnesium (Mg) sulphate as a technique of hypotensive anaesthesia as well as its effect on duration of surgery, operative field visibility and the amount of blood loss during functional endoscopic sinus surgery (FESS). Patients and methods: Forty patients undergoing functional endoscopic sinus surgery (FESS) for grade III and/or grade IV pathology unresponsive to medical treatment were included in two parallel groups, the (Mg) sulphate group twenty patients received magnesium sulphate 40 mg kg\(^{-1}\) i.v as a bolus before induction of anaesthesia and 15 mg kg\(^{-1}\) h\(^{-1}\) by continuous i.v infusion during the operation. The same volume of isotonic solution was administered to the other twenty patients as a control group. Intraoperative bleeding, operative field visibility, duration of surgery as well as postoperative recovery were evaluated using a quality scale. Results: In the (Mg) sulphate group, there was a reduction in surgical time 60.2\(\pm\)15 min vs. 88.1\(\pm\)10 min, however, the recovery time was 12 min longer and thus presuming a prolongation in anaesthetic emergence. There was a significant reduction of blood loss in (Mg) sulphate group 160\(\pm\)19 ml vs. 270\(\pm\)25 ml. The preanesthetic and preoperative Mean Arterial Pressure (MAP) were not significantly different between both groups (p= 0.102 and p=0.716) respectively, but at 5,10,15,30 and 60 min and at end of surgery, they were significantly lower in the (Mg) sulphate group (p<0.001). A similar pattern was seen with heart rate. In the (Mg) sulphate group, the anesthetic requirements (fentanyl, vecuronium and sevoflurane), were also significantly reduced (p<0.001). Conclusions: We conclude that induced arterial hypotension caused by continuous infusion of magnesium...
sulphate during general anesthesia in functional endoscopic sinus surgery (FESS) led to a useful reduction of intraoperative bleeding and improvement of operative field visibility, as well as reduction of duration of surgery and anesthetic requirements but with delay in emergence time.