

Remifentanil, ketamine, and propofol in awake nasotracheal fiberoptic intubation in temporomandibular joint ankylosis surgery.

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Abstract

BACKGROUND:

Nasotracheal intubation of patients with temporomandibular joint (TMJ) ankylosis is a challenge for anesthesiologists. Awake fiberoptic intubation (AFOI) is the safest technique in patients with difficult airway. This study compares 3 different techniques of conscious sedation during AFOI in patients with TMJ ankylosis.

METHODS:

This study comprised 54 patients, American Society of Anesthesiologists physical status 1, scheduled for TMJ surgery. The patients were randomly allocated to remifentanil group (n = 18, 0.75 µg/kg over 30 seconds), ketamine group (n = 18, 0.25 mg/kg over 30 seconds), or propofol group (n = 18, 0.5 mg/kg over 30 seconds) for conscious sedation. The main determinants affecting the patient's outcome included intubation time, intubation conditions, and patient discomfort, which were determined by scoring system. In addition, postoperative patient dissatisfaction, hemodynamic stability, and respiratory impairment were measured.

RESULTS:

Intubation times were significantly different between groups ($P < 0.001$), where remifentanil had the shortest time (30.28 seconds). Intubation conditions (scores 0-3) were significantly different between groups ($P < 0.001$). In this context, remifentanil had score 3 (2-3), which was higher compared with 2 (1-3) for ketamine and 2 (1-2) for propofol. Patient discomfort score was lowest in the remifentanil group. Hemodynamic stability was maintained within groups, and its changes were not significant ($P > 0.05$). Postoperative patient's dissatisfaction was observed in 2, 3, and 5 patients in remifentanil, ketamine, and propofol groups, respectively. Respiratory impairment (apnea) recorded lowest in the remifentanil group.

CONCLUSIONS:

Remifentanil was the best agent for AFOI, because it provided shorter intubation time, better intubation conditions, and least patient's complaint. Iranian registry no.: IRCT 201208061674N4 (www.irct.ir).