Alexandria University
Faculty of Medicine
Department of Anaesthesia and Surgical Intensive Care

INTRANASAL DEXMEDETOMIDINE AS A PREMEDICATION TO ENHANCE PATIENT SEDATION AND RECOVERY DURING AND AFTER ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY

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By

Zeinab Mahmoud Anbar

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Faculty of Medicine
University of Alexandria
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SUMMARY

Anaesthesia for endoscopic retrograde cholangiopancreatography is challenging as this procedure is considered an advanced endoscopic procedure which has evolved from a diagnostic procedure to a predominantly therapeutic one of increasing duration and complexity. No guidelines specifically recommend the use of deep sedation or general anaesthesia for ERCP. Many drugs can be used to establish appropriate sedation for the patients undergoing this procedure. Till now, no drug is ideal. A limited number of clinical studies have explored the use of intranasal dexmedetomidine in sedation for surgery and clinical procedures.

Aim of the work

The aim of this present study was to evaluate the efficacy of intranasal dexmedetomedine as a premedication to enhance the quality of sedation technique and recovery in patients undergoing endoscopic retrograde cholangiopancreatography.

Patients and methods

The current study was carried out on 50 patients admitted to the Medical Research Institute hospital, Alexandria University and scheduled for ERCP. Morbidly obese patients, patients with allergy or contraindication to any included medications or anaesthetic drugs, Upper airway infection or anomalies, history of difficult intubation or expected difficult intubation, severe renal, cardiovascular or respiratory diseases and pregnant females were excluded.

All patients were evaluated through: 1) proper history taking including medical history for chronic diseases, surgical history and drugs history. 2) Clinical examination including general condition, cardiovascular, chest, abdomen and airway assessment. 3) The laboratory investigations were ordered according to patient's condition.

The patients were randomly divided into two equal groups.

- **Group (1):** 25 patients received intranasal (1μg/kg) dexmedetomidine prepared from the parenteral preparation (100 μg/mL) and administered diluted in 1 ml of normal saline in both nostrils 1 hour before the procedure.

- **Group (2):** 25 patients received the same volume intranasal normal saline 1 hour before the procedure.

Each patient received 50 mg (10% lidocaine spray) applied to the oropharynx and the posterior part of the tongue and received supplemental oxygen via nasal cannula (4 L/min). 20 mg intravenous Hyoscine was given to all patients just before the beginning of the procedure to facilitate the cannulation of the papilla of Vater.

Each patient received sedation in the form of:

1. Fentanyl: (0.5μg/kg) as a bolus intravenous dose followed by infusion (0.015 μg/kg/min).

2. Propofol: 30 mg repeated as a bolus intravenous dose until patients didn't respond to mild prodding or shaking according to (OAA/S), followed by infusion (30 μg/kg/min) to maintain the level of sedation. Increments of propofol (50% of the initial dose) were administered when the patients started to move or gag to keep them adequately sedated.

Depth of sedation was measured initially using (OAA/S). During the procedure depth of sedation was assessed by clinical monitoring in the form of checking for movement and gagging episodes.

Measurements:

- Age, sex and weight of every patient were recorded.
- Heart rate per minute, peripheral capillary oxygen saturation and mean arterial blood pressure were continuously monitored. They were recorded before and every 15 minutes after premedication for an hour and then every 5 minutes during the procedure.
- The total dose of propofol (mg) and the number of propofol boluses used during the procedure to keep the patient adequately sedated were calculated.
- Subjective effects like nasal irritation, obstruction, numbness or rhinorrhea were recorded before the procedure.
- Sedation level was assessed every 15 minutes for 1 hour before and after the procedure using (OAA/S) score.
- Duration of the procedure, the patient's first ambulation time, enoscopist's and patient's satisfaction score were documented.
- Fast-track score to determine whether patients were ready to bypass the PACU or not was recorded at the end of the procedure and every 5 minutes till it was 12 or more then after 1 hour from fast-tracking to determine home readiness.

Results

- No significant differences were recorded regarding the demographic data, duration of the procedure and local tolerability of dexmedetomedine.
- Regarding the vital signs, comparing both groups revealed that the HR and MABP were lower significantly in group I than group II 45 minutes & 1 hour after premedication and all through the procedure.
- One transient hypoxic episode was recorded 5 minutes from the beginning of the procedure in both groups. No significant difference in SpO_2 between both groups.
- Total propofol consumption and number of propofol boluses were significantly less in group I than group II. The endoscopists' satisfaction score was significantly higher in group I than group II. However, there was no significant difference regarding patients' satisfaction between both groups. The patients in group I were able to ambulate significantly earlier than patients in group II
- Comparison between the two groups revealed that sedation degree was higher significantly in group I than group II 45 minutes and 1 hour after premedication; however it was higher in group II than group I after 15 minutes from fast tracking.

- Patients in group I were fast tracked significantly faster than patients in group II.
- All complications were mild, transient and didn't cause any life threatening events. There was no need for premature termination of the procedure caused by sedation related events.