Remifentanil vs. Meperidine for Patient-Controlled Analgesia During Colonoscopy: A Randomized Double-Blind Trial

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OBJECTIVES: **The aim was to compare patients ' and endoscopists ' satisfaction in terms of effi cacy and safety of remifentanil patient-controlled analgesia (PCA) during colonoscopy with that of a combination of midazolam and meperidine.**
METHODS: **Sixty patients undergoing colonoscopy were randomly assigned to two groups. All of the patients received midazolam 0.03 mg / kg intravenously for premedication. In the remifentanil group, a bolus dose of remifentanil was given, and a patient-controlled sedation analgesia (PCSA) pump was set to inject further bolus doses with no " lockout " time. Patients in the meperidine group received a bolus of meperidine and sham PCSA. Non-invasive arterial blood pressure, electrocardiography, and pulse oximetry were monitored throughout the study. The Observer ' s Assessment of Alertness and Sedation Scale (OAA / S) was performed at baseline, every 5 min during, and after colonoscopy. Assessment of pain and satisfaction with sedoanalgesia was scheduled after colonoscopy and 24 – 72 h later by a 100 mm visual analog scale (VAS). The technical diffi culty of the examination and the gastroenterologist ' s satisfaction were assessed similarly.**
RESULTS: **The degree of pain, the level of satisfaction with sedoanalgesia by patients and gastroenterologists, and the degree of diffi culty experienced by the endoscopist were not different in the two groups. The time to reach an Aldrete score ≥ 9 was signifi cantly shorter in the remifentanil group (*P* < 0.0001); discharge times did not differ between the groups (*P* = 0.36). There was no difference between the groups regarding the duration of colonoscopy (*P* = 0.82) and the stability of vital signs. At the end of the procedure, OAA / S was signifi cantly higher in the remifentanil group (*P* = 0.03).**
CONCLUSIONS: **Remifentanil PCA is safe and effective to induce sedoanalgesia during colonoscopy. Further studies should address the optimization of dosing and lock out setting.**