Effects of intravenous analgesia with combined dezocine and butorphanol on postoperative cognitive function in elderly patients

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ABSTRACT. The aim of this study was to observe the analgesic effects of the combination of dezocine and butorphanol on postoperative cognitive function in elderly patients. Forty elderly patients undergoing upper abdominal surgeries or thoracotomies with general anesthesia were randomly divided into the dezocine and butorphanol group or the butorphanol group (20 patients per group). A visual analog scale was used to evaluate analgesia and the degree of malignant vomiting. The Ramsay scoring method was used to evaluate sedation. The Mini-Mental State Examination (MMSE) was used to evaluate cognitive function. Forty-eight hours after the operation, the pain score of the dezocine and butorphanol group (means ± SD, 1.75 ± 0.44) was lower than that of the butorphanol group (2.25 ± 0.79; P < 0.05), and the nausea and vomiting score of the dezocine and butorphanol group (0) was lower than that of the butorphanol group (0.70 ± 1.30; P < 0.05). Six hours after the operation, the sedative score of the butorphanol group (3.75 ± 0.79) was higher than that of the dezocine and butorphanol group (2.15 ± 0.75; P < 0.05). Compared to 1 day before the operation, the MMSE
scores of both groups decreased 6 h after the operation, and the MMSE score of the butorphanol group (15.00 ± 2.00) was lower than that of the dezocine and butorphanol group (20.95 ± 1.54; P < 0.05). Dezocine and butorphanol analgesia had transient effects on postoperative cognitive function in elderly patients, and the effect of the combination was superior than butorphanol only.

**Key words:** Dezocine; Butorphanol; Postoperative analgesia; Elderly; Postoperative cognitive dysfunction