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Intratracheal administration of Dexmedetomidine improved general anesthesia recovery after gynecological laparoscopic surgery: A randomized double-blinded study

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Objectives: This study aimed to examine the efficacy of intra-tracheal Dexmedetomidine (Dex) injection in the prevention of the laryngeal response on emergence from general anesthesia following gynecological laparoscopic surgery.

Methods: In this prospective, randomized, double-blinded trial, 90 patients who underwent elective laparoscopic gynecological surgery were randomly allocated to either receive intratracheal Dex (DT group, n=30), intravenous Dex (DV group, n=30) or saline (CON group, n=30). In the DT and DV groups, Dex (0.5 µg/kg) was diluted in 1 ml or 20 ml saline and injected via the intra-tracheal or intravenous route 30 min before the completion of the surgery. We then recorded the coughing score, awareness time, extubation time, postoperative Visual Analogue Scale (VAS) and Steward Recovery Score (SRS).

Results: The extent of coughing was significantly reduced in both the DV group and the DT group compared to the CON group (no/minimal/moderate/severe: 18/9/3/0 vs. 6/15/6/3, P=0.01 and 16/12/2/0 vs. 6/15/6/3, P=0.005, respectively). Furthermore, the mean time to awareness and the extubation time was reduced in the DT group, compared to the CON group (both P<0.001). Patients in the DT group also experienced better recovery quality and less pain, when measured 5 min after extubation, than those in the CON group. Furthermore, intra-tracheal Dex administration contributed to improved stability in hemodynamics during the recovery from general anesthesia with no significant side effects.

Conclusion: Intra-tracheal Dex administration may represent an effective method through which laryngeal reflexes can be avoided in patients emerging from general anesthesia after gynecological laparoscopic surgery. However, the absorption characteristics of endotracheal Dex administration still require further exploration.

Biography

Chaojin Chen is currently pursuing PhD degree in Sun Yat-sen University, China. His research interests include cell damages and perioperative organ protection. He is currently working on drug clinical trials/research and drug safety field.

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