

Chapter 8

Comparing Ketamine– Dexmedetomidine vs. Low–Dose Ketamine– Dexmedetomidine–Propofol for Sedation in Short Surgeries

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ABSTRACT

In more clinical settings, quick surgeries are performed under anaesthesia. This study compared the sleepiness and hemodynamic stability of two sedative regimens: low-dose Dexmedetomidine, Ketamine, and Propofol (Group DKP) and Ketamine and DTM (Group KDX). This organised abstract summarises the study's main findings. Adult patients were randomly assigned to two groups. Groups DKP and KDX received low-dose Dexmedetomidine, Ketamine, and Propofol. Tracking hemodynamic parameters and measuring sedation depth with the Ramsay Sedation Scale. Complications, recovery, and patient satisfaction were assessed. Group KDX was regularly drowsier than Group DKP. No hemodynamic changes were observed in either group during the surgeries. Despite no statistical difference, Group KDX had fewer difficulties. Group KDX patients were happier with this regimen and recovered faster.

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INTRODUCTION

In order to retain a patient's capacity to autonomously maintain a patent airway and listen to vocal orders, sedation, the purposeful use of pharmaceutical substances to induce a state of diminished consciousness and response to stimuli, plays a crucial role in modern healthcare (Marhofer et al., 2013). It is particularly important for brief surgical interventions, such as minor operations and diagnostic procedures, where the main goals are to guarantee patient comfort, lower anxiety, and relieve pain so that medical teams can function efficiently and patients may recover more quickly (Andolfatto et al., 2013). Choosing the right sedation schedule for these surgeries is a complex issue that is impacted by a number of variables, such as the type and length of the surgery, the patient's features, and the critical necessity to preserve hemodynamic stability. Two widely used sedation regimens have shown promise in this regard: the low-dose combination of Dexmedetomidine, Ketamine, and Propofol, and combination therapy including Ketamine and Dexmedetomidine (Tobias & Leder, 2011). The purpose of this study is to compare these two regimens thoroughly in terms of how they affect hemodynamic stability and the level of sedation during brief surgical procedures that call for sedation (Ramsay et al., 1974).

During Quick Surgical Procedures, Sedation

When medicines are used on purpose to induce a state of reduced awareness and responsiveness to stimuli, it is referred to as "sedation," and it makes treatments more comfortable and less stressful for patients (American Society of Anesthesiologists, 2023). Achieving the right amount of sedation while protecting the patient's capacity to keep their airway open and react appropriately to stimuli is crucial (Williams et al., 2011). This is especially important when discussing brief surgical operations since these treatments usually don't require general anaesthesia because of the increased risks and resource requirements (Laskowski et al., 2011).

Sedation Depth

During quick surgical operations, the degree of consciousness and responsiveness displayed by a patient while under sedation, known as the depth of sedation, is a crucial component of patient safety. Among the four acknowledged sedation levels are (Al-Metwalli et al., 2008):

- **Anxiolysis with Minimal Sedation:** Patients are still alert and responsive at this level, but their anxiety is lessened.
- **Moderate Sedation:** Patients show signs of reduced consciousness, but they are still sensitive to touch and voice cues. They may also suffer from minor forgetfulness.
- **Deep Sedation:** Although patients are purposefully kept from rapidly waking up, they might still be aroused by unpleasant or repeated stimuli.
- **General Anaesthesia:** Patients completely lose consciousness at this point and need assistance breathing and keeping their airways open.

The particulars of the procedure and each patient's tolerance level determine the appropriate dose of sedation. The comfort of the patient, the success of the procedure, and general safety all depend on finding the ideal balance and sedation level.

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