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A RANDOMISED CONTROLLED STUDY BETWEEN KETOFOL AND KETOFOL-DEXMEDETOMIDINE GROUP IN ELECTROCONVULSIVE THERAPY

Anaesthesiology

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ABSTRACT

Background: This study evaluates the comparative effectiveness of Ketofol (ketamine-propofol) with and without dexmedetomidine as induction agents for ECT, in terms of seizure duration, hemodynamic, recovery, and patient satisfaction. **Methods:** 120 ASA I–II patients (18–60 years) scheduled for ECT were randomized into two groups. Group DY received Ketofol; Group DX received dexmedetomidine (1 µg/kg IV over 10 minutes) before Ketofol. Outcomes measured included seizure duration, heart rate, MAP, recovery parameters, agitation, and satisfaction. **Results:** DX group showed significantly longer seizure duration (38.9 ± 4.9 sec vs. 35.8 ± 6.6 sec; $p = 0.0042$), better MAP and HR control at 12, 20, 30 mins ($p < 0.05$), and lower post-ECT agitation (5% vs. 15%). Time to spontaneous breathing was slightly prolonged in DX group ($p = 0.013$), with similar overall recovery times. **Conclusion:** Dexmedetomidine premedication enhances ECT efficacy with prolonged seizure duration, better hemodynamic control, and lower agitation without significant recovery delay.

KEYWORDS

Ketofol, Dexmedetomidine, Seizure Duration, Hemodynamic.

INTRODUCTION

Electroconvulsive therapy (ECT) is a valuable intervention in psychiatric treatment. Ketamine is known to prolong seizure duration but causes cardiovascular stimulation, while propofol offers rapid recovery but suppresses seizures. Dexmedetomidine, a selective alpha-2 agonist, offers sedation and cardiovascular stability. This study compares Ketofol alone(DY) to Ketofol with dexmedetomidine (DX) to evaluate their efficacy in ECT anaesthesia.

MATERIALS AND METHODS

Design: Randomized controlled study.
Setting: Department of Anaesthesiology & Critical Care attached to SRN Hospital, Prayagraj.
Participants: 120 patients aged 18–60 years, ASA I–II, undergoing ETC.
Groups:

- Group DY: 0.9% NS(over 10 mins)+Ketofol (1 mg/kg each of ketamine and propofol).
- Group DX: Dexmedetomidine (1 µg/kg IV over 10 mins) + Ketofol (1 mg/kg each of ketamine and propofol).

Measurements

Seizure duration, HR, MAP, SpO_2, recovery times, agitation, patient satisfaction.

Statistical Analysis

$p < 0.05$ considered significant.

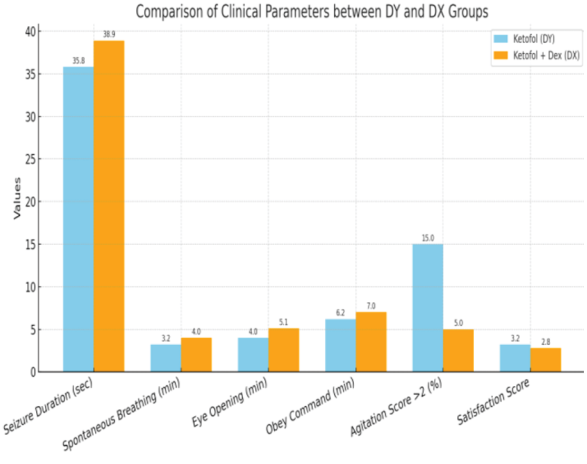
RESULTS

- Seizure Duration: DX had significantly longer seizure (38.9 sec) than DY (35.8 sec), $p = 0.0042$.
- Hemodynamic: DX showed lower HR and MAP at 12, 20, 30 mins ($p < 0.05$).
- Agitation: DX had lower post-ECT agitation (5%) than DY (15%); $p = 0.06$.
- Recovery: Spontaneous breathing slightly delayed in DX ($p = 0.013$); no delay in full recovery.
- Satisfaction: DX reported higher satisfaction ($p = 0.005$).

CONCLUSION

Dexmedetomidine premedication prior to Ketofol induction in ECT provides superior seizure duration, hemodynamic control, and reduced agitation, enhancing overall patient experience without significantly delaying recovery. Both anaesthetic regimens maintained effective induction and recovery profiles, but the Ketofol-Dexmedetomidine group showed statistically and clinically meaningful advantages. Thus, Ketofol-Dexmedetomidine emerges as a more effective and safer anaesthetic regimen for ECT, warranting its consideration as a preferred choice in clinical practice.

Table – 1



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