Mohorn PJ, Vakkalanka P, Rushton WF, Hardison LS, Woloszyn A, Holstege CP, Mallow-Corbett SP. The Use of Dexmedetomidine for Sedation in Patients with Toxicological Events. J Clin Toxicol 2014; 52(5) 525-530

INTRODUCTION: Although clinical use of dexmedetomidine (DEX), an alpha2-adrenergic receptor agonist, has increased, its role in patients admitted to intensive care units secondary to toxicological sequelae has not been well established.

OBJECTIVES:
The primary objective of this study was to describe clinical and adverse effects observed in poisoned patients receiving DEX for sedation.

METHODS:
This was an observational case series with retrospective chart review of poisoned patients who received DEX for sedation at an academic medical center. The primary endpoint was incidence of adverse effects of DEX therapy including bradycardia, hypotension, seizures, and arrhythmias. For comparison, vital signs were collected hourly for the 5 h preceding the DEX therapy and every hour during DEX therapy until the therapy ended. Additional endpoints included therapy duration; time within target Richmond Agitation Sedation Score (RASS); and concomitant sedation, analgesia, and vasopressor requirements.

RESULTS:
Twenty-two patients were included. Median initial and median DEX infusion rates were similar to the commonly used rates forsedation. Median heart rate was lower during the therapy (82 vs. 93 beats/minute, $p < 0.05$). Median systolic blood pressure before and during therapy was similar (111 vs. 109 mmHg, $p = 0.745$). Five patients experienced an adverse effect per study definitions during therapy. No additional adverse effects were noted. Median time within target RASS and duration of therapy was 6.5 and 44.5 h, respectively. Seventeen patients (77%) had concomitant use of other sedation and/or analgesia with four (23%) of these patients requiring additional agents after DEX initiation. Seven patients (32%) had concomitant vasopressor support with four (57%) of these patients requiring vasopressor support after DEX initiation.

CONCLUSION:
Common adverse effects of DEX were noted in this study. The requirement for vasopressor support during therapy warrants further investigation into the safety of DEX in poisoned patients. Larger, comparative studies need to be performed before the use of DEX can be routinely recommended in poisoned patients.