Summary of the DVM thesis No 12485, Faculty of Veterinary Medicine, Urmia University.
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Title of thesis: Evaluation of Sedative and anesthetic effects of diphenhydramine-acepromazine-ketamine combination compared to acepromazine-ketamine combination in rats

Summary:
In anesthesiology, for a long time, experts have been looking for a safe method to achieve anesthesia and surgical analgesia. The present study was conducted to evaluate the sedative and anesthetic effects of diphenhydramine-acepromazine-ketamine combination in comparison with acepromazine-ketamine combination in rats. In this research, 20 male rats were used in two groups of 10. To one group for anesthesia, diphenhydramine-acepromazine-ketamine combination with doses of 30, 2.5, and 75 mg/kg, respectively, intraperitoneally, and to the other as a control for anesthesia, acepromazine-ketamine combination, with doses of 2.5 and 75, respectively, was injected in the same way with an insulin syringe. Physiological evaluations included heart rate and breathing, blood oxygen saturation (SpO2) and rectal temperature using a digital thermometer and monitoring device, and breathing rate by counting the number of inhalations and exhalations per minute. Also, clinical evaluations of reaction to pain were performed through the pedal test. The results including the total duration of anesthesia time, surgical anesthesia time and induction of anesthesia time in the diphenhydramine-acepromazine-ketamine group have a significant difference with the acepromazine-ketamine group at the $P < 0.05$ level. From this study, it was concluded that adding diphenhydramine to acepromazine-ketamine combination causes an anesthesia along with appropriate analgesia and muscle relaxation in rats.

Keywords: Diphenhydramine, Ketamine, Acepromazine, Anesthesia, Sedation, Rats.