Evaluation of total intraosseous anesthesia (TIOA) with propofol in rabbit

Ramin Mazaheri-Khameneh*1, Farshid SarrafaZadeh-Rezaei1, Siamak Asri-Rezaei1, Bahram Dalir-Naghadeh1

1 Department of Clinical Sciences, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran.

Email: r.mazaheri@urmia.ac.ir

Objective - To evaluate the feasibility of IO administration of propofol and its IO effects regarding anesthetic behavior, selected clinical and paraclinical parameters and physiological variables during general anesthesia in rabbits.

Design- Prospective study.

Animals- 18 male New Zealand White rabbits.

Procedures- Rabbits received IO (n=6) bolus (12.5 mg kg⁻¹) of propofol followed by a constant rate infusion of propofol (1 mg kg⁻¹ min⁻¹) via the same route for 30 minutes (IOm). Control group received same volume of normal saline IO (n=6) as the procedure described for IOm group (CIOm), and in other control group (CIO) IO cannulation was performed, and maintained in place for 30 minutes without any administration (n=6). Physiologic variables, induction, anesthesia and recovery times were recorded. Complete blood hematological, serum biochemistry and blood coagulation profiles were assayed before induction and after recovery of anesthesia, 72 hours after anesthesia and 30 days later in all groups. The ratio M:E in BM were evaluated before and then 30 days later.

Results- Adverse effects were not detected clinically. HR was increased after propofol administration. The Mean RR, Spo₂ and BP decreased compared with the baseline value; however, the BP value remained > 60 mm Hg at all-time points. During study all hematological and biochemical parameters remained within normal limits. Decrease in platelet count and increase in PT and PTT times were significant (P < 0.05). The M:E ratio remained unchanged after 30 day in all IO groups.

Conclusion and Clinical Relevance- Based on the least significant physiological, hematological and biochemical effects, the IO injection of propofol appears to be safe and suitable method of anesthesia in rabbits with limited vascular access.

Key words- Propofol, Intraosseous, Anesthesia, Rabbit.

References