

Pharmacokinetics of single intravenous bolus of sodium salicylate in sheep

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The scarcity of licensed analgesics in sheep generates necessity to explore more analgesics. Therefore we conducted a study to investigate the pharmacokinetics of sodium salicylate in sheep. During the course of study, sheep were also observed for the side effects if any at the given dose rates. In this study, sodium salicylate was administered intravenously (IV) to 6 sheep [age and weight (mean±se): 5±1.41 months and 42.25±5.69 kg respectively] at different dose rates (10, 50, 100 and 200 mg/kg body weight) in a randomized, crossover trial. Blood samples were collected just before and 0.25, 0.5, 1, 2, 4, 6 hours after drug administration. Plasma salicylic acid concentration was detected using High Performance Liquid Chromatography technique. Sheep administered 200 mg/kg sodium salicylate had highest plasma salicylic acid concentration 15 minutes after injection (37.91 µg/ml). Pharmacokinetic parameters were interpreted by using standard equations for non-compartmental pharmacokinetics. The Half-life varied between 0.81±0.33 hours while Area under curve, Area under first moment curve, Clearance, and Volume of distribution varied between 25.61±24.32 µg.hr/ml, 44.72±60.54 µg.hr/ml, 239005.4±91193.54 ml/hr, and 209240.8±61673.25 ml/kg respectively. Mean residence time variation among the four treatments was 1.17±0.48 hours. No side effects were observed at any given dose rate. Therefore, it is safe to administer single intravenous bolus of sodium salicylate at 200 mg/kg body weight to the sheep over the age of six months.

Biography

Shashwati K. Ambatkar, currently is pursuing PhD at Institute of Veterinary, Animal and Biomedical Sciences, Massey University, Palmerston North. She did her B.V.Sc. & A. H. from MAFSU (Maharashtra Animal and Fisheries Sciences University) Nagpur, Maharashtra, India in 2007 followed by masters in Animal Nutrition from (Chaudhari Sarvan Kumar Krishi Vishvavidyalaya) CSKHPKV, Palampur, Himachal Pradesh, India in 2009. During my masters I worked at Department of Animal Nutrition, CSKHPKV as Senior Research Fellow to gain research experience. Post her masters she worked as teaching assistant at College of Veterinary Sciences, Korutla, Andhra Pradesh, India for 1 year (2010-2011) and added teaching experience. She also worked as Veterinary doctor/Quality Control Officer at DD marine Pvt. Limited, Mumbai, India for one year (2012- 2013). She started with her PhD at Massey in March 2013 and have completed first phase of her PhD

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