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Veterinari Medicina

Comparative single intraperitoneal dose pharmacokinetics of aspirin and acetaminophen in chicks

Mohammad FK, Mansoor AS, Al-Zubaidy MHI:

Veterinari Medicina, 57 (2012): 121-124

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Limited information is available on the pharmacokinetics and bioavailability of aspirin and acetaminophen in young chicks. The purpose of the present study was to examine the pharmacokinetics of acetyl salicylic acid (aspirin) and acetaminophen in 12-day old chicks after a single intraperitoneal administration of each drug alone at the dose of 100 mg/kg body weight. Blood samples were collected from chicks (six/each time period) at 10, 20, 30, 60 and 120 min after each drug administration. The concentrations of aspirin and acetaminophen in the plasma were determined by spectrophotometric methods. The pharmacokinetic

parameters of the drugs were calculated by a non-compartmental analysis. The elimination half-lives of aspirin and acetaminophen were 1.68 and 1.36 h with steady state volume of distributions 0.079 and 1.11 l/kg and total body clearances of 0.029 and 0.53 l/h/kg, respectively. The mean residence times of the drugs were 2.74 and 2.09 h and their area under the plasma concentration-time curves (0–∞) were 3486 and 188 µg/h/ml, respectively. In conclusion, the data show the pharmacokinetic profiles of single intraperitoneal doses of aspirin and acetaminophen in chicks and suggest that acetaminophen is well distributed in the body of the chicks and eliminated faster from the body compared to aspirin. These parameters should be taken into consideration in further therapeutic and toxicological studies of drugs in chickens.

Keywords:

aspirin; acetaminophen;
pharmacokinetics; chicken; bioavailability

[[fulltext](#)]

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