Short Communication

PARACETAMOL POISONING IN A CAT AND ITS TREATMENT

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ABSTRACT

A two year old male cat was presented to the Emergency and Critical Care Unit with a history of inappetence after paracetamol 300 mg (Half tablet of 600 mg) administration overnight. On clinical examination the cat had a mild elevation of vital signs. Based on history and clinical signs the case was diagnosed as paracetamol poisoning and treated with activated charcoal a total dose of 3 g)orally and N-acetyl cysteine intravenously at 140 mg/kg along with Ringer's lactate, 10 ml/kg b.wt. The owner was advised to administer N-acetyl cysteine at 70 mg/kg orally for every 6 hours for five times. After treatment the cat was recovered successfully.

Key words : Cat, Paracetamol, Treatment

Acetaminophen, commonly known as paracetamol, is a non-steroidal anti-inflammatory drug used commonly in human medicine for its antipyretic and analgesic action (Court and David, 1997). Paracetamol brings the pharmacological action by inhibiting cyclooxygenase (COX) enzyme where it is highly selective for COX-2. Paracetamol is metabolized primarily in the liver through three metabolic pathways; glucuronidation, sulfation, N-hydroxylation and conjugation with glutathione. The third pathway yields N-acetyl-p-benzo-quinone-imine which is highly toxic and is the major reason for paracetamol poisoning (Perry, 1998). Paracetamol is available as tablet, capsule, liquid suspension, suppository, intravenous and intramuscular forms. The present paper describes paracetamol poisoning in a cat and its management.

Case history and observations : A two year old male cat was presented to the Emergency and Critical Care Unit with a history of inappetence after paracetamol 300 mg (Half tablet of 600 mg) administration overnight. On examination, the cat had a mild elevation of temperature of 39.1ºC with heart rate of 85 beats per minute and respiratory rate of 24 breaths per minute. The conjunctival and oral mucous membranes were congested and dry. The eyeballs were sunken with facial edema. Based on history and clinical signs the case was diagnosed as Paracetamol poisoning.

Treatment and discussion : The cat was treated with activated charcoal (a total dose of 3 g) orally and N-acetyl cysteine intravenously at 140 mg/kg along with Ringer's lactate, 10 ml/kg b.wt. The owner was advised to

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administer 600mg tablet of N-acetyl cysteine @ 70 mg/kg orally for every 6 hours for five times. After treatment the owner reported to the hospital the next day with the cat showing signs of improvement with substantially decreased facial edema.

Paracetamol poisoning in cats and dogs are very common mostly by administration by the owners and occasionally by accidental ingestion by the pets. The toxicity of paracetamol is serious in cats when compared to dogs. There is no safe dose of acetaminophen for cats .The toxic dose is reported as 50 to 100 mg/kg bodyweight (BW), but a dose as small as 10 mg/kg b.wt has produced signs of toxicity and death (Aronson and Drobatz, 1996). Cats lack glucuronyl transferase enzyme required to metabolize the drug to nontoxic products. Paracetamol poisoning presents with clinical signs of anorexia, dullness, facial and paw edema, muddy mucous membranes, respiratory distress, hematuria (Kore and Anita, 1998). Diagnosis can be made only with history from the owner and clinical signs because laboratories providing assay for paracetamol in blood is rarely available and time consuming.

The specific antidote for paracetamol toxicity is N-acetyl cysteine to be administered at 140 mg/kg intravenously as loading dose and then 70 mg/kg intravenously or orally every 6 hours for 5 times. N-acetyl cysteine directly binds with acetaminophen metabolites to enhance elimination and serves as a glutathione precursor. N-acetyl cysteine can reduce the extent of liver injury or methemoglobinemia by providing an alternate substrate for conjugation with the reactive metabolites of acetaminophen and by maintaining or restoring glutathione levels (Oehme, 1986 and Plumb, 1999). Administration of activated charcoal in case of paracetamol toxicity is still under debate.

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