MANAGEMENT OF TURPENTINE OIL POISONING IN A DOG: A CASE REPORT

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Eight month old Labrador dog. was admitted to the Teaching Veterinary Clinical Complex, Veterinary College, Udgir (MHS.), with turpentine intoxication after accidentally consuming, turpentine oil, which was being used for cleaning of dog's maggoted wound by the owner. The patient was in comatose state and showing symptoms of bradycardia and hypotension. The patient was hospitalized for close monitoring and observation. During a six days observation period, bradycardia and hypotension was corrected with administration of atropine sulphate, dexamethasone and intravenous fluid.

Keywords: Bradycardia, Dog, Poisoning, Turpentine.

Turpentine is an oily resin that is derived from a variety of pines; its main component is monoterpenes {α-pinene, β-pinene and 3–carene} (Barchino-Ortiz *et al.,* 2008). Turpentine oil has been used in traditional medicine to treat problems of the respiratory tract (Pifferi, 1994) and is presently used in massage oils and aromatherapy products. It has been claimed that turpentine has anti-inflammatory and analeptic properties, with high affinity for the respiratory tract, and is readily absorbed through the gastrointestinal tract, respiratory tracts and skin (Haneke, 2002). The aim of the present report is to draw attention to the phenomenon of turpentine intoxication in animals, which is rare but may be fatal.

Case History and Observations

An 8 month old male Labrador of 12.8 kg body weight was brought to outpatient department of Teaching Veterinary Clinical Complex, College of Veterinary and Animal Sciences, Udgir, 50 minutes after he accidently consumed 20 ml of turpentine oil, which was being used for cleaning of dog's maggoted wound by the owner. On admission, the patient was in comatose state (Fig.1). The physical examination revealed rectal temperature, 99.7 °F; heart rate, 136/min; respiratory rate, 48/min; corneal reflexes were weak and grinding of teeth. Dog was recumbent; feeble cardiac sound on auscultation and ocular mucosa was congested. Examination of other systems revealed no abnormal findings. Complete blood count at admission showed WBC, 17.60 x 109 /L; Lymphocyte count, 3.01 x 109 /L; Mid-cell count, 0.72 x 109 /L; Granulocyte count, 13.87 x 109/L; Lymphocyte percent, 17.1 %; Mid- cell percent, 4.1 %; Granulocyte percent, 78.8 %; Hemoglobin, 11.2 gm/dl; RBC, 3.78 x 1012 /L; Hematocrit, 36.08 %; Platelet count, 114 x 109 /L; MCV, 95 fl; MHC, 29.5 pg and MCHC, 31.0 gm/dl.

Treatment and Discussion

Treatment is nonspecific. Normal saline (750 ml) was infused intravenously to the dog; still the dog developed bradycardia at 3 hours of follow up. The Dog became ataxic and there was loss of consciousness and rectal temperature came to 96 °F and heart rate, 55 /min. Therefore, 0.5 ml atropine sulphate was given (@ 0.04 mg/kg b.wt. I/V); 16 ml of dexamethasone (@ 5 mg/kg b.wt.) was given slowly I/V to reverse shock. Following 5 hrs of injection atropine sulphate and injection dexamethasone the dog had normal heart rate and atropine sulphate was discontinued. On second day, the dog was showing improvement and its rectal temperature was 100 °F; heart rate, 100/min; respiration rate 32/min and ocular mucosa was congested. The dog was administered normal saline (500 ml) I/V and injection dexamethasone (@ 5 mg/kg b.wt.) I/M for next 2 day. On 3rd day, dog started taking small amount of milk and glucose powder; and urinated. On 4th day, the

corneal reflex came to normal and dog passed blackish stool twice but unable to get up and walk. Normal saline (250 ml, I/V), ringer lactate (250 ml, I/V), injection cefotaxime 500 mg (@ 40 mg/kg b.wt. I/M) BID, ranitidine 0.3 ml (@ 0.5 mg/kg b.wt. I/M) BID, meloxicam 5 ml (@ 0.2mg/kg b.wt. I/M) BID, were given for next 3 days. On day 5th all the parameters became nearly normal and dog was able to walk (Fig.2). The dog was discharge after 6 days of follow up, as he had no other complaints. Turpentine intoxication causes burning sensation and irritation of mucosal lining of Gastrointestinal tract resulting in nausea, vomiting and diarrhea. Due to mucosal irritation blood comes in vomitus and stool. Therefore to prevent the inflammation meloxicam was given. Due to Gastrointestinal mucosal lining disturbance, bacterial infection may further aggravates vomiting and diarrhea. So ranitidine and cefotaxime were given.

Fig.1- The Dog in Comatose stage before Treatment

Fig.1- The Dog has improoved after Treatment

Studies on effect of turpentine on laboratory animals have been conducted against various models by Bingham *et al.* (2001) and Sperling (1969), but no clinical report of intoxication in animals has been published. We delivered to our patient an antimuscarinic agent and steroid through I/V replacement for apparent bradycardia and hypotension, respectively.

The widespread use of turpentine oil in cosmetic, household products and therapeutic purpose as well as in industry, but it must be kept in mind that turpentine can be a cause of fatal intoxication in pets.

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