

## Ivermectin Toxicosis



The owner of 5 farm cats had treated them for suspected ear mites with an equine oral ivermectin paste (22 mg/cat divided into each ear). All cats were presented for sudden onset of tremors, obtundation, blindness, and dilated pupils within 12 hours of application. The cats were hospitalized for 8 hours of observation with no treatment.

Toxicologic testing performed on 2 cats confirmed high levels of systemic ivermectin. Retinal responses to light, determined by electroretinography (ERG), were abnormal in all 4 cats tested.

Clinical signs improved within 5 days; recheck ophthalmologic examinations after 1 month showed no residual effects.

Ivermectin is a broad-spectrum anti-parasitic drug that can be used in cats in microdoses (eg, 0.1 mg/cat topically) for ear mites. The mechanism causing blindness secondary to ivermectin toxicosis is not fully understood. If ivermectin crosses the blood-retinal barrier and increases GABA release, retinal toxic effects could theoretically develop. This is supported by the findings of this report.

### Global Commentary

Ivermectin toxicosis has been reported in dogs, horses, and cats. The novel aspect of this case report is the unusual route of intoxication. It is also noteworthy that after being treated with 220 times the recommended dose, all 5 cats made an uneventful recovery even though no supportive care was given. In many cases,

ivermectin toxicosis patients are treated symptomatically with IV fluids, vitamin E, activated charcoal, neostigmine, and/or systemic antiinflammatory drugs. In several dogs, IV lipid emulsion therapy has also been reported. Treatment for seizures and respiratory failure (eg, mechanical ventilation, oxygen supplementation) may be required in some cases. Despite such intervention, ivermectin toxicosis may be fatal; deaths have been reported in cats and horses.

Though the cats in this report seem to have recovered fully without treatment, clinicians should strive to provide supportive treatment when possible.—Ron Ofri, DVM, PhD, DECVO

### Source

Meekins JM, Guess SC, Rankin AJ. Retinopathy associated with ivermectin toxicosis in five cats. *JAVMA*. 2015; 246(11):1238-1241.

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