COELOMITIS SECONDARY TO INTESTINAL IMPACTION OF CALCISAND IN A LEOPARD GECKO, *Eublepharis macularius*

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Abstract: A leopard gecko, *Eublepharis macularius*, developed coelomitis after ingesting a commercially available sand product. Physical examination, diagnostics, and medical treatment are described, as are necropsy and histopathological findings.

Key words: leopard gecko, *Eublepharis macularius*, coelomitis, intestinal impaction, obstruction, substrate, sand.

INTRODUCTION

A 1-yr-old 61.0g female leopard gecko, *Eublepharius macularis*, was presented for anorexia of 1wk duration. The gecko had not defecated for several days but had produced a small amount of urine and urates the day prior to presentation. The gecko had been owned for 9mo and during that, time had shed about every 2wk. Dysecdesis had been noted the last 2 times it had shed.

CASE REPORT

Environment and Diet

The gecko was kept in a 10.0gal aquarium with a temperature range of 27-32°C (80-90°F). The substrate had been black calcisand (T Rex Products, Inc., Chula Vista, CA, USA) but had been changed to orange calcisand several weeks prior. The owner had noted that the gecko had appeared to be more interested in the orange colored bedding and had been seen ingesting it. The diet consisted of mealworms, wax worms, or crickets dusted with a calcium supplement and fed daily.

Physical Examination and Diagnostics

Upon physical examination the patient appeared lethargic, with pale pink mucous membranes, and a distended abdomen. The abdomen was tense and painful on palpation, which was evidenced by stinting. The patient became dyspneic upon handling.

Radiographs were taken and a radiodense material was present in the gastrointestinal tract with small pockets of ileus throughout the tract. A colonic wash was performed and direct smear revealed numerous red blood cells and flagellates. Fecal flotation indicated the presence of strongylid-type eggs.

The possibility of sand impaction and surgical versus medical options were discussed with the client who declined further workup and treatment due to finances. Euthanasia was considered but the owner agreed to relinquish responsibility of the gecko so medical therapy could be attempted to at least give the gecko a chance for recovery.

Medical Care and Follow-up

Treatment consisted of 0.5ml 0.9% sodium chloride (McGaw, Inc, Irvine, CA, USA) SQ q12hr and 10mg/kg enrofloxacin (Baytril, Bayer Corp., Shawnee Mission, KS, USA) q48hr. Fenbendazole (Panacur, Hoechst Roussel Vet, Warren, NJ, USA) and metronidazole (Schein Pharmaceutical, Inc., Florham Park, NJ, USA) were administered orally at 100.0mg/kg and 250.0mg/kg respectively. Temperature and humidity were adjusted as recommended for leopard geckos.

The patient's condition improved and it was seen eating crickets on the fourth day. During this time, the abdomen continued to appear distended but somewhat less painful on palpation. A small amount of feces was passed on the sixth day after which the gecko's condition declined. The patient was found dead in its cage on the seventh day.

Necropsy and Histopathology Findings

Postmortem findings included the presence of clear fluid in the coelomic cavity and sand-like material in the stomach and intestines. The gastrointestinal tract was pale with petechial hemorrhages throughout. Histopathology findings included epicardial inflammatory infiltrates with edema, edema and hemorrhage in the bowel, histiocytic inflammation and hemorrhage in adipose tissues, and the liver was fatty with hypertrophied mesothelial surface cells. The evidence of light to moderate surface inflammation on the myocardium and the adipose tissues were suggestive of coelomitis.

DISCUSSION

Substrates are being created commercially that are sold as safe to be ingested as well as helpful in providing supplemental minerals. In this case, the gecko seemed to be particularly attracted to the orange colored bedding material. Death due to sand impaction has been previously described in young geckos (de Vosjoli, *et al*, 1998). de Vosjoli (1998) recommends that terrestrial geckos less than 15.0cm (6.0in) in length be kept on paper to prevent such impaction.

Under ideal conditions of health, diet, and environment (including temperature, humidity, and in some species, adequate ultraviolet B exposure), reptiles that ingest bedding and other foreign materials may have little difficulty passing these materials. Unfortunately, many reptiles kept as pets suffer from metabolic imbalances, are parasitized, and are exposed to less than optimal dietary and environmental conditions. Considering these circumstances, reptiles that are likely to ingest bedding either directly or indirectly (on food items) should be kept on bedding materials that are large enough not to be ingested. In addition, food and supplements should be provided in shallow dishes up off the substrate making it less likely that bedding would be ingested.

REFERENCES

de Vosjoli P, Klingenberg R, Tremper R, Viets B. 1998. The leopard gecko manual. Advanced Vivarium Systems, Santee, CA:10-11, 56.