FIGURE 1. Left horizontal beam radiographic image of a Mali uromastyx that presented to the hospital for inappetance and lethargy.

HISTORY

A 6-year-old male intact Mali uromastyx (*Uromastyx maliensis*) presented to the University of Illinois veterinary teaching hospital (Urbana, IL USA) as an emergency for inappetence and lethargy. His appetite and activity level began to decrease approximately 1 month earlier. The owner said the lizard was initially selective in what food types it would eat, but at the time of presentation was anorexic. The spiny-tailed lizard was normally fed mixed vegetables and dark leafy greens, but had not eaten since his last meal, a few green beans, several days earlier. The lizard was housed in an 80-L glass tank with a newspaper substrate. The heat spot in the enclosure was 110°F to 115°F, and while there was a "cool" side to the enclosure, the temperature was unknown. The lizard was provided ultraviolet B radiation (Zoo Med Laboratories, San Luis Obispo, CA USA) on a 12-hour photoperiod, and the ultraviolet B radiation lights had been changed 1 month earlier. No water source was provided to the lizard.

On physical examination, the patient was found to be approximately 10% dehydrated, quiet, depressed, and responsive. Heart and respiratory rates were 80 beats/minute and 20 breaths/minute, respectively. The spiny-tailed lizard weighed 189 g and was in poor body condition (1.5/5), with significant muscle atrophy of the limbs and over the spine and pelvis. An 8-mm abdominal mass was palpated in the cranial quadrant of the coelomic cavity. The remainder of the physical examination was unremarkable.

Blood was collected from the jugular vein of the lizard and submitted for a complete blood count and biochemistry analysis (VetScan; Abaxis, Inc., Union City, CA USA). This lizard was found to have polycythemia (68%; reference range: 4.9% to 44.5%), leukocytosis (8900/µL; reference range: 1000 to 8100/µL), monocytosis (1690/µL; reference range: 0 to 500/µL), basophilia (1240/µL, reference range: 0 to 330/µL), hyperuricemia (14.5 mg/dL; reference range: 0.3 to 7.3 mg/dL), and hyperkalemia (5 mEq/L; reference range: 3.0 to 4.6 mEq/L).[1] Survey radiographs of the patient are shown in Figures 1 and 2.

At this time, please evaluate the history, physical examination findings, complete blood count and biochemistry results, and radiographic images (Figs. 1 and 2). From these preliminary diagnostics, develop a differential disease diagnosis list and plan for additional diagnostics and therapeutics.

FIGURE 2. Dorsoventral radiographic image of the Mali uromastyx described in Figure 1.

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DIAGNOSIS

On presentation, the initial differential disease diagnoses list included malnutrition, foreign body, abdominal neoplasia, granuloma, cholelith, and abscess. Further diagnostic evaluation of the palpable abdominal mass included an abdominal ultrasound that revealed a moderate amount of free fluid and a small hyperechoic nodule within the region of the stomach and gallbladder. The radiographic images revealed a moderate amount of heterogenous material within the large intestines, with gas distal to this material (Figs. 3 and 4). These findings were suggestive of a possible colonic foreign body, cholelith, or abdominal neoplasia.

The spiny-tailed lizard was hospitalized and placed in an incubator (88°F to 90°F). Intraosseus fluids (lactated Ringer's solution, 20 mL/kg/day, plus 1/3 of deficit; Abbott Laboratories, North Chicago, IL USA), antibiotic therapy (ceftazidime, 20 mg/kg intramuscularly; Fortaz, Teligent, Inc., Buena, NJ USA), and nonsteroidal anti-inflammatory therapy (0.3 mg/kg intramuscularly, meloxicam; Metacam, Boehringer Ingelheim, St. Joseph, MO USA) were initiated that evening, and the plan was to re-evaluate the patient in the morning and possibly perform a computed tomography (CT) scan and prepare the patient for surgery.

Unfortunately, the lizard was found deceased the next morning. A necropsy was performed and revealed a coelomic cavity containing approximately 6 mL of dark red, opaque, watery fluid; a 50-mm long segment of colon that was thin-walled and markedly dilated; and a 30-mm segment of colon that was gas filled and had a large clump of green pasty digesta. The remainder of the colon and the small intestine were 5 mm in diameter and contained scant digesta. The stomach was 10 mm in diameter and also had only a small amount of ingesta. Other viscera were grossly unremarkable. The morphologic diagnosis for this case was a segmental megacolon due to severe colonic impaction and coelomic effusion.

DISCUSSION

Disorders of the digestive system are among the most common reasons pet reptiles are presented to veterinary hospitals. Reported etiologies include gastrointestinal foreign bodies; neoplasia; constipation; gastrointestinal stasis; liver disorders; parasitic, bacterial, fungal, and viral infections; and toxins. In this case, a colonic impaction occurred that led to megacolon. The impaction was caused by plant materials, which are a common component of the Mali uromastyx diet. The authors suspect that dehydration led to gastrointestinal stasis, which ultimately led to the colonic impaction and megacolon. The significant polycythemia and hyperproteinemia further reinforce the extreme dehydration experienced by this lizard. Colonic impactions, especially with normal food items (e.g., plants), are not commonly reported in reptiles; however, this case demonstrates a need for considering this type of presentation in this species of lizard.

The most common clinical signs reported in reptiles with gastrointestinal foreign bodies are decreased fecal output, anorexia, dehydration, and lethargy,[2] while the most common hematological abnormalities associated with gastrointestinal foreign bodies are anemia from blood loss and leukocytosis.[3] This Mali uromastyx did demonstrate all of the common physical examination findings and the blood work reinforced that the lizard was dehydrated (e.g., hemoconcentrated and hyperuricemic) and experiencing a chronic inflammatory process (e.g., monocytosis and basophila). Initial therapy for these cases should focus on correcting fluid deficits to ensure normal physiologic function of all systems. Unfortunately, this animal died before this could be accomplished.

Recommended imaging modalities for diagnosing gastrointestinal foreign bodies include survey radiographs, ultrasound, endoscopy, and CT. In this case, the megacolon and foreign body could be seen on radiographs; however, the exact location could not be confirmed. For these cases, a CT scan can be used to confirm the location. Additionally, if a complete or incomplete blockage is suspected, an exploratory coeliotomy can be performed to both confirm the diagnosis and surgically remove the obstruction. Again, this was the plan for this animal once it was stabilized, but the animal died before this could be done.

Reptile gastrointestinal digestion is dependent upon body temperature, hydration status, type and length of the gastrointestinal tract, type and composition of the food, meal size, and the general health of the reptile.[3] Failure to provide an appropriate environmental temperature range for a reptile can lead to alterations in gastrointestinal motility (e.g., decreased with hypothermia and increased with hyperthermia) and digestion, and the putrefaction of digesta.[3] In this case, the basking temperature for the Mali uromastyx was considered appropriate; however, the gradient of temperature within the enclosure was unknown. It