CLINICAL CHALLENGE: RENAL ADENOCARINCOMA IN A BEADED LIZARD (HELODERMA HORRIDUM HORRIDUM)


HISTORY

A wild-caught, 1.85 kg, adult female beaded lizard (Heloderma horridum horridum) was presented for two episodes of regurgitation 48–72 hr after eating in the preceding 6 wk. Between these regurgitation episodes, the lizard had refused five weekly meals of adult feeder mice. Previous medical history included the presence of frank blood in the urates once each in the two previous years, which had resolved without treatment. At presentation, physical examination revealed good body condition, adequate hydration, and normal abdominal palpation.

Although survey radiographs revealed clear pulmonary fields, the abdominal contents were difficult to interpret due to osteodermal silhouettes. Abdominal ultrasound subsequently was performed. In the right cranial abdomen, a circular mass (4-cm diameter) was identified (Fig. 1). Liver and gall bladder had normal echogenicity. No ovarian follicular activity or yolk masses were observed.

To aid interpretation, a gastrointestinal barium (Liquid E-Z-Paque, E-Z EM Canada Inc., Lake Success, New York 11042, USA; 7 ml p.o.) contrast series was instituted. Radiographs were imaged at 0, 15, 70, 205, and 340 min, then once daily for the 3 days with the final radiograph taken at 72 hr post gavage (Fig. 2). Review the provided figures and consider a list of differential diagnoses.

DIAGNOSIS

The contrast study confirmed that the mass was extraluminal to the gastrointestinal tract. For diagnosis and resolution, exploratory celiotomy was indicated. The lizard was anesthetized with isoflurane (Butler Schein, Melville, New York 11747, USA) in oxygen via face mask, then maintained through an endotracheal tube. Upon entering the coelom, an oval mass (5 × 4 cm) was found associated intimately with the right kidney (Fig. 3A). Ligation of the associated vessels was performed with polydioxanone 3-0 (PDS*II, Ethicon, Inc., Somerville, New Jersey 08876, USA) as needed for complete mass excision, which required concurrent removal of approximately 90% of the right kidney. Further abdominal exploration revealed the cranial pole of the left kidney had numerous white foci. Both ovaries appeared normal and contained active follicles.

The coelom was lavaged with physiologic saline (Hospira, Inc., Lake Forest, Illinois 60045, USA) prior to closure. The incision was closed with polydioxanone 3-0 (PDS*II, Ethicon, Inc.) using an interrupted cruciate pattern in the muscle layer and an interrupted horizontal mattress pattern in the skin. The lizard recovered without incident from the procedure.

Postoperative treatment included ceftazidime (GlaxoSmithKline, Philadelphia, Pennsylvania 19112, USA; 25 mg/kg i.m. q. 72 hr for five treatments); fentanyl transdermal patch (Janssen Pharmaceuticals, Titusville, New Jersey 08560, USA, 25 μg/hr with 10% exposure), which had been applied 1 day preoperatively; and LRS (Lactated Ringer’s solution, Hospira, Inc., Lake Forest, Illinois 60045, USA, 35 ml s.c. q. 72 hr).

The mass had a fatty granular appearance when cut surface was assessed for impression smears and cytology. Cytology (Fig. 3B) was characterized by large clusters of epithelial cells exhibiting anisocytosis, anisouncleosis, anisonucleoleosis, polynucleoleosis, indistinct cell margins, and polyploidy along with numerous foamy macrophages. The portion of right kidney that was removed with the attached mass was submitted for histopathology. The mass itself was 4.2 × 4.0 × 3.1 cm and was variably encapsulated, multinodular, well-demarcated, and surrounded by a rim of fibrous connective tissue that compressed the contiguous renal parenchyma. The cells of the mass were cuboidal to columnar epithelial cells that exhibited moderate anisocytosis, severe anisokaryosis, and 0-3 mitotic figures per ×400 field. Adjacent to the mass, the renal interstitium contained moderate amounts of

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