PLASMA CELL TUMOR IN AN EAST INDIAN WATER LIZARD (Hydrosaurus amboinensis)

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PLASMA CELL TUMOR IN AN EAST INDIAN WATER LIZARD (*Hydrosaurus amboinensis*)

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Abstract: A neoplasm involving the stomach, liver and lungs was seen in an East Indian water lizard (*Hydrosaurus amboinensis*). The largest mass was in the stomach, with smaller nodules in the lung and liver. The tumor was diagnosed as a plasma cell tumor by its histologic and ultrastructure characteristics.

INTRODUCTION

Neoplasms in reptiles have been reported infrequently and a total of 41 specimens were listed in a tumor registry in 1974. In lizards, 2 lymphoid tumors and 1 reticulum cell sarcoma have been reported. One of the lymphoid tumors, a lymphoblastic lymphoma in an East Indian water lizard, was the first hematopoietic neoplasm reported in the suborder Sauria.

A disseminated plasma cell tumor was found in an East Indian water lizard (*Hydrosaurus amboinensis*) which died after a brief period of non-specific clinical signs. Tumor masses involving the stomach, liver and lung were found at necropsy.

CASE REPORT

The lizard, a subadult female, had been in a zoologic collection for 1.5 yr. It had no specific clinical signs and was found dead after a short period of anorexia and depression. At necropsy 1-2 mm diameter gray-white nodules were seen in the lungs and liver. A 2.0 x 2.5 cm gray-white ulcerated mass was present in the wall of the greater curvature of the stomach. No clinical laboratory examination was done.

Histologically, the stomach mass was necrotic over a portion of its surface, and was extremely cellular below the necrotic area and in the adjacent mucosa (Figure 1). Although a pleocellular inflammatory response was present at the edge of the ulcer, cells making up the mass were round or ovoid, with eccentric nuclei (Figure 2). Most nuclei contained clumped chromatin, cells had distinct cytoplasmic borders, and stroma was minimal.

FIGURE 1. Neoplastic mass in stomach of East Indian water lizard. Ulcerated, necrotic area has a sharp line of demarcation from the tumor mass. H&E stain, x 40.

FIGURE 2. Cellular detail of the mass illustrated in Figure 1. The majority of the neoplastic cells have eccentric nuclei. H&E stain, x 695.
amount of necrosis was present in the liver (Figure 3). This was probably due
to pressure from the enlarging tumor nodules. No evidence of neoplasia was
seen in any other organ.

A portion of the stomach tumor was
post-fixed in OsO₄, stained with lead
citrate and uranyl acetate, embedded in
epon, cut at 990 A, and examined with
an RCA EMU-3G. The ultrastructural
appearance of the neoplasm is illustrated
by Figure 4. The cells have features typi-
cal of plasma cells, including prominent
clumping of nuclear chromatin in the
center and at the periphery of the nu-
cleus, and extensive rough endoplasmic
reticulum (RER).

**DISCUSSION**

Because of the relative paucity of re-
ports of lizard tumors, it is interesting
that this tumor and one other hematopoi-
etic tumor have been reported in East
Indian water lizards. Whether this repre-
sents a species susceptibility to hematopoi-
etic tumors—indicating a possible area
for comparative oncolologic research, a
reflection of a higher percent of water
lizards in captivity, or some other factor
—has yet to be discerned. Plasma cell
tumors are not common in any species,
and the occurrence of one in a reptile is
of comparative interest, if not of com-
parative importance. It is unfortunate
that bone marrow was not available for
histologic study, since the limited num-
ber of organs examined may give an er-
roneous impression of the actual extent
of the neoplastic process in this lizard.

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