MULTIPLE CUTANEOUS LIPOSARCOMAS IN A RED-TAILED BOA, Boa constrictor, AND CHAMELEON

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Abstract: Liposarcomas are malignant tumors of pleomorphic lipocytes with little to no collagenous stroma. They are locally aggressive and have a moderate potential to metastasize. This rare malignant counterpart to the lipoma occurs in adult to aged domestic species and man. In man it is one of the most common sarcomas of mid to late adult life arising most often in the deep soft tissues of the proximal extremities and retroperitoneum. The tumors may be unique or multiple, and arise de novo and not from pre-existing lipomas (Rosenberg, 1999).

Multicentric tumors have been described in a domestic cow (Piercy, et al, 1994), a Canada goose, Branta canadensis, (Doster, et al, 1987) and a monk parakeet, Myiopsitta monachus (Tully, et al, 1994). One reptile case presented as a slow growing solitary tumor at the tail base of a shingleback skink, Trachydosaurus rugosus (Garner, et al, 1994). The predisposing factors for these tumors are unknown although chromosomal abnormalities are recognized in man, retrovirus has been associated with liposarcoma in domestic cats (Stephens, et al, 1983), and a foreign body was suspected to have initiated the neoplasm in a dog (McCarthy, et al, 1996).

Key Words: liposarcoma, chameleon, Boa constrictor, tumors

Case Reports
Two additional cases have been identified in reptiles. One was an adult (14 month old) breeding female chameleon presented with multiple lumps and bumps over the entire body. Histologically, one examined section was comprised of an infiltrative sheet of polygonal cells. The cells were infiltrating into, isolating and separating bundles of skeletal muscle. They had abundant, finely vacuolated cytoplasm and slightly eccentrically located oval to occasionally indented cell nuclei. No additional information is available for this case.

The second case was an adult (8 year old) female red-tailed boa, Boa constrictor. She presented with multiple, firm subcutaneous masses of variable size (from 1-6 cm in length) randomly distributed over her body. The biopsy sample was densely cellular and had a higher mitotic rate than the tumor in the chameleon.

Ultrastructural findings were similar for both cases. The tumor cells contained numerous vacuoles with a uniform light staining material compatible with lipid. They also had
numerous small perinuclear filaments, numerous dilated rough ER profiles, glycogen granules, and extracellular flocculent material.

The proposed therapy is wide and aggressive surgical excision. An accurate histologic classification will significantly contribute to establishing the prognosis as liposarcomas are usually resistant to radiation and hyperthermia (MacEwen, et al, 1996). Often the features of cell morphology and architectural arrangement are not sufficient to distinguish between the various soft-tissue sarcomas, particularly the poorly differentiated aggressive tumors often described in reptiles. Immunohistochemistry and electron microscopy are important contributing diagnostic tests.

References


