

Principles and Applications of Medical Oncology in Exotic Animals



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KEYWORDS

• Neoplasia • Chemotherapeutics • Exotic • Wildlife

KEY POINTS

- Chemotherapy can be used in exotic and zoologic animal species.
- Chemotherapy, in exotic and zoologic species, can be performed successfully through oral, subcutaneous, intramuscular, and intravenous routes.
- The use of a vascular access port can make intravenous administration of chemotherapy possible in exotic and zoologic species of animals.
- Continued research and evaluation of chemotherapeutics in exotic and zoologic animal species will improve treatments of these animals.

INTRODUCTION

Neoplasia and successful therapy for neoplasia has been reported in fish, birds, reptiles, small mammals, primates, and megavertebrates.^{1–6} This article introduces medications and therapeutic approaches being used in a variety of exotic animal species (**Table 1**). These animals range in size from grams to thousands of pounds. Discussion of administration techniques will also be introduced.

Medical treatment of cancer is still largely used as an adjunctive or palliative treatment. However, there are therapies that can produce remission for months to years, depending on the animal, tumor type, and stage of disease. The acceptance of many exotic species into the human family unit has contributed to owners who are seeking out and are willing to dedicate the financial and emotional resources for improved medical care and therapeutics for their pets.

The authors have nothing to disclose.

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Table 1
Chemotherapeutics given to exotic animals by class

Animal	Chemotherapeutic	Neoplasia Type	Dose	Route	Side Effect Noted	Reference
Reptiles						
Bearded dragon	Cytarabine	Leukemia	100 mg/m ²	Intravenous	Died during therapy but was at advanced stage	27
Green iguana	Vincristine	Lymphoma	0.008 mg/kg	Intravenous	None	15
Green iguana	Cyclophosphamide	Lymphoma	3 mg/kg	Intravenous	None	15
Green iguana	Doxorubicin	Lymphoma	0.26 mg/kg	Intravenous	None	15
Green iguana	Prednisone	Lymphoma	2 mg/kg, then 1 mg/kg	Oral	None	15
Green sea turtle	Bleomycin	Fibropapilloma	1 u/cm ³	Intralesional	None	42
Yellow-bellied slider	Bleomycin	Squamous cell carcinoma	1 mg	Intralesional	None	41
Birds						
African penguin	Cisplatin	Squamous cell carcinoma	0.2–0.9 mg/kg	Intralesional	None, did have recurrence	47
Bald eagle	Cisplatin	Squamous cell carcinoma	0.8 mg	Intralesional	None	NA
Black swan	Chlorambucil	Lymphocytic leukemia	2 mg	Oral	None; however, minimal response to therapy	11
Black swan	Lomustine	Lymphocytic leukemia	60 mg/m ²	Oral	None; however, minimal response to therapy	11
Black swan	Prednisone	Lymphocytic leukemia	0.5 mg/kg	Oral	None; however, minimal response to therapy	11

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