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Morphologic and cytochemical characteristics of blood cells and hematologic and plasma biochemical reference ranges in green iguanas.

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Source

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Abstract

OBJECTIVE:
To determine blood cell morphologic characteristics and hematologic and plasma biochemical reference ranges for iguanas housed in a warm indoor and outdoor environment with regular exposure to direct sunlight.

DESIGN:
Original study.

ANIMALS:
51 clinically normal iguanas (18 males, 25 females, and 8 juveniles) housed in 3 Florida locations.

PROCEDURE:
Blood was collected from the coccygeal or ventral abdominal vein. Any samples that had obvious hemolysis or clot formation were not used. Leukocyte counts were determined manually; other hematologic values were obtained by use of a commercially available cell counter. Plasma biochemical values were determined by use of a spectrophotometric chemistry analyzer. Blood smears were stained with Wright-Giemsa and cytochemical stains for morphologic and cytochemical evaluation.

RESULTS:
Hematologic ranges were generally higher in this study than previously reported. Thrombocytes were variable in appearance between individuals and sometimes difficult to distinguish from lymphocytes on a Wright-Giemsa preparation. Concentrations of calcium, phosphorus, total protein, globulins, and cholesterol were significantly higher, and the albumin:globulin ratio was significantly lower, in healthy gravid females than in male or nongravid female iguanas. Nongravid females had significantly higher calcium and cholesterol concentrations, compared with males. The calcium:phosphorus ratio was > 1 in all iguanas. Gravid females had a calcium phosphorus product ranging between 210 and 800. Intracytoplasmic inclusions were identified within the erythrocytes of some iguanas.

CONCLUSIONS AND CLINICAL RELEVANCE:
Hematologic ranges for iguanas in this study are higher than those reported for iguanas. Sex and age of the iguana should be considered when evaluating biochemical values. Healthy ovulating and gravid females may have significantly increased electrolyte and protein concentrations, but maintain a calcium:phosphorus ratio > 1.

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