1. Hematological, Serum Biochemical and Electrophoretic Values in Captive Egyptian Fruit Bats (*Rousettus aegyptiacus*)
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Hematological, Serum Biochemical and Electrophoretic Values in Captive Egyptian Fruit Bats (*Rousettus aegyptiacus*)
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Bats, classified in the order Chiroptera, have gained interest based on the well-recognized role as reservoir hosts of highly pathogenic and zoonotic emerging viruses. In literature information about laboratory reference intervals (RIs) of bats is scarce and especially data concerning Egyptian fruit bats (*Rousettus aegyptiacus*) are lacking. The purpose of this study was to establish hematological, biochemical, and electrophoretic RIs for captive fruit bats undergoing castration. One mL of blood was collected under anesthesia just before castration procedures from the cephalic vein of 21 privately owned Egyptian fruit bats (11 female and 10 male bats with a weight ranging from 91 to 134 grams). Complete blood counts were performed using an impedance cell counter followed by morphologic analysis of blood smears. Clinical biochemistry was performed using an automated spectrophotometer and agarose gel electrophoresis was done with an automated instrument. Reference intervals were determined using the Reference Value Advisor V2.1. The possible presence of differences between male and female bats or between sexually immature and adult bats were also investigated. The following analytes were determined on EDTA whole blood: RBC, WBC, and platelet count as well as hemoglobin concentration and MCV, HCT, MCH, MCHC, RDW were measured. On serum samples glucose, urea, creatinine, triglycerides, alanine transferase (ALT), total proteins, creatine kinase (CK), alkaline phosphatase (ALP), calcium, and phosphate concentration and/or activity was determined as well as the agarose gel electrophoresis.

With a few exceptions mentioned below, RIs for most of the investigated analytes were similar to those of other mammalian species. Hematology revealed a MCHC slightly higher in male than in female bats. Biochemistry profiles were characterized by variable glucose levels, possibly related to the anesthetic protocols and fasting time. Creatine kinase activity was higher, while triglycerides were lower compared with domestic mammals. The activity of alkaline phosphatase was higher in sexually immature bats compared with adults, in agreement with what reported in other mammals. Serum protein electrophoresis showed a clear subdivision in 5 fractions (albumin, alpha-, beta1-, beta2- and gamma globulins).

The values recorded in this study may be helpful as a reference biological dataset to monitor the health status of wild and captive *Rousettus aegyptiacus* and possibly to other Chiroptera species.

DISCLOSURES

No disclosures to report.