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Hematology of healthy Florida manatees (Trichechus manatus).

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Source

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Abstract

BACKGROUND:
Hematologic analysis is an important tool in evaluating the general health status of free-ranging manatees and in the diagnosis and monitoring of rehabilitating animals.

OBJECTIVES:
The purpose of this study was to evaluate diagnostically important hematologic analytes in healthy manatees (Trichechus manatus) and to assess variations with respect to location (free ranging vs captive), age class (small calves, large calves, subadults, and adults), and gender.

METHODS:
Blood was collected from 55 free-ranging and 63 captive healthy manatees. Most analytes were measured using a CELL-DYN 3500R; automated reticulocytes were measured with an ADVIA 120. Standard manual methods were used for differential leukocyte counts, reticulocyte and Heinz body counts, and plasma protein and fibrinogen concentrations.

RESULTS:
Rouleaux, slight polychromasia, stomatocytosis, and low numbers of schistocytes and nucleated RBCs (NRBCs) were seen often in stained blood films. Manual reticulocyte counts were higher than automated reticulocyte counts. Heinz bodies were present in erythrocytes of most manatees. Compared with free-ranging manatees, captive animals had slightly lower MCV, MCH, and eosinophil counts and slightly higher heterophil and NRBC counts, and fibrinogen concentration. Total leukocyte, heterophil, and monocyte counts tended to be lower in adults than in younger animals. Small calves tended to have higher reticulocyte counts and NRBC counts than older animals.

CONCLUSIONS:
Hematologic findings were generally similar between captive and free-ranging manatees. Higher manual reticulocyte counts suggest the ADVIA detects only reticulocytes containing large amounts of RNA. Higher reticulocyte and NRBC counts in young calves probably reflect an increased rate of erythropoiesis compared with older animals.

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