RESUMO SIMPLES - OUTRAS ÁREAS TEMÁTICAS

HEMATOLOGICAL CHANGES IN CALLITHRIX SP. WITH MICROFILARIAE INFECTION

Fabíola Aparecida De Oliveira Nogueira (fabiolanogueiravet@gmail.com)

Gerlaine Barbosa Vianna (gerlainebarbosa@id.uff.br)

Marcos Roberto Barros Freitas (marcosfreitasvet@gmail.com)

Elian De Almeida Cardoso (elian.cardoso@ufrrj.br)

Julia Cecilia Medeiros Barros (juliaceciliamb@gmail.com)

Taynara Mendonça Gueivara Lima (taynara.lima@ufrrj.br)

Ana Elisa Barros Medeiros (anamedeiros.aem@gmail.com)

Andresa Guimaraes (andresaguimaraes02@yahoo.com.br)

Cristiane Divan Baldani (crisbaldani@gmail.com)

Juliana Macedo Raimundo (julianam_rj@hotmail.com)

Filariids are nematodes of the order Spirurida and family Onchoceracidae. They are round and filiform worms, primarily transmitted by hematophagous dipteran insects, but can also be vectored by ticks and lice. The genus Callithrix sp. comprises a population of neotropical primates, considered endemic to Brazil, and includes six species. Blood samples from an adult male primate of the genus Callithrix sp., maintained under human care, were received at the veterinary clinical pathology laboratory. The samples in EDTA-containing tubes were received on distinct dates (D0, D51, D71, D74, D88, and D112). They

were processed in a Mindray BC-20S® hematology analyzer for the evaluation of the erythrogram, leukogram, and platelet count. Blood smears were prepared and stained with a Diff-Quick. The slides were analyzed using optical microscopy (Nikon E200), and a differential leukocyte count, along with morphological analysis and a search for hemoparasites in the sample. On D0, the animal showed normal erythrocytic parameters but already presented thrombocytopenia, monocytosis, and the presence of reactive lymphocytes. On D51, the animal had a history of caudectomy due to lesions. On the same date, the first detection of microfilaria occurred. The patient presented normocytic normochromic anemia, possibly due to the surgery, lymphopenia, eosinopenia, and monocytopenia. The eosinopenia is particularly notable, as parasitic infections, such as those caused by filariids, typically induce an increase in eosinophils. The monocytopenia may be justified by increased tissue consumption. On D71, a severe progression of the clinical condition occurred, with significant worsening in the leukogram and erythrogram. The patient presented leukopenia due to neutropenia, lymphopenia, and monocytopenia, indicating a process of myeloid lineage suppression. The anemia became normocytic hypochromic. Hypochromia indicates a deficiency in the incorporation or availability of iron. Under conditions of inflammation or infection, interleukins are released that alter iron metabolism, resulting in a decrease in its availability in the bloodstream. Leukopenia and normocytic hypochromic anemia persisted on D74. However, there was an increase in the total neutrophil and monocyte counts, with only lymphopenia persisting. The plasma showed discrete icterus, a finding that suggests hemolysis, possibly induced by autoimmune mechanisms in response to the parasitic agent. The observation of microfilariae in the blood smear persisted. On D88, the anemia became macrocytic hypochromic, with the presence of anisocytosis, indicating that the bone marrow was making a compensatory effort against the decrease in erythrocytes. Leukopenia remained, presenting monocytopenia, eosinopenia, and lymphopenia, indicating a worsening in the infectious process, suggesting increased consumption and/or increased tissue demand. There was a presence of marked thrombocytosis, possibly reactive to the chronic infection and associated with iron deficiency, signaled by the hypochromia of the erythrocytes. On D112, the presence of microfilariae was not observed in the blood smear, and the leukogram reached values within the reference range. The non-visualization of the parasite coinciding with the improvement of the leukogram demonstrates clinical improvement and suggests a successful response to the elimination of the parasite, although the animal still deals with

the presence of macrocytic hypochromic anemia, justified by the difference in the maturation time and survival of erythrocytes when compared to leukocytes. The association between the local infectious process, the surgical intervention, and the microfilariae parasitemia triggered a severe hematological condition in the animal, leading to anemia that was initially normocytic normochromic and, subsequently, hypochromic, a pattern that indicates the absence of a bone marrow response, common in chronic inflammatory conditions. Simultaneously, there was myeloid lineage suppression, evidenced by severe leukopenia and absolute cytopenias. Thus, the hematological findings suggest that the immunosuppression triggered by the initial infectious process in the tail acted as a predisposing factor that allowed the development and progression of microfilariae parasitemia.

Palavras-chave: filariid; primate; parasite.