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CLINICAL AND HEMATOLOGICAL ASPECTS OF CANINE LEISHMANIOSIS IN PAROS ISLAND, GREECE (2022–2024)

Anamaria Plesko, Tiana Florea, Ioan Cristian Dreghiciu, Diana Floriana Hoffman, Sorin Morariu

University of Life Sciences "King Mihai I" from Timisoara, Faculty of Veterinary Medicine, 119, Calea Aradului, 300645 Timisoara, Romania

Abstract: Canine leishmaniosis (CanL) caused by *Leishmania infantum* remains a major veterinary and zoonotic concern in endemic areas such as Greece, particularly on the island of Paros, where ecological conditions favour vector development. This study aimed to evaluate the clinical manifestations and hematological changes in naturally infected dogs. Twenty-two dogs were examined between 2022 and 2024, and diagnosis was confirmed using the Speed Leish K[®] rapid test (Virbac). Hematological analyses were performed in 19 dogs using the Abacus Junior Vet analyzer. A total of 79 clinical signs were recorded, with an average of 3.6 per dog. Dermatological manifestations were the most prevalent (36/79; 45.57%), followed by general/systemic signs (22/79; 27.84%), musculoskeletal (10.13%), digestive/miscellaneous (6.33%), ocular (3.80%) and neurological signs (3.80%). Anemia was present in 52.63% of cases, predominantly non-regenerative normocytic–normochromic, while reduced MCHC was observed in 89.47% of dogs, lymphopenia in 57.9%, and thrombocytopenia in 15.78%. No significant correlation was found between hemoglobin concentration and the number of clinical signs, indicating that hematological alterations do not reliably reflect clinical severity. In conclusion, cutaneous lesions represented the dominant clinical presentation of CanL in Paros, whereas hematological alterations, although frequent, were not directly associated with clinical severity, emphasizing the importance of early diagnosis and hematological monitoring in endemic regions.

Introduction

Canine leishmaniosis (CanL), caused by *Leishmania infantum*, is a major zoonosis in Mediterranean regions. Greece is endemic, and islands like Paros offer favorable conditions for sand fly vectors. Dogs are the main reservoir, contributing to both animal and human infection. Clinical signs vary from asymptomatic cases to severe systemic disease. Early diagnosis and hematological evaluation are essential for management and prevention within the One Health concept.

Material and method



Study area & period

Paros Island (Greece), endemic for *L. infantum*
2022–2024



Animals

22 owned dogs, different ages, sexes and breeds
Most were mixed-breed (45.45%), males (63.64%), adults (3–7 years)



Diagnosis

Clinical examination
Speed Leish K[®] rapid test (Virbac)
Owner consent obtained



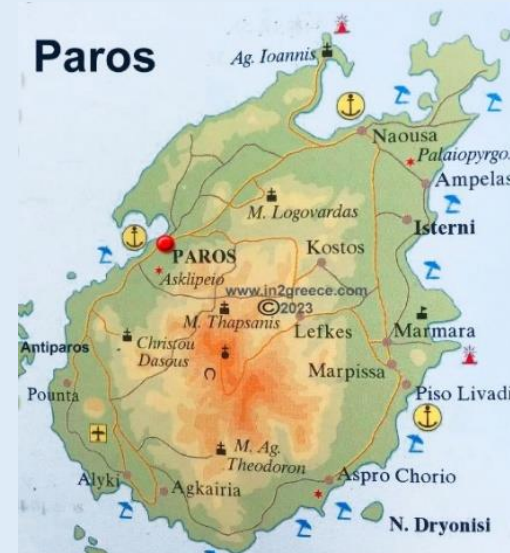
Hematology

19 dogs tested
Abacus Junior Vet analyzer
Parameters measured:
RBC, Hb, HCT, MCHC, WBC Platelets



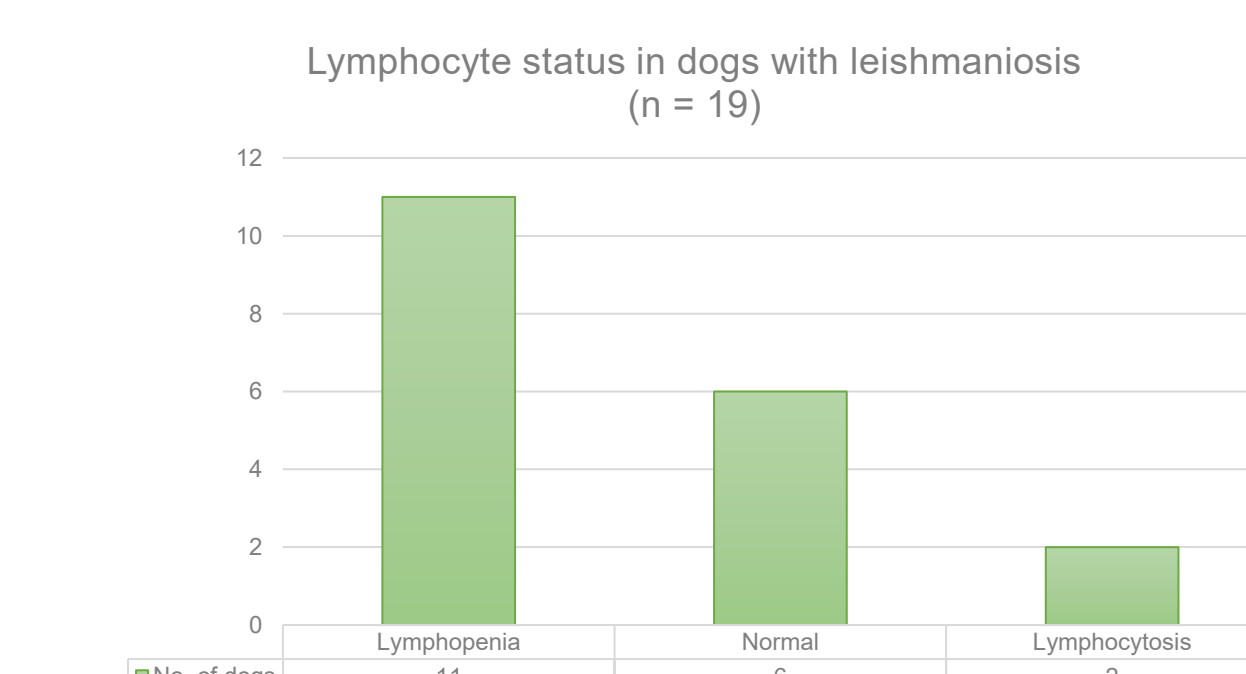
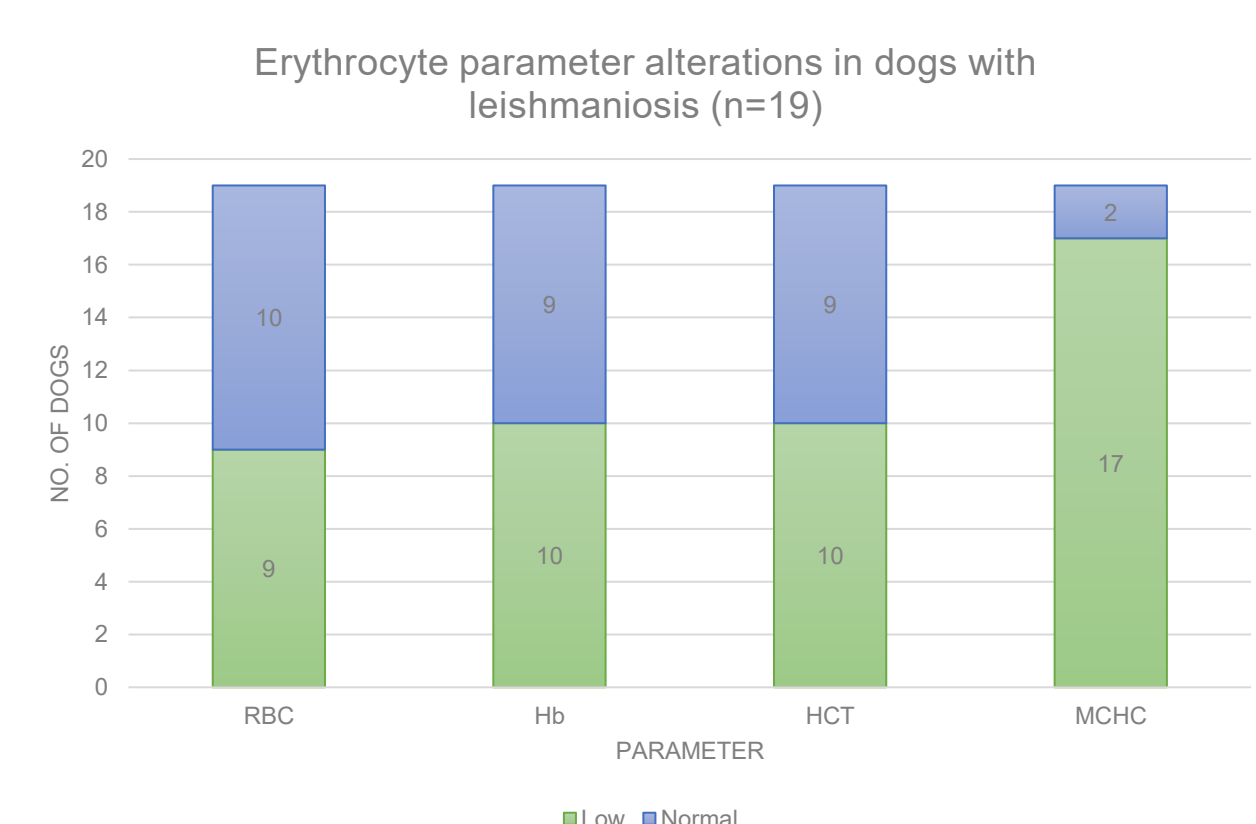
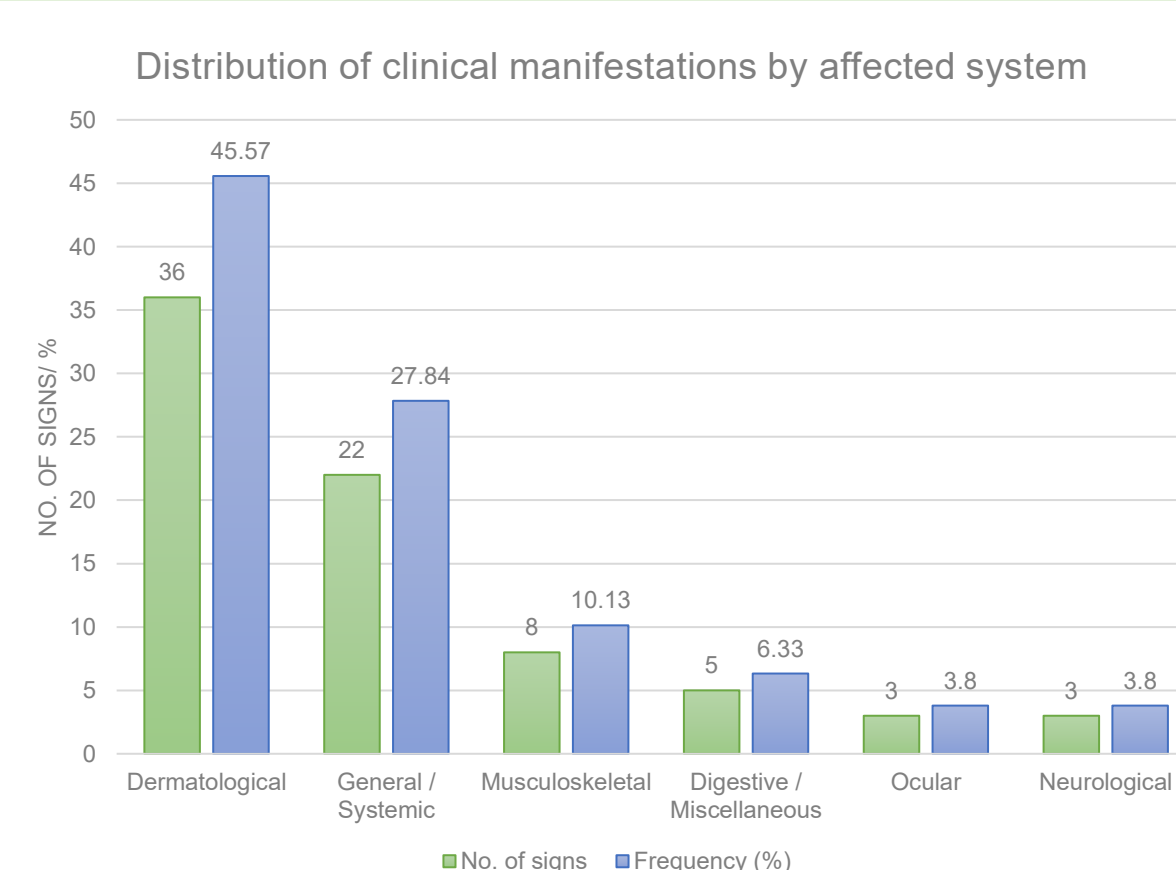
Data processing

Descriptive analysis
Comparison with reference values

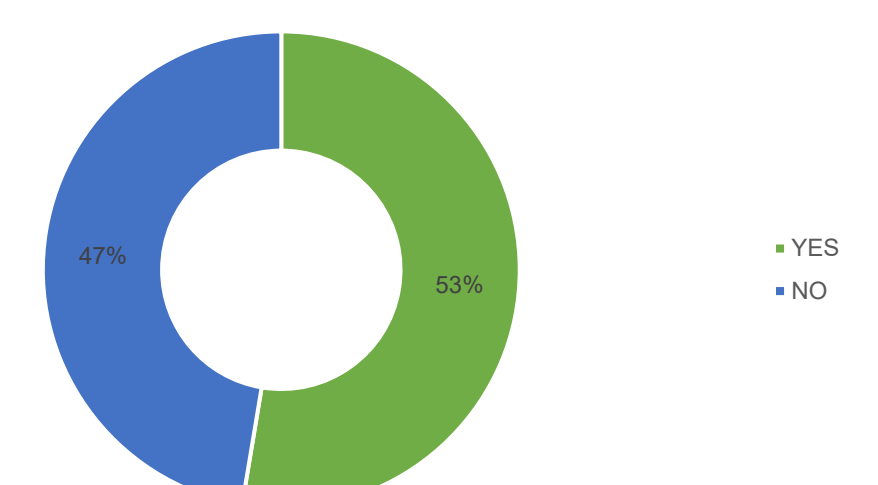


Results and discussions

A total of 79 clinical signs were recorded in the 22 examined dogs (mean 3.6 signs/animal). Cutaneous manifestations were the most frequent (45.57%), mainly exfoliative dermatitis, alopecia and hyperkeratotic calluses, followed by general/systemic signs such as lymphadenopathy, lethargy, weight loss and fever (27.84%). Musculoskeletal (10.13%), digestive (6.33%), ocular (3.8%) and neurological (3.8%) signs were less common.



Prevalence of anemia in dogs with leishmaniosis (n=19)



Hematological analysis (19 dogs) revealed anemia in 52.63% of cases, mostly non-regenerative normocytic–normochromic, decreased MCHC in 89.47%, lymphopenia in 57.9% and thrombocytopenia in 15.78%. No correlation was observed between hemoglobin concentration and the number of clinical signs ($R^2 = 0.0032$), suggesting that hematological alterations do not reflect the number of clinical manifestations.

Conclusion: Dermatological signs were the most frequent findings, confirming the cutaneous form as the main clinical presentation of canine leishmaniosis in Paros. Anemia and other hematological alterations were common, but not correlated with the number or severity of clinical signs, indicating that blood changes do not necessarily reflect clinical progression. These results emphasize the importance of early recognition, serological screening and hematological monitoring in endemic regions.