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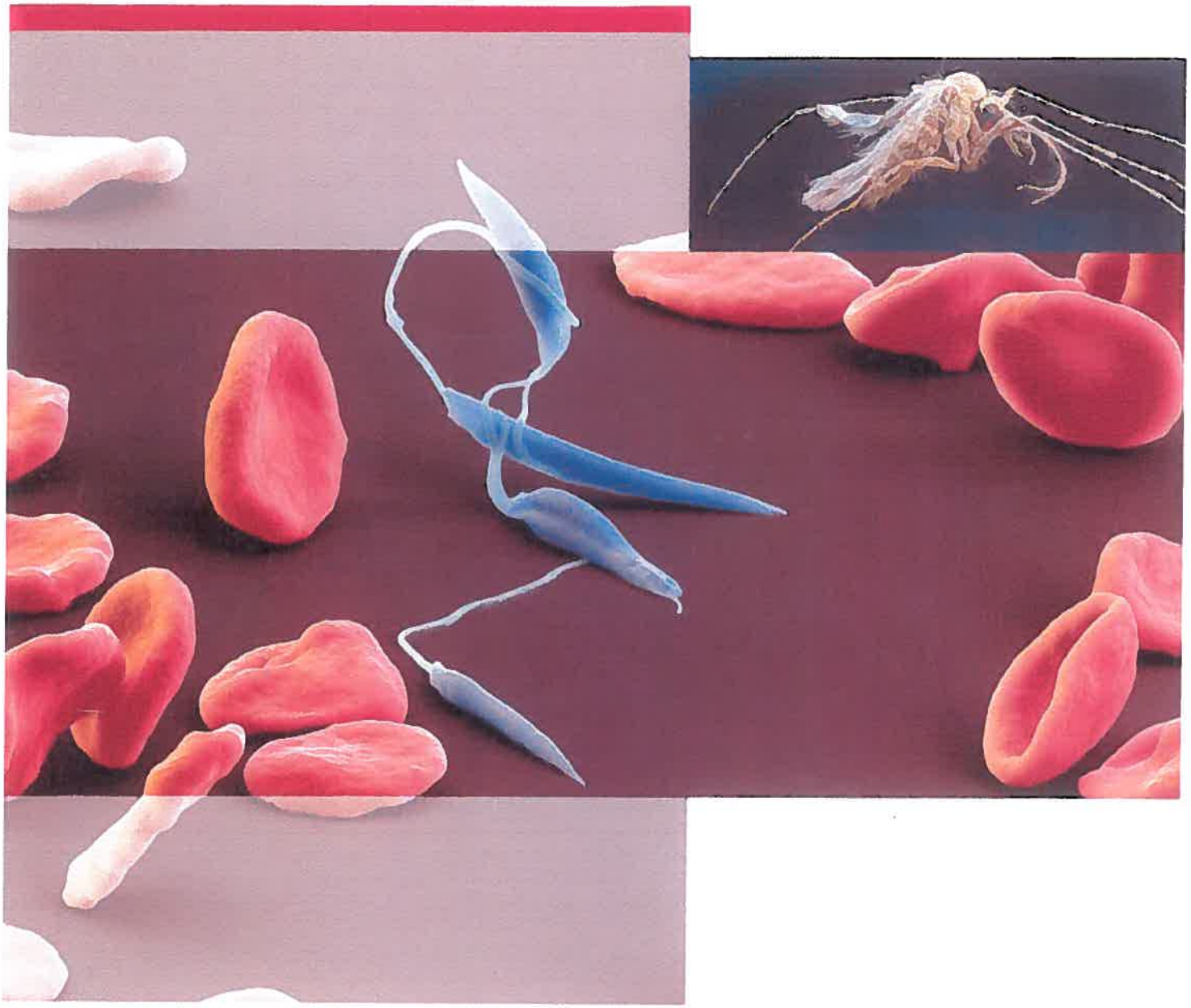
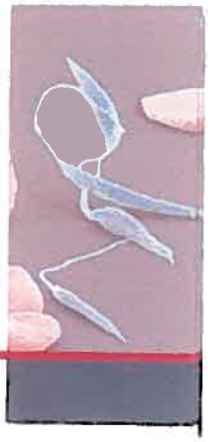
BAYER ANIMAL HEALTH SATELLITE SYMPOSIUM ON CANINE LEISHMANIOSIS





NEW PERSPECTIVES ON CANINE LEISHMANIOSIS THERAPY II: IMMUNE POTENTIATING TREATMENTS

Author's name

⇒ Lluis Ferrer

Author's affiliation

Department of Clinical Sciences, Cummings School of Veterinary Medicine, Tufts University, Massachusetts, USA

Abstract

Clinical canine leishmaniosis is both an infection and an immunodeficiency. Dogs with clinical leishmaniosis develop a type of immune response that is unable to control the progression of the infection and the development of lesions and clinical signs. Once the disease has developed, the animals show signs of immune-deficiency and immunopathologic abnormalities. Numerous attempts have been made to help the immune system to control the infection (immunotherapy), including:

(1) Non-specific immune potentiating drugs. The only one with evidence of efficacy is domperidone, marketed in some European countries to prevent leishmaniosis and to treat mild/early disease. Domperidone is a prolactinogogue drug which induces an increase of the T cell responses and of the phagocytic function of macrophages and neutrophils. Controlled trials have demonstrated that this is a safe and effective alternative for the treatment of early/mild cases and seropositive animals. TLR activators (imidazoquinolines: imiquimod, resiquimod) are clearly helpful in cutaneous leishmaniosis and are promising in visceral leishmaniosis.

(2) Cytokines. There are a few experimental trials using γ-IFN, IL-12, anti-IL-10 and an IL-10 receptor antagonist, but the results have been only partially satisfactory or inconsistent. These treatments are very expensive and are not available for use in clinical cases. Only canine γ-IFN has been marketed so far (in Japan).

(3) Vaccines. There are several studies and trials demonstrating that vaccines can be used as therapeutic drugs in dogs with clinical leishmaniosis. In a clinical trial in Brasil, the Leishmune® vaccine reduced the clinical signs and the parasite load, modulating the outcome of the infection and the dog's potential infectivity to phlebotomines. In another trial, the subunit vaccine Leish-111f + MPL-SE was effective in the treatment of dogs with mild disease but not of dogs with severe clinical leishmaniosis. In Spain, an auto-vaccine prepared with parasites isolated/cultivated from the ill dog is marketed, although no clinical trials showing efficacy have been published.

Immunotherapy in canine leishmaniosis is certainly challenging but has clearly some advantages that make it very attractive. Less and milder side effects than traditional chemotherapy, absence of resistance, and the possibility of using it in combined protocols together with parasiticidal drugs are some of them.