CURRENT DRUG THERAPY AND RESISTANCE IN CANINE LEISHMANIOSIS
Gad Baneth
The Hebrew University
Koret School of Veterinary Medicine
P.O. Box 12, Rehovot
Israel

The main drugs used for the treatment of canine leishmaniosis (CanL) caused by *Leishmania infantum* are the pentavalent antimony meglumine antimoniate (Glucantime®), miltefosine (Milteforan®), and allopurinol. Treatment of CanL usually includes a combined regimen with meglumine antimoniate or miltefosine administered for 4 weeks and allopurinol administered simultaneously and then continuously for long term therapy of at least six months (1,2). Despite the World Health Organization's recommendation to reserve anti-leishmanial drugs used for treatment of humans for against human leishmaniosis and not for veterinary purposes, pentavalent antimonials and miltefosine are frequently used for treatment of CanL. Anti-leishmanial treatment often achieves clinical improvement in dogs with leishmaniosis but it is sometimes not associated with the elimination of *L. infantum* from the dog. Treated dogs may remain carriers of the disease, experience clinical relapses and can be infectious to sand flies. The successful treatment of CanL is particularly difficult due to the fact that treatment is lengthy and often does not result in complete elimination of infection, allowing potential relapse of clinical disease and further transmission of infection from treated animals. Drug resistance has been widely described in human cutaneous and visceral leishmaniosis. Treatment of dogs should only be stopped when dogs lose all clinical signs related to the disease, become seronegative, and regain normal hematology and serum biochemistry profiles (2). Reports on drug resistance in the canine disease are relatively scarce. Disease relapse in dogs with CanL during allopurinol treatment has recently been described and associated with allopurinol resistance of *L. infantum* isolated from relapsed animals (3). Resistance to allopurinol may develop in dogs experiencing clinical disease relapse which may transmit resistant parasite to other dogs and also enhance the danger of the parasite’s transmission to humans (3). The formation of resistance to allopurinol can also be induced in-vitro in the laboratory (4). The treatment of CanL would benefit from the development of new effective drugs which would eliminate infection from dogs. These drugs should not be used for treatment of humans thus reducing the danger of formation of drug resistant parasites that would be passed on to humans.

REFERENCES