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Kala-Azar in India: A Brief Account, *Leishmania* – Macrophage Interactions and Antileishmanial Chemotherapy

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ABSTRACT Human leishamaniasis is not a single disease; rather, it is a collection of diseases caused by different species of Leischmania, each of which has its own potential to cause a characteristic set of symptoms in man. In 1977, the World Health Organization identified Leishmaniasis, African Trypanosomiasis, Schistosomiasis, Malaria, Filariasis and Chaga's diseases as the six major tropical diseases of immediate concern. Macrophage is the central cell type in the reticuloendothbelial system of mammals. They play a part not only in the immunological reactions but also in the initial recognition of foreign material and in the induction of immune responses. *Leisthmania donovani*, the causative agent of human visceral leishmaniasis or kala-azar, reside and proliferate solely in the phagolysosomal vacuoles of macrophages of the infected hosts. Though the macrophage is one of the most strong cell types in its scavenging as well as immunological potencies, the *Leisthmania* amastigotes can harbor and multiply in them. The type of human leishmaniasis, life cycle and diagnosis of *Leishmnia donovania* gets entered and resist against the toxic products of macrophages and how far the macrophages can develop immunological response against it. The mainstays of teishmanial therapy are pentavalent antimonial compounds. In cases of treatment failure, second-line drugs are used. In some cases, even these agents fail to eradicate the parasite, so there is a pressing need for a new therapy for this group of diseases. In this review, most of the drugs used in kala-azar have been accounted in terms of their nature, possible mode of action and side effects; further, the concept and profound possibility of the use of targeted drug-delivery system in this disease have been discussed.