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Sommario/riassunto	Visceral leishmaniasis (VL) or kala-azar is the most dreadful of all forms of leishmaniasis caused by Leishmania donovani in Old World and Leishmania chagasi and/or Leishmania infantum in New World affecting millions of people worldwide. In active VL, macrophages host the replicating amastigotes in phagolysosomal compartments leading to splenomegaly, hepatomegaly, hyperglobulinemia, anemia, weight-loss, incessant fever and ultimately death if not treated. Treatments available against the disease are limited by increased incidence of resistance, serious side-effects, high cost and long course of treatment. Immuno-chemotherapy is an alternative to overcome the limitations of the drugs against VL. Combination of one or more of immunotherapeutic agents like BCG, Alum, IFN-?, antigen-pulsed dendritic cells (DC), etc. with chemotherapeutic drugs have been tested raising hopes for a suitable immuno-chemotherapy against VL and Post Kala-azar Dermal Leishmaniasis (PKDL). Antagonists of IL-10, TGF-ß, IL-13 have been effectively used with pentavalent antimonials in treatment of experimental VL. Some parasitic antigens and liposomal formulations have also been shown to impart superior therapeutic

effectiveness to antileishmanial drugs. For socio-economic reasons prophylaxis is always more desirable than therapy. Although no vaccine against any form of leishmaniasis in humans is available, patients successfully treated show considerable protection from reinfection highlighting the possibility of developing prophylactic measures against the disease. Subsequently a lot of interest has been focused recently towards developing vaccines against VL and many potential vaccine candidates like whole cell (attenuated or heat killed), crude fractions, purified subunits, DNAs, recombinant proteins, fusion proteins, and genetically modified live attenuated parasites etc. have been reported. These vaccine candidates are either activators of CD4+Th1 cells and/or CD8+ T cells or neutralizers of immuno-suppression. Cationic liposomal formulations, nanoparticle and virosome delivery systems, etc. have been used to increase potency and durability of various vaccine candidates. Immuno-modulators like TLR agonists have been shown to be promising adjuvants in enhancing efficacy and overcoming the challenge of human administrable vaccine formulations. Recently role of sand fly salivary gland proteins as immune-modulators also has been explored. Various strategies such as heterologous prime boosting, targeted antigen delivery, adjuvant mediated protection, have been undertaken. Likewise, precise role of regulatory T cells (Tregs) in VL disease progression needs to be investigated and exploited to develop both immuno-therapeutic and prophylactic methods. A breakthrough in immunotherapy and prophylactic strategy would help in eradication of the parasites from the pool of natural reservoirs namely VL and PKDL patients, asymptomatic carrier individuals and infected dogs ensuring success of global VL control programs.