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Nota di contenuto	Contents; Contributors; Current Books of Interest; Preface; 1: Modulation of Host Cell miRNA Expression During Leishmania Infection and Emergence of miRNA as a New Therapeutic Molecule; miRNA-mediated gene regulation in metazoan animals; miRNA as regulator of cholesterol metabolism in mammals; Cholesterol regulates pathogenesis of Leishmania donovani; Leishmania-mediated changes in cholesterol production in mammals; miRNA expression affected by parasite; Mechanism of miRNA alteration by Leishmania; Factors important for host cell miRNA alteration during infection; miRNA as therapeutic agent Future of miRNA as a therapeutic agent against visceral leishmaniasis2: Heat Shock Proteins of Leishmania: Chaperones in the Driver's Seat; Introduction: heat shock proteins; Heat shock proteins in Leishmania spp.; Leishmania and the cell stress; The pitfalls of analogy-based assumptions; The chaperone machinery and signal transduction in Leishmania; Open questions; Future trends; Acknowledgements; 3: Role of Iron in Leishmania-Macrophage Interaction; Introduction; Aqueous chemistry and toxicity of iron; Role of iron in physiology; Role of iron in the host-parasite interaction Special need of iron for LeishmaniaMammalian iron homeostasis components important for sequestering iron; Regulation of cellular iron metabolism of mammalian host; Source of host iron and its acquisition systems in Leishmania; Summary and future aspects; 4: Oxidative and

Nitrosative Stress Response in Leishmania; Introduction; Sources of superoxide and hydrogen peroxide in Leishmania; Targets of reactive oxygen species in Leishmania; Defence against reactive oxygen species; Nitrosative stress in Leishmania; Generation of reactive nitrogen species
Targets of reactive nitrogen species (RNS) in LeishmaniaCellular defences against nitrosative stress in Leishmania; Conclusion; Future perspectives; 5: Cell Death in a Kinetoplastid Parasite, the Leishmania spp.; Introduction; Life cycle of Leishmania spp.; Treatment of leishmaniasis; Programmed cell death (PCD); Programmed cell death in protozoan parasites; Relevance of studying cell death in Leishmania; Apoptosis in Leishmania; Natural cell death during cell cycle; Induction of cell death by anti-leishmanial drugs; Oxidative stress induced cell death
Role of apoptotic mimicry and apoptosis in LeishmaniaAutophagy in Leishmania; Future trends; Conclusion; 6: Elucidating the Strategies of Immune Evasion by Leishmania; Introduction; Defying recognition by the host: modulation of Toll-like receptor-mediated signalling; Deactivation of host signalling: mitogen-activated protein (MAP) kinases and phosphatases; Disarming the enemy: inhibition of host microbicidal molecules; Delaying phagosome maturation: buying time for promastigote to amastigote conversion; Creating a favourable environment: polarization of Th (T-helper cell) response
Suppression of antigen presentation: escaping cytotoxic T-cell response

Sommario/riassunto

Every year, with an estimated 1.3 million new cases and more than 20,000 deaths, Leishmaniasis continues to be a menace in countries across the globe. With the absence of an anti-Leishmania vaccine - along with the toxicity of current anti-parasite drugs and coupled with the rapid emergence of drug resistant Leishmania strains - there remains significant challenges for disease control. This has spurred a plethora of research initiatives into parasite biology, parasite-host interaction, mechanisms of disease pathogenesis, drug development, and the molecular mechanism of drug resistance. Insight