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Sommario/riassunto

The highlight of this eBook is to bring new insights into parasites in the tropic. To achieve that, much has been discussed about risk assessment, infection rates, disease burden, hormones and mechanism of immune response, genetic expression and susceptibility as well as, therapeutic modalities. Authors raised hypothesis, discuss concepts, and show open questions. The remaining important issues to resolve questions within parasites in the tropic - a new paradigm shift are briefly discussed below. T. gondii, feline as the definitive host, is regarded as one of the most important parasites in the tropic. Human, as an accidental host, is the only species who still drinks raw milk or milk products particularly from animal sources. Based on the first paper, the author simplifies on how safe to drink milk to prevent the transmission of T. gondii by the insistence on heat treated milk before consumption. It is interesting to explore how hormone plays its role in Toxoplasma infection. Based on the second paper, the authors elucidated from thirty studies from humans, animals and cell cultures. Of these, it was shown that Toxoplasma infection was controlled by the presence of hormones found in different animal models. However, it is still premature to conclude which hormone that has a significant relationship with Toxoplasma infection. It estimates that one-third of the world population infected with T. gondii but the majority are asymptomatic. Based on the third paper, it demonstrated that people having low prevalent of Toxoplasma infection by having close contact

with animals. This study will enhance positive attitudes for more people to be committed towards helping animals. For more than three decades, T. gondii has since been identified as one of the most important opportunistic parasitic pathogens in immunocompromised. Seroprevalence of chronic toxoplasmosis was detected in at least one-third of HIV-infected individuals in the regional hospital of southern Thailand, as reported from the fourth paper. Thailand has successfully formulated anti-retroviral therapy for HIV/AIDS patients and as a result reported a rare incidence of AIDS-related cerebral toxoplasmosis (CT) in this setting. Based on the fifth paper, the authors demonstrated low IL-10 (Th2 response) and IFN- (Th1 response) as well as high TNF- were produced in ocular and cerebral toxoplasmosis in AIDS patients. This might be due to South American strains and/or the genetic susceptibility of the host. Due to high genetic diversity of T. gondii in Brazil, the sixth paper demonstrated that Calomys callosus survived chronically infected by T. gondii clonal type II strain and reinfected by Brazilian strains. However, congenital toxoplasmosis occurred leading to damaging effects of the developing fetus. The seventh paper conducted a questionnaire-based study on knowledge and practice on Toxoplasma infection among pregnant women from Malaysia, Philippines and Thailand. It clearly demonstrated that health education, a core value, is the cheapest and the best option to envisage the preventive strategies of feto-maternal toxoplasmosis from this region. For treatment modality of congenital toxoplasmosis, a novel experimental therapeutic synergism of diclazuril plus atovaquone combination shows a promising outcome with no toxicity in treating this condition, as demonstrated in the eighth paper. However, it warrants for future trials to prove its properties against T. gondii in different clinical scenarios of human toxoplasmosis for more effective therapeutic regimens. In the ninth paper, the author discussed the pathogenesis of maternal and congenital toxoplasmosis, the current treatment in clinical practice, and the experimental treatment approaches for promising future trials. Overall, this protozoan represents the most extraordinary example of parasite in the tropic and beyond scientific imagination. Hence, there are still many challenges ahead and waiting for more explorations on T. gondii, the parasite that never dies. Based on the findings from the tenth paper, it is interesting to identify common gene targets between Glossina p. gambiensis and Glossina m. morsitans that might shed some lights as a suitable candidate for controlling both acute and chronic forms of sleeping sickness. This therefore requires further investigations using proteomic analysis to ascertain the corresponding genes and its proteins as well as functional role that may help the search for more novel therapeutic agents.