EVASION OF HOST IMMUNITY BY PARASITES

Summary

Protozoa and helminth parasites infect billions people and domestic animals all over the world. The infections are usually long-lasting because parasites have developed very efficient strategies of evasion of host innate and adaptive immunity defenses. Intracellular protozoa can remodel the phagosomal compartments and disturb the signalling pathways of the host macrophages, therefore they can avoid being killed by lysosomal enzymes and toxic metabolites of the host. Extracellular parasites developed the ability to avoid complement lysis and antibody dependent cell cytotoxicity. In addition, both protozoan and helminth parasites manage to modify the antigen-presenting and immunoregulatory functions of dendritic cells and T lymphocytes. Due to excretion of immunoinhibiting substances and modulators of host cytokines the parasites may suppress both the Th1 (cell-mediated immunity) and Th2 (humoral immunity) responses. Recently, it has appeared that both protozoan and helminth parasites demonstrate the ability either to prevent or promote apoptosis of host cells according to their own advantage.