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| Medical Parasitology Three major groups; Parasitic protozoaParasitic helminths (worms) Arthropods (directly cause disease or act as vectors) Epidemiology and control disease etiology disease surveillance drug resistance geographical spread Screening Biomonitoring comparisons of treatment effects in clinical trial b. Chemotherapy Immunoparasitology (a broad branch of biomedical science that covers the study of all aspects of the immune system in all organisms) mechanisms of host-parasite interactions parasitic evasion host inflammatory responses and pathology host protection mediated by effector molecules and cells regulatory responses elicited by infection the critical role of the crosstalk between the innate and acquired immunities in host defense. Pathophysiology (the study of the processes underlying disease) mechanisms of pathogenicity from the structural and physiological processes plasma protein kinetics the hematological indices associated with parasitic infections body defense against parasitic infection;i. including immunoglobulin E-like antibodies ii. vasoactive amines and peptides iii. immunoglobulin M. the effects of fever as a pathophysiological factor in the course Molecular and cellular biology, genetics and (Promising breakthroughs in the development of vaccines against diseasecausing parasites) State-of-the-art genomic sciences, and next-generation DNA sequencing molecular biology of surface antigens and their roles in parasite invasion and survival gene function and transcription underlying antigenic variation and diversity in kinetoplastids and apicomplexans vectors, and parasite–vector interactions chemotherapeutic targets and drug design, including insecticide resistance in key vectors introduction to molecular epidemiology Taxonomy and phylogenetic Resolution of phylogenetic frameworks and diagnostic markers differs across listed taxa. MycologyMedical MycologyVeterinary and environmental Mycology Industrial MycologyPlant Mycology Medical Mycology Fields of research Phylogeny of fungal pathogens Epidemiology and public health mycology New approaches in the diagnosis Treatment of mycoses Antifungal susceptibilities Taxonomy Immunology of fungal infections pathogenesis and virulence |