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CARDIAC MANIFESTATIONS OF PARASITIC INFECTIONS

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90% of parasites produce myocarditis. *Ascaris lumbricoides* (Round worm) *Ancylostoma duodenale*, (Hook worms) *Enterobius vermicularis* (Pin worm, Thread worm) *Loa loa* (African eye worm), *Wuchereria bancrofti* (Filarial worm), *Dracunculus medinensis* (Guinea worm), *Trichuris trichiura* (Whip worm), *Trichinella spiralis* (Trichina worm) *Dirofilaria* (Dog heart worm), *Taenia solium* (Pig tape worm), *Taenia saginata* (Beef tape worm), *Diphyllobothrium latum* (Fish tape worm), *Echinococcus granulosus* (Dog tape worm), *Hymenolepis nana* (Dwarf tape worm), *Schistosoma haematobium* (Blood fluke), *Fasciola hepatica* (Liver fluke), *Paragonimus westermani* (Lung fluke), *Protozoan parasites* like *Entamoeba histolytica*, *Trypanosoma cruzi*, *Trypanosoma gambiense*, *Toxoplasma gondii* etc. Parasites produce a toxic and allergic manifestation that leads to myocarditis, cardiomyopathy, acute heart failure, elevation of myocardial infarction, cardiogenic shock, neglected tropical diseases such as hidden cause of cardiovascular disease etc. But yet parasites are ignored by cardiologists, clinicians and scientists. The parasites produce toxic metabolites and increase hypereosinophilic. These toxic metabolites and eosinophils will show the following adverse effects on heart. They damage heart myocytes, neuronal damage, micro vascular damage and direct cell mediated damage. Hyaline degeneration of muscle and produce continuous antigenic stimulation. These metabolites produce tropical pulmonary eosinophilia and tropical endomyocardial fibrosis. Eosinophils induce tissue damage. The idiopathic hypereosinophilia syndrome damages the heart tissue may cause a direct effect on various structures of heart

like myocardium, endocardium, cardiac vasculature and resulting in congestive heart failure, cardiomyopathy, tachycardia, cardiac murmurs, muffled heart sounds. The invading parasites can attach and multiply in the heart. Some parasites produce cardio toxin. The toxin degenerate DNA and produces myocardial dysfunction and complete heart block. Conductive tissue of heart is severely damaged. Because of cytolysis and necrosis protein synthesis is blocked. The parasites and migratory larvae may attack normal or prosthetic valves. Obstruction of blood flow occurs. Myocarditis is most often due to a parasitic infection. Parasitic infections may cause inflammation of heart muscle (myocarditis) with temporary or potentially permanent damage to heart muscles cells leading to a secondary cardiomyopathy occur when the heart muscle fibers are abnormally stretched when the heart chambers increase in size and volume. Heart damage is extensive. Immune system continues to damage heart. Significant impairment of heart function occurs. Parasites cause myocarditis, paralyze the nerve supply to myocardium of heart and damage heart bicuspid and tricuspid valves. As a result, angina, chest, arm, neck, upper back pain, irregular beats, shortness of breath (SOB) occur. The parasites will continue to emerge leading to unpredictable epidemics and challenges for the clinicians and scientists. Hence there is an urgent need of surveillance and control, advance diagnostics, tests, vaccines, therapeutics and development of new drugs are needed. Most drugs in the pipeline have failed in clinical trials.

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