

V-5

**INTRACARDIAC NERVES IN EXPERIMENTAL CHAGAS' DISEASE.** Lídia Ribeiro and Zilton A. Andrade. Centro de Pesquisas Gonçalo Moniz (Fiocruz), Salvador, BA, Brazil

Data on peripheral and cardiac neural involvement have been reported in Chagas' disease. Severe destruction of nerves in acute myocarditis was followed by regeneration in chronic phase. Lesions involving the intrinsic cardiac nerves, occurring in mice with acute and chronic *Trypanosoma cruzi* infection, were studied with histologic, histochemical, morphometric and ultrastructural methods. Acute infection (20 days) was associated with diffuse, intense myocarditis, in close proximity to intracardiac nerves and nervous ganglia. However no evidences of cyto-adherence or cyto-toxicity to nervous structures were noted. Lesions were non-specific, represented by focal axonal desintegration of neurotubules and neurofilaments, accumulation of organelles, vacuolization of synaptic vesicles and presence of phagosomes within Schwann cell cytoplasm. During chronic infection (7 months), myocarditis was mild and focal, while the neural changes were essentially similar to those at the acute phase, although much less intense. Histochemical identification of sympathetic (catecolamines) and para-sympathetic (acetil-cholinesterase) nerves revealed a network of fibers, abundant at the atrial walls and along the conducting tissue, while scarce at the ventricles. This aspect was similar both for normal controls, acute and chronically infected mice. Computer-assisted morphometry confirmed this finding for the parasympathetic system. Data indicated that the intrinsic nerves of the heart may exhibit mild, reversible, secondary regressive changes during the course of experimental Chagas' disease in mice, especially during acute infection, but that they do not undergo destruction and are not particularly damaged.