CLINICAL AND EXPERIMENTAL STUDIES ON BERIBERI HEART.

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19 young patients (pts), 17 men and 2 women, mean age 18 (range 15-26), including 8 with congestive heart failure, 11 with hypertension and 18 with ECG abnormalities were studied to evaluate the time course of recovery. Thiamine treatment resulted in a remarkable improvement in 17 of 19 pts (89.5%), but no further improvement in 2 pts with ECG abnormalities and in 1 pt with intercellular edema and deranged myofibrils of biopsied specimen. In young dd mice and spontaneously cardiomyopathic KK mice administered thiamine deficient diet (TDD), thiamine in blood averaged 31.5 ng/ml as compared to 82.7 ng/ml in controls. Sinus bradycardia and prolongated PQ were recorded. Electron microscopy revealed deranged myofibrils and intercellular edema. These findings indicate that chronic administration of TDD to young animals results in structural changes similar to those seen in beriberi heart in man.