42) A Study on Myocardial Damage in SHRSP — The Determination of Collagen in Myocardium — 1) Chikao Arai, Nobuyuki Abe, Kokichi Takeuchi, Mitsuyo Saito, and Motoharu Hasegawa 2) Yoshitaka Takayama 3) Haruhito Kawashimo, and Kengi Suzuki 4) Hiroyuki Ito, and Kozo Okamoto. 1) Department of Clinical Functional Physiology, Faculty of Medicine, Toho University, Tokyo-to 143 2) Department of Medical Engineering, Faculty of Medicine, Toho University 3) Epidemic Institute of Arteriosclerosis 4) Department of Pathology Kinki University School of Medicine.

For the purpose of clarifying the etiology of myocardial damage in the SHRSP, myocardial collagen was assayed by histochemical technique, and the results were compared with those obtained in the WKY, and interesting results were obtained. The subjects were 60 WKY's and 77 SHRSP's, 137 cases in total, from 100 days' to 500 days' of age. Tissue slice, 4 μ m in thickness, was stained with Van Gieson staining and collagen was assayed by the MSP method. The site of the assay of collagen content was at the left ventricular free wall, inside and outside. Histological observation of collagen revealed that it was distributed evenly among the smooth muscle in the WKY, but partially proliferated collagen was shown in the SHRSP with less amount in the SHRSP than in the WKY. There was no change in the amount of collagen with aging in the both groups. The mean myocardial collagen content in the WKY (SHRSP) was 21.7 $\pm$ 4.0 (18.4 $\pm$ 3.9)%E in the outside and 21.2 $\pm$ 3.1 (17.6 $\pm$ 3.4)%E, showing significantly less collagen content in the both sides in the SHRSP. Thus, relative amount (density) of collagen might be decreased due to myocardial enlargement and swelling in the SHRSP.