Myocardial Damage in SHR SP — Histochemical Determination of Glycoprotein —


Laboratory of Clinical Physiology, Faculty of Medicine, Toho University*, Department of Medical Engineering, Toho University**, Department of Pathology, Kinki University School of Medicine***

Myocardial glycoprotein of the proximal portion of the left coronary artery of SHR SP was observed light-microscopically and then determined histochemically. The results obtained were compared with those on WKY and examined for chronological characteristics. The glycoprotein was stained with PAS reaction, estimated with microspectrophotometry at 565 nm, and % extinction was calculated.

Histological observations revealed that thickening of the myocardial fasciculus was found in WKY, while in SHR SP the fasciculus was thickened and its abnormal massive increments were seen at the sites of myocardial lesions such as cellular hypertrophy and swelling. In WKY, glycoprotein on the myocardial internal side decreased from 20.9 % E at before 100-day to 13.7 % E at 200-day level of age, while in SHR SP it decreased slightly from 19.2 % E at 100-day to 16.3 % E at 200-day level of age, then increased notably to 20.7 % E at 300-day level of age. On its external side, glycoprotein in WKY showed relatively high value of 18.4 % E up to 100-day level of age and gradually decreased thereafter, while in SHR SP it increased slightly from 17.0 % E at before 100-day to 17.6 % E at 500-day level of age. Comparisons between WKY and SHR SP groups indicated that glycoprotein content of SHR SP was lower than that of WKY before 100-day level of age, while the situation was reversed after 300-day level of age on both myocardial internal and external sides.