34) Cerebroarterial Disturbance in Confrontation with Coronary Artery. Kokichi Takeuchi, Nobuyuki Abe, Mitsuyo Saito, Motoharu Hasegawa¹, Hiroyuki Ito, Tsuneyuki Suzuki and Kozo Okamoto². Department of Clinical Functional Physiology, Faculty of Medicine, Toho University, Tokyo 143¹, and Department of Pathology, Kinki University School of Medicine, Osaka-fu 589².

The authors examined cerebroarterial disturbance in SHRSP(SP) in confrontation with coronary artery by means of the observation and determination of its cell and intercellular matrix and would like to report the interesting information obtained. Subjects were ramus descendens sinister, arteria coronaria of 18 cases of WKY and 26 cases of SP, aged 280 days and arteria cerebri media of 18 cases of WKY and 11 cases of SP, aged 150 days, totalling 73 cases. The SP group comprised cases of moderate hypertension. For each group, smooth muscle cell (SMC), elastin (EL), collagen (CL), glycosaminoglycans (GAGs) and glycoprotein (GP, type I VCL) were determined by means of micro-spectrophotometry, and caliber (D), wall thickness (H) and wall thickness/caliber (H/D) as morphological factors were also measured. Compositionally, arteria coronaria (arteria cerebri) of WKY comprised SMC62 (107), EL9.0 (16), CL31 (32), GAGs10 (10) and VCL33 (40) %E, and morphological factors comprised D0.172 (0.072), H0.023 mm (0.019) and H/D0.14 (0.24). For both arteria coronaria and arteria cerebri, the SP group showed similar pattern of disturbance presenting loss of SMC due to ischemia and necrosis, loss of EL, disturbance of lamina elastica interna and abnormal hyperplasia of CL, GAGs and VCL compared with the WKY group. For arteria cerebri, both the WKY and SP groups showed dense SMC, EL and CL, thick lamina elastica interna without rupture. Unlike arteria coronaria with its surrounding myocardium and fat body, arteria cerebri without supporting tissue seemed to be endowed with high pressure-resisting architectural characteristics in view of its quantitative composition and the morphology of its lamina elastica interna.