48) A Fundamental Study of Central Nervous Hypofunction in Cerebral Circulatory Disturbance in SD Rats and SHR. Hiromi Matsuda, Katsuhiko Sato and Takeshi Shibuya. Department of Pharmacology, Tokyo Medical College, Tokyo 160.

Previously, we reported that in ischemic brain of a normal animal having bilateral common carotid arteries occlusived, cerebral metabolic activator vinpocetine improved intracerebral monoamines and metabolic disorder and subsequently recovered the hypofunction of CNS. Recently, using SD rats (aged 10-12 weeks) and SHR (aged the same), comparative examinations with normal rats (SD non-occlusion) were made of intracerebral monoamines, spontaneous locomotor activity and spontaneous EEG in their ischemic brain. Comparative examinations between the respective bilateral common carotid arteries-occlusived groups of both these animals revealed. 1) significant inhibition of spontaneous locomotor activity. 2) significant inhibition of intracerebral monoamines and 3) significant decrease in the total power, significant increase in the relative power, δ wave and significant decreases in α and β waves, for SD rats in comparison with normal rats.

These facts suggested the occlusion of bilateral common carotid arteries to decrease cerebral blood flow and intracerebral monoamines biosynthetic disturbance and to a stronger extent especially for SHR.