59) Alteration of Plasma Fibrin Stabilizing Factor Activity in Spontaneously Hypertensive Rats. Takeshi Morishita, Ryuko Aoki, Michizo Koizumi, Takashi Uchi and Junichiro Hirai. First Department of Internal Medicine, Toho University School of Medicine, Tokyo 143.

OBJECTIVE: The stroke-prone SHR (SHRSP) which causes cerebral apoplexy more than 80% in males over 100 days of age is reported to be best suitable as a model of human cerebral apoplexy from pathohistological or vascular structural viewpoints. In these mature rats, the thrombus-formation can be naturally observed. We have recently observed the change of blood-coagulating system in SHR and SHRSP with special reference to the alteration of fibrin-stabilizing factor (FSF) acting on the formation of bridges among mutual fibrins, thus we have tried to clarify the role of FSF in the thrombus-formation.

MATERIALS AND METHODS: Each 60 rats of SHR and SHRSP were divided into 5 groups. At 2, 5, 10, 15 and 20 weeks after birth, FSF activity, blood-platelet count and blood pressure were determined. Spot-quantidetermination method was employed in order to measure the FSF activity (value). The direct method was used for measuring blood-platelet count. The alteration of the blood coagulating function accompanied by the hypertension was observed by measuring the blood pressure in each group. Comparative review was made with pathological changes of cerebral blood vessel and the occurrence of thrombus-formation.

RESULTS: The average blood pressure was 110 mmHg in 5 weeks' group, 150 mmHg in 10 weeks' group, and over 180 mmHg in 20 weeks' group of SHR. While in SHRSP, higher blood pressure by 30-40 mmHg was observed as compared with that in SHR, FSF activity value in SHRSP was generally lower than that of other animals, and it became higher with the elevation of blood pressure. In SHR, FSF activity value was $10 \pm 3$ (mean $\pm SD$) MDH/10 min after about 10 weeks, and it increased 3 times after 20 weeks. In SHRSP, higher value was observed than that of SHR. Thrombus-formation was not observed pathologically in SHR after 20 weeks and in SHRSP after 17 weeks.