65) The Blood Pressure, Life Span, Body Weight in Both Sexes of SHRSP during 55 Weeks under Specific Pathogen Free System. Hideo Ueda*, Naohiro Saito**, Yoshio Suganuma**, and Hiroshi Matsuo***. Clinical Research Inst., Central Hospital, JNR*, Tokyo Kowa Inst.***, Second Department of Medicine, University of Tokyo***.

Purpose. The SHRSP has been fed under specific pathogen free condition and the pattern of hypertension, life span, cause of death and body weight during 55 weeks have been examined in order to clarify the real result without drop out due to infectious diseases.

Method. The fetus of SHRSP was removed by Caesarean operation from the mother SHRSP at the 22nd day of gestation and immediately transferred into sterilized barrier system room. The neonates were fostered by Wistar rat, which had been delivered three days ago.

Result and Conclusion. The body weight of SHRSP are 354 g in male and 238 g in female in average at 36 weeks of age, which are smaller than that of SHRSP (492 g in male and 268 g in female).

The blood pressure of SHRSP rose earlier, higher and steeper than the SHRSP. The development of hypertension in female was more gradual than in male. The highest blood pressure in male is over 260 mmHg and that in female is over 250 mmHg. The average blood pressure of male SHRSP reached to 250 mmHg in 18 weeks and that of female rose to 250 mmHg in 32 weeks. For the observation of life span and clinico-pathological feature, 42 male and 39 female SHRSP have been examined. The death due to hypertension and its complication in male began in 15 weeks and then all the male SHRSP died until 45 weeks of age. In the group of female SHRSP, the death began on the 21 weeks and the 80 % of the female died until 55 weeks, while the 20 % are still alive.

The drop out rat due to infectious disease has been not observed during the period of experiment and all the died rats, 42 males and 31 females, were dead due to stroke and cardiac failure as the complication of hypertension. The incidence of stroke was 90 % in male and 87 % in female and that of cardiac failure was 10 % in male and 13 % in female as far as the died SHRSP concerned. The number of the foci in cerebral injury was 1.8 per stroke rat in average. The cerebral injuries consisted of 57 % softening, 32 % bleeding and 11 % hemorrhagic infarction.

The death due to bleeding in brain occurred in the earlier stage before 30 weeks and the death due to cardiac failure occurred in later stage from 41 to 45 weeks in male and from 31 to 40 weeks in female.

The blood pressure of SHRSP died in earlier stage before 20 weeks rose in the period of 10 to 15 weeks abruptly and reached to 280 mmHg and over. In the later stage, the rats died gradually and the blood pressure rose slowly. The blood pressure of SHRSP which died in later stage reached to about 270 mmHg and then maintained about 240 mmHg for nearly 20 weeks.