INTRODUCTION

One of the important subjects in the perinatal medicine is to clarify causative factors of IUGR (intrauterine growth retardation) and SFD (small for dates infants) accompanying IUGR as well as to prevent the two. Clinical results on SFD reveal that many SFD infants were delivered from pregnant women with gestosis. The infants with poor prognosis were in the severe condition associated with hypertension and placental dysfunction was observed in their mothers. It is also suggested that the severity is related to a family line where hypertensives tend to appear. We have conducted a series of studies on this important subject and used pregnant SHRSP, which are appropriate animal models for studying human gestosis. The incidence of SFD was 68.5% for the pregnant SHRSP and 88.6% for those with 1.5% salt feeding. Our last report, where blood flow volume was measured in the placenta, demonstrates that one of the causative factors of SFD is decrease in blood flow volume of the placenta. The present study was designed to investigate effects of various drugs given to pregnant SHRSP for the purpose of preventing SFD.

MATERIALS AND METHODS

Nine- to 12 week-old nulliparous SHRSP, weighing 180-200 g, were admitted to the study. After mating, pregnant SHRSP were given various drugs and examined with respect to changes in blood pressure, weight of their newborn offsprings 24 hours after birth and their growth conditions. The test drugs used were vitamin C (administered on and after the 16th of pregnancy) "C group", 0.38% KCl (fed on and after the 11th of pregnancy) "K group", tocopherol (administered on and after the 11th of pregnancy) "E group", solcoseryl "S group", coenzyme-Q" "Q group" and heparin "H group". The last three drugs were injected on and after the 16th of pregnancy.

RESULTS

The rate of fall in blood pressure was slightly larger in the C and K groups than in the untreated pregnant SHRSP. SFD appeared at 19.6% in the C group and at 20.6% in the K group. The offsprings of the two groups grew well. On the other hand, no difference was observed between the E, S and Q groups and the untreated pregnant SHRSP with respect to changes in blood pressure and the incidence of SFD, though administration and dosage of the three drugs must be further discussed. In the H group, many fetuses died in the mothers' bodies.