

clear, but it has been generally believed that toxemia is more common in obese women.

In this study we investigate the relationship between incidence of toxemia of pregnancy and Kaup's index of pregnant women.

Subjects were classified into two groups;

1) Control group: A total of 2217 pregnant women, which had no problem during her pregnancy, gave birth to a singleton and for the term delivery.

2) EPH group: A total of 187 pregnant women, which were characterized by the Gestosis index more than 2 ($GI \geq 2$), gave birth to a singleton and for the term delivery.

Results were as follows;

1) The incidence of toxemia of pregnancy is higher in those having a greater Kaup's index before pregnancy. And the incidence of toxemia of pregnancy is also higher in those having a greater Kaup's index at the time of delivery.

2) An increase in body weight during pregnancy is not related to the occurrence of toxemia of pregnancy.

3) The desirable body weight at term should be within 28 (Kaup's index).

62. Histochemical Studies on the Structural Speciality of Arteries of Stem Villi in Gestosis

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In gestosis, we made a histochemical observation and determination of the artery in comparison with the proximal coronary artery and the cerebral artery.

Subjects for study were 20 cases of gestotic placenta 22 cases of normal placenta at 39~40 gestational weeks and the proximal coronary artery, the cerebral artery obtained by autopsy. And using histochemical stainings microspectrophotometrical determinations at characteristic wavelengths were made of smooth muscle cell, collagen, glucoprotein, glycosaminoglycans, and elastin.

The ratio of arterial wall thickness to external radius showed 0.804 ± 0.12 in normal stem villi artery, while the placental artery in gestosis, cerebral, and coronary arteriosclerosis showed significantly greater values. Histochemically, smooth muscle cell, collagen, glucoprotein presented hyperplasia in the intima and the media for gestotic cases. On the other

hand, elastin, glycosaminoglycans showed practically no content.

Comparative study of structural characteristics between gestotic artery and other organic arteries revealed that the former artery was just in the state of arteriosclerosis partially responsible for placental infarction.

63. Ultrastructural Changes of Stroma in the Labyrinth from IUGR Rat

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To elucidate the mechanism of development of intrauterine growth retardation (IUGR), the ischemic placenta by uterine artery and vein ligation were morphologically and histochemically investigated in rats.

In ischemic condition, fetal growth was remarkably retarded in body weight.

Endothelial cells of labyrinth were swollen and ultrastructurally the elongation of cytofolds and increased microvesicles were noted with disrupted basal lamina. On the perivascular stromal cells, the swelling of mitochondria and increased cytosegresomes were encountered in edematous cytoplasm in association with the deposition of amorphous materials in pericellular spaces.

Histochemically Alkaline phosphatase and Na-K ATPase were localized in the increased microvesicles and cytosegresomes in endothelium and stromal cells. the reaction products of horseradish peroxidase were diffusely distributed in the cytoplasmic vesicles and dilated intercellular spaces.

These results suggest that in ischemic condition, IUGR may be induced by the dysfunction of blood-tissue barrier following unusual enzyme activities and vascular permeability.

64. Studies on Pregnancy Hypertension and IUGR

—A Histological Study of Placenta in Pregnant SHRSP (Stroke-prone Spontaneously Hypertensive Rats)—

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