439 Serum PAF-acetylhydrolase activity in normal pregnancy and EPH-gestosis. K.Matsubara, T.Kira, T.Shintani, H.Kaneko*, J.Yano, H.Suginami, S.Matsuura, Dept.Obst.and Gynec., Ehime Univ.Sch.Med., Ehime, *Dept.Obst.and Gynec., NTT Matsuyama Hosp., Ehime.

Platelet Activating Factor (PAF) is a biologically active phospholipid increasing vascular permeability and contractility of smooth muscle. Therefore PAF is suggested a causing factor of EPH-gestosis, a condition characterized edema, proteinuria and hypertension. It is desired to measure PAF concentration to evaluate PAF contribution in EPH-gestosis, which is limited because PAF is rapidly denaturated by PAF-acetylhydrolase (PAFAH), an enzyme abundant in serum. The present study was conducted to measure serum PAFAH activity by the modified Stafforini method in normal and EPH-gestosis pregnancies. Serum samples measured were prepared from 15 nonpregnant, 72 normal pregnant (20, 19 and 33 in the 1st, 2nd and 3rd trimesrters, respectively), and 18 EPH-gestosis (14 and 4 for mild and severe EPH-gestosis, respectively) women. PAFAH activities were 22.53 ± 11.61 nmol/min/ml (Mean ± SD) in nonpregnant women. Those in normal pregnant women in the three trimesters were 21.81± 8.26, 21.73± 8.49, and 24.25 ± 6.45 nmol/min/ml, respectively. While PAFAH activities in mild EPH-gestosis (23.17 ± 6.85 nmol/min/ml) did not differ from those in normal pregnancy, those in severe EPH-gestosis (15.20 ± 11.82 nmol/min/ml) were low. Decreased PAFAH activity might increased non-denaturated PAF, and therefore, might worsen the condition of EPH-gestosis.

440 Proliferative activity of human trophoblasts in term placenta as revealed by DNA cytofluorometry and Ki-67 immunohistochemistry. K.Wakuda, Y.Yoshida, Dept.Obst.and Gynec., Shiga Univ.of Medical Science, Shiga.

The proliferarive activity of various trophoblasts and the regional differences in term placenta were investigated by DNA cytofluorometry and Ki-67 immunohistohemistry. Ki-67 positive cytotrophoblasts were randomly distributed in the chorionic villi of the term placenta, whereas villous syncytiotrophoblasts and intermediate trophoblasts in decidua basalis(so-called X cells) did not show Ki-67 immunoreactivity. Cytofluorometric nuclear DNA analysis demonstrated that villous trophoblasts were proliferating diploid, whereas X cells consisted of non-proliferating diploid and tetraploid populations. It is concluded that (1)trophoblasts in the maternal tissue (so-called X cells)do not have proliferative activity and (2)cytotrophoblasts in the chorionic villi preserve proliferative activity even in the term placenta.

441 The role of epidermal growth factor in the proliferation and differentiation of trophoblast. H.Matsuo, T.Maruo, K.Murata, T.Samoto, K.Katayama, M.Mochizuki, Dept. Obst. and Gynec., Kobe Univ. Sch. Med., Hyogo

In order to elucidate the role of epidermal growth factor(EGF) in the induction of trophoblast function, human placental tissues which were obtained at 4-5 week, 6-12 week, midterm and term of gestation were cultured in the presence or absence of EGF. The population of proliferating cells were examined with immunohistochemical techniques using antibody Ki-67 to investigate the growth potential of placental trophoblasts. The effect of EGF on hCG(α, β) and hPL production and secretion were assessed by RIA. Then cytologic localization of EGF and its receptor in human placental tissues were also analyzed immunohistochemically. The growth potential of EGF-treated 4-5 week placenta was higher than that of control and EGF stimulated hCG and hPL production and secretion from 6-12 week placenta. Furthermore, EGF and EGF receptor in 4-5 week placenta were to be exclusively localized to mitotically active cytotrophoblasts, whereas EGF and EGF receptor in 6-12 week placenta were predominantly localized to mitotically inactive syncytiotrophoblasts. These findings suggest that EGF and EGF receptor in 4-5 week placenta may be linked to the proliferation of cytotrophoblasts, and on the other hand, EGF and EGF receptor in 6-12 week placenta may be linked to the induction of differentiated function. The simultaneous expression of EGF and EGF receptor in the cytotrophoblast of 4-5 week placenta and in the syncytiotrophoblast of 6-12 week placenta raises a possibility that EGF in early placenta may act in an autocrine manner. By contrast, in mid and term placenta, EGF was predominantly localized to cytotrophoblasts, while EGF receptor was localized to syncytiotrophoblasts. This suggests that EGF in mid and term placenta may act in a paracrine manner.