

60 Hormonal profile in patients of threatened abortion with good outcome. E.Kawamura, M.Funatsu, K.Hirato, H.Chiba, H.Saito, T.Yanaihara, Dept. Obst. and Gynec., Showa Univ. Sch. Med., Tokyo

The concentrations of various hormones which included hPL, progesterone (P), estradiol (E) and 17 α -hydroxyprogesterone (17P) in serum, hCG in urine were measured simultaneously in 114 patients of threatened abortion with good prognosis during early pregnancy (group A). Each hormone level was compared with that in normal pregnancy (group N, n=83). The levels of hCG, hPL and E were gradually increased from 5 to 8 weeks, but those of P and 17P did not change in the case of group N. However, in group A, the serum levels of hPL and 17P from 6 to 8 weeks were significantly lower than those of group N. An attempt was made to apply the data to the computation in multivariate analysis. The value for the factor loading indicated that hPL and 17P levels were effective for the separation of two groups.

These results suggested that the endocrine environment of group A was different from that of group N. The decrement of the secretion of hPL and 17P in group A indicated the impaired function of chorion and corpus luteum.

61 ³¹P-NMR Spectroscopy study of the energy metabolism of perfused rabbit ovary in ovulation. A.Mizukami*, K.Tanaka**, M.Ishikawa*, T.Shimizu*, *Dept. of Obst. and Gynec., **Cenet. Lab. for Res. and Educ., Asahikawa Med. Coll., Hokkaido.

We measured the phosphates metabolism after HCG stimulation by ³¹P-NMR spectroscopy in perfused rabbit ovaries. Simultaneously we measured the c-AMP level of a perfusate from the opposite ovaries. After perfusion, we examined the morphological changes in ovaries. The ATP level decreased rapidly in ovaries perfused with HCG. But both the Pi and the intercellular pH in ovaries showed no change until the end of perfusion. On the other hand, the c-AMP level of the perfusate increased rapidly after HCG perfusion. The changes both levels of the ATP and the c-AMP after HCG administration were dose dependent. Both the ova in the follicular fluid increased in number and the follicular area of the ovaries also increased in the dose dependent from the HCG administered. Our study suggests that the morphological changes observed were in a correlation with change the level of both ATP and c-ATP. It is well known that the c-AMP activates the protein kinase, accordingly many subjects are phosphorylated rapidly by the activation of the protein kinase. The decrease in the ATP level may reflect an increase in the consumption of ATP in ovary.

62 Studies on correlation between morphological changes of ovaries, androgen and obesity in polycystic ovarian disease. Y.Eda, K.Takahashi, A.Nishigaki and M.Kitao, Dept. Obst. and Gynec., Shimane Med. Univ., Izumo.

The correlation between morphological changes of ovaries with transvaginal ultrasound (TVU), androgen and obesity in patients with polycystic ovarian disease (PCOD) was studied. Fifty seven women with polycystic ovarian disease were divided into 4 groups: Group I, less than 5 microcysts; Group II, between 5 and 10 microcysts; Group III, more than 10 microcysts; and Group IV, numerous microcysts distributed all over the ovaries. Sixteen women with normal ovulatory cycle and normal findings by TVU were sewed as controls. Testosterone, free-testosterone (free-T) and Kaup index increased and sex-hormone-binding globulin (SHBG) decreased as TVU findings advanced. There was a significant positive correlation between free-T and Kaup index and a significant negative correlation between SHBG and Kaup index. These results suggest that the advanced findings of ovaries are related to the hyperandrogenemia and obesity is correlated with hyperandrogenemia in PCOD.