creased progressively in the course of pregnancy. Threatened abortions, intra uterine fetal death and ectopic pregnancy showed low levels of E_3-16-G compared with that of normal pregnant. While the decreases of urinary E_3-16-G in threatened abortion were more rapid than those of HCG titer, it was more useful in the judgement of prognosis. Levels of urinary E_3-16-G were low and the levels of serum E_3-16-G were normal in cases of late pregnancy with presumptive renal failure (toxemia, malignant hypertension, post renal transplantation). Those data suggest that E_3-16-G not only reflect the feto-placental function but also the renal function in late pregnancy.

274. Radioimmunoassay of 16α-OH-Δ^4 Androstenedione

M. HASHINO, K. MATSUHASHI, T. YANAIHARA and T. NAKAYAMA

Dept. Obst. & Gynec., Showa Univ. Sch. Med., Tokyo

A. KAMBEGAWA and H. MORI

Teikoku Hormone LTD, Kawasaki

M. IHDA

Science Univ. of Tokyo, Chiba

16α-OH-Δ^4 Androstenedione (16α-OH-A) is considered to play an important role as an intermediate steroid for the formation of estriol in feto-placental unit.

Radioimmunoassay system for serum 16α-OH-A was newly established using antiserum against 16α-OH-DHA-Succ-BSA and serum concentrations of this steroid in maternal peripheral vein (MV) during pregnancy, umbilical artery (UA) and umbilical vein (UV) at delivery were measured. Labeled 16α-OH-A was synthesized microbiological methods using streptomyces roseocromogenus. Serum steroid was extracted with ethylether and thin-layer-chromatography was used for separation.

The concentrations of 16α-OH-A were increased as pregnancy progesses. Steroid levels in cord serum were statistically higher than those in MV. Although the differences were not significant, steroid levels in UV were higher than that in UV. In the case of intrauterine fetal death and anencephalic pregnancy, significantly low levels in MV was found.

at delivery	MV (n=15)	5.26±4.41*
	UA (n=15)	10.09±6.51*
	UV (n=15)	12.72±7.28

*P<0.05 (Mean + S.D. ng/ml)

275. Determination of HPL by Sandwich Enzyme-immunoassay

M. HAYASHI, I. ISHITOYA, S. HAYASHI, T. SAHASHI, Y. SHIOTSUKA and K. KOBAYASHI

Dept. Obst. & Gynec., Sch. Med., Tokai Univ., Kanagawa

T. KATSUNUMA

Dept. Biochemistry, Sch. Med., Tokai Univ., Kanagawa

M. SASE

Division of Biochemistry, Interdepartmental Laboratory, Sch. Med., Tokai Univ., Kanagawa

Determination of HPL, contained within the maternal serum has highly assassed as one of the criteria for placental function.

We have developed a method for determination of HPL with a simplicity and accurate quantitative propaty using Sandwich enzyme-immunoassay.

Anti-HPL used was the extract resulted in rendering immunization by HPL, extracted from human placenta using HPL-Kobe as the standard, to rabbit.

Solid phase results from combining specific anti-HPL (IgG) with Silicone pieces. Anti-HPL (Fab′)-β-D-Galactosidase complex was obtained from combining β-D-Galactosidase with anti-HPL (Fab′) using N-N′-O-phenylenedimaleimide.

Determination procedure: 1) Combine the Fab′-β-D-Galactosidase complex with the results from combination of antigen and solid phase.

2) Determination of β-D-Galactosidase activity: Enzyme reaction was carried out by adding 4-methylumbelliferyl-β-D-Galactoside. The amount of 4-methylumbelliferone fromed was measured by fluorometry.

Results: 1) Standard curve was obtained in a