

469 Application of PCR to prenatal sex determination from maternal peripheral blood. T.Narukawa, R.Adachi, T.Sumi, T.Iida, S.Okada, K.Suzumori, Y.Yagami, Dept.Obst.and Gynec., Nagoya City Univ.Med.Sch., Nagoya.

Fetal cells are known to circulate in peripheral maternal circulation. In the present study, we have attempted prenatal sex determination from maternal peripheral blood by using PCR for dual amplification with DY21 locus and amelogenin gene. Blood samples were taken from 100 pregnant women (17-20 weeks) before amniocentesis and also from 30 puerperal women (2-5 days after childbirth). As a result, a Y-specific sequence was amplified from all the pregnant women and puerperal women with a male fetus. However, it also was amplified from 60% of pregnant women and 50% of puerperal women with a female fetus. However, a Y-X-homologous sequence by amelogenin gene was not amplified in any case. From this study, it was suggested that DY21 locus often yields false-positive results for contamination because of high sensitivity, and amelogenin gene is not useful for prenatal sex determination because of low sensitivity single copy.

470 Transvaginal ultrasonic assessment of endometrial thickness and texture in spontaneous and stimulated cycles. I.Shirakawa, N.Yoshida, Y.Hirano, T.Katayama, S.Tagu, K.Nagoshi, K.Shintani, K.Shimizu, M.Tani, K.Sekiba, Dept. Obst. and Gynec., Okayama Univ.Sch.Med., Okayama.

Daily changes in the thickness and texture of the endometrium were assessed by transvaginal sonography in 15 natural ovulatory cycles (A) and 17 stimulated cycles (B:hMG-hCG cycles with no luteal support, hCG was injected on the day at 18mm of the dominant follicle, n=7)(C:hCG injection on the 5th, 9th, 13th day of the luteal phase(LP) were added to B, n=10). The duration of luteal phase were 15 days in A, 9 days in B and 17 days in C. The thickness of the endometrium increased lineally in A[ovulation (D+0):10.7mm], but in B and C it revealed significantly rapid increase until D-4 (B:9.4mm, C:11.7mm), and then became plateau. The ratio of the thickness of the hyperechoic area to the total thickness of endometrium (HEA ratio) reached 100%(D+9) in A. The ratio did not reached only 72%(Max, D+4) in B and 84%(Max, D+7) in C, but the effect of luteal support was shown. Serum progesterone(P) level in B and C revealed rapid increase until D+5 (B:83ng/ml, C: 55ng) compared with A(16ng). The serum P in C revealed marked increase but unstable pattern. It was shown that the luteal support was necessary to improve the luteal phase defect caused by stimulation using hMG.

471 New method for prediction of fertility by transvaginal ultrasonography T.Sekiya, T.Matsushima, K.Tsukada, K.Takagi, K.Matsuo, Y.Santoh, K.Ishihara, S.Kikuchi, Dept.of Ob. & Gyn., Nippon Medical School, Tokyo.

Using transvaginal ultrasonography, endometrial thickness and textures were investigated along with follicle maturation and serum ovarian hormone level in 38 functional sterility cases before treatment. In late proliferative stage the endometrial textures were classified into P1, where the findings were hyperechogenic exteriority and hypoechoic interiority and P2, where hypoechoic and echogenic patterns were concomitant, while, in mid-secretory stage, S1, where echogenic pattern as a whole prevailed and S2, where hypoechoic and echogenic patterns as well were observed. (Result) ① Compared with the patients became pregnant within a year, the patients who were unsuccessful in getting pregnant had significantly thinner endometrium disregarding the ovarian hormonal levels and maximum follicular diameter. ② The pregnancy rate was not different in P1 and P2. ③ The pregnancy rate was higher in S1 than S2. ④ Hormonal levels were not different in P1 and P2 or in S1 and S2. (Conclusion) Our present paper suggests nidation is strongly effected by endometrial volume, and also shows the mixed pattern texture in secretory endometrium can be a good indicator of poor fertility.