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detected by conventional β-hCG radioimmunoassay was reported.

291. Assessment of Basal Body Temperature for Ovulation Detection by Ultrasound

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Basal body temperature (BBT) as a predictor of ovulation was assessed by examining the temporal relationship between 4 points on the BBT chart and the sonographic ovulation and luteinizing hormone (LH) surge in 45 infertile patients during 70 menstrual cycles.

1) A monophasic BBT was found in 2 cycles (3.4%) in spite of the fact ultrasound and hormonal parameters suggested that ovulation had occurred.

2) The classic BBT dip was observed in only 16 of 56 cycles (2.8%). There was a wide variation around which the sonographic ovulation was observed in relation to the BBT dip, BBT nadir and first day of BBT rise.

3) BBT coverline endpoint correlated well sonographic ovulation in comparison with another 3 points on the BBT chart, but coincided with the day of sonographic ovulation in only 25 of the 56 cycles (45%).

This result suggested that the BBT recording gave incorrect information on the ovulatory status of cycles.

292. Establishment of Highly Specific Monoclonal Antibody against hCG by an Autoradiographic Screening Assay

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The simple autoradiographic screening assay was applied for the establishment of a monoclonal antibody (Mab) specific to human chorionic gonadotropin (hCG). Hybridomas were prepared by fusing murine myeloma cells (P3U1) with spleen cells of BALB/c mouse immunized to hCG. One hCG-specific Mab excreted by the hybridoma was successfully selected by the autoradiographic procedure. ^{125}I-hCG or ^{125}I-LH, and the supernant of hybridoma cell culture were mixed in wells of micro-ELISA plate and the immune complexes were precipitated by bacteria, Staphylococcus aureus Cowen I. After centrifused, the plates were put on the x-ray film and the exposure was done for over night. The selected Mab did not show any crossreactivity to human luteinizing hormone, follicule stimulating hormone and thyroid stimulating hormone by direct binding assay. The Mab directed to a conformational epitope which is present only in the intact hCG but was not in α, neither β subunit of hCG.

This conformation epitope is not related to the biological activity of the hormone because the Mab did not inhibit the increase of mouse uterine weight due to hCG in vivo assay.

293. The Development of Enzymeimmunoassay for Prostaglandin $F_{2\alpha}$ ($PGF_{2\alpha}$) in the Menstrual Blood and it's Usuage for the Regulation of Dysmenorrhea

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It is well known fact that prostaglandins (PGs) play the important role in the ovulation, the onset of menstruation and laber pain and other reproductive phenomena. The purpose of this study is to elucidate the role of prostaglandins in reproduction. As the first step, enzymeimmunoassay was developed to estimate $PGF_{2\alpha}$ level in body fluids. Enz.-$PGF_{2\alpha}$ conjugate and BSA-$PGF_{2\alpha}$ conjugate were prepared by mixed anhydride method. $PGF_{2\alpha}$ was extracted with ethylacetate from acidified sample. EIA was carried out using double antibody method. As for the conjugation ratio of $PGF_{2\alpha}$ and β-Galactosidase, 10, 100, 200 were examined. Recovered enzyme activity and sensitivity of the method were far better in enzyme of conjugation ratio 10 than in any others. Precision and Accuray of the method are good and values measure by RIA and EIA were well corelated. $PGF_{2\alpha}$ in the menstrual blood of the patients with or without dysmenorrhea were determined. There was a significant difference between both groups. In one patient, $PGF_{2\alpha}$ in menstrual blood in Pyroxicam treated cycle showed far lower value than not-treated cycle. But there remained many problems to be solved concerning not only in estimation methods but in action mechanism

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