

Fig. 2. Photomicrograph of syncytium ($\times 300$) stained with haematoxylin and eosin.

The specificity of the mouse anti-human trophoblast serum has been demonstrated before¹⁰. Incubation of this serum with a heterogeneous cell population cultured from early human placenta identified cells with the cytological characteristics of syncytiotrophoblast and cytotrophoblast when stained with a fluorescent labelled anti-mouse serum. Re-staining the same cells with haematoxylin and eosin also confirmed the characteristic epithelioid and syncytial appearance said to be typical of cytotrophoblast and syncytiotrophoblast respectively. Non-fluorescent cells seemed to have cytological features of blood cells when re-stained with haematoxylin and eosin. The absence of fibroblasts in these cultures suggests that trypsinization can be used to prepare cultures relatively free from cells other than trophoblast.

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Interrelationship between Plasma Luteinizing Hormone and Oestradiol in the Human Menstrual Cycle

OESTROGENS have a feedback action on the central nervous system¹. They are implicated in the regulation of human luteinizing hormone (HLH), high concentrations of oestrogen being associated with low concentrations of HLH and vice versa².

Urinary oestrogen excretion has been compared with urinary gonadotrophins³ and plasma HLH⁴ during the menstrual cycle, a midcycle rise of both hormones being reported in each case.

We have determined HLH and 17 β -oestradiol in plasma collected daily throughout the menstrual cycle, from five regularly menstruating women. HLH was measured by double antibody radioimmunoassay⁵ and oestradiol by competitive protein binding⁶.

Fig. 1 shows the results obtained during the first three individual cycles on samples collected at the same time each day (1000–1030 h). Each point is the same time of duplicate determinations with an average error of ± 10 per cent. Where the error exceeded ± 20 per cent the range between duplicates has been indicated.

In all five cycles the results demonstrate a midcycle rise in the circulating levels of both oestradiol and HLH, the peak of oestradiol occurring on the day before the day of maximum HLH concentration ($P=0.03$)⁷. It is noteworthy that the HLH starts to rise before the oestradiol peak is reached.

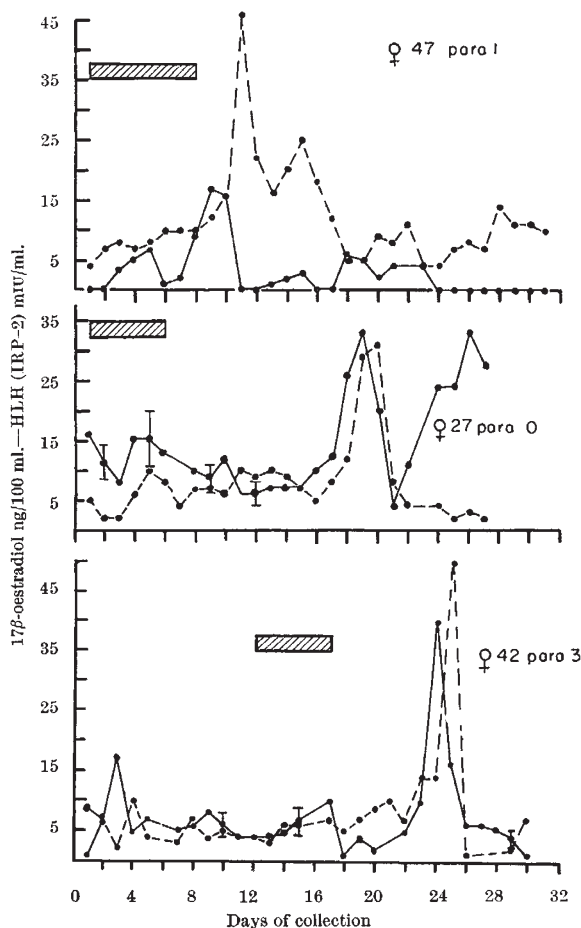


Fig. 1. Plasma 17 β -oestradiol (●—●) and HLH (●---●) during the menstrual cycle. Hatched bars indicate menstruation.

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