ON THE OCCURRENCE OF AN IMMUNOLOGICALLY LH-LIKE SUBSTANCE IN URINE

W. Geiger and H. Würz

The radioimmunological determination of LH and FSH in serum and urine samples collected daily during 65 normal and pathological cycles revealed a substance in urine which reacted as LH with 2 rabbit-anti-HLH and 2 anti-HCG sera. One of the anti-HCG sera was taken from a commercial “Luteonosticon”-kit (Organnon), one anti-LH was a gift from NIH (batch 1), and the 2 other antisera had been developed in our laboratory and characterized earlier (Geiger 1973).

The 4 LH-excretion patterns throughout the cycles obtained by the 4 antisera were in close correlation, only differing in the absolute values. They corresponded with the LH pattern in the serum concerning the midcycle peak, but often there were additional peaks in the urine. These additional peaks mostly lasted for several days and were located preferably in the time of menstruation and the follicular phase, but occasionally also in the corpus luteum phase. They could be provoked by exogenous steroid hormones. The peak values lay between 50 and 400 mIU 2.IRP/ml and thus were as high or even higher than the “true” LH peaks. In contrast, urinary FSH did not show any of these additional peaks, but was absolutely parallel to serum FSH.

One of the anti-LH sera was absorbed specifically and then reacted only with “true” LH which corresponded with the serum LH. The “false” LH measured radioimmunologically gave positive reactions also with the hemagglutination-inhibition system of “Luteonosticon”.

The chemical substrate and the significance of this LH-like substance is being investigated.