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RAPID RETRIEVAL FILING SYSTEM IN HOSPITAL RIA LABORATORY.

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Besides regular RIA data processing,a rapid retrieval filing system was developed using a personal computer(32K bite RAM) and two sets of floppy discs(each 500K bite). Every information about patients and examinations ordered,including patient code,name,sex,age, ward,receipt date,test code and time of blood sampling was put into floppy disc file through keyboard. Work sheet files can be made up to fifteen different kinds of tests when needed. After assay procedure and count ing ofradioactivity,standard curve fitting and potency estimation of unknown samples were automatically processed and punched out onto paper tape. Scintillation counter and computer is connected off line through paper tape reader. Quality control was also automated. Values of external quality control samples were put into computer and compared with previous assay results. When a particular assay is judged as well controlled, results are sorted out for each ward and are immediately printed out as rapid reports. Thereafter,master sheet,monthly report for each patient and all kinds of sorted data can be printed. By means of this laboratory system desk work of technologists was marked ly reduced and reporting of results becamed much faster. This handy system using personal computer is probably suitable to up to medium sized hospital RIA laboratory.

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CLINICAL EVALUATION OF SERUM FSH AND LH RADIOIMMUNOASSAY KITS.

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RIA kits for h-FSH and h-LH supplied by Dainabot Radioisotope Laboratory were evaluated for human serum samples. Each kit suppied commercially was able to measure the concentration of FSH or LH in 100 samples. It took 4.5 hours for FSH or 3.5 hours for LH, respectively, requiring the less time than the other kits. Antisera and antibodies were coloured for convenience in order to avoid possible mistakes in assay procedures. The dilution test obtained almost desired values. Recovery rates of added hormones were 100.1 % for FSH and 97.0 % for LH. Coefficient variations were 7.7 % for FSH and 6.4 % for LH, showing good reproducibility. A good correlation coefficient was obtained between values of these kits and Dai-ichi Radioisotope Laboratory's kits in FSH (r=0.8519, n=30) or in LH (r=0.9322, n=30). The results of FSH and LH assay in normal adults and some clinical disorders, such as Klinefelter's syndrome and hypopituitarism, were conformed to previous reports. In this report, it was shown that these kits could be used clinically.

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MEASUREMENTS OF SERUM LH AND FSH BY A RAPID PROCEDURES.

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This article describes a rapid simple procedure for the measurements of circulating LH and FSH in the sera,as supplied by new radioimmunoassay kits available from Diagnostic Products Corporation. This procedure includes a PEG-assisted precipitating solution to be prepared by previously separate addition of the goat anti-rabbit γ-globulin and the 4% PEG-saline solution. It allows rapid formation of the precipitations of the antigen(LH or FSH)-antibody complexes and stabilizes them. According to the protocol we can perform the measurements of the concentrations of the serum LH and FSH in a day,much cutting off the performance time(in case of other comercial kits it is 2 - 5 days). The calibration curve obtained the procedure is linear on a logit-log plot,allowing for computer analysis. The precision in the performance data (C.V.) is as follows:LH within-run 3.0%-8.6 %,run-to-run 6.6%-9.9%,FSH within-run 2.2%-2.7%,run-to-run 3.4%-3.6%. The clinical examination data on the healthy male and female volunteers,patients mainly with anovulatory cycles,pregnant females and those treated with LH-releasing hormone are reasonable compared with those obtained by the established procedures. Thus the new kits for LH and FSH are well designed ones for clinical uses.

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DEVELOPMENT OF HUMAN C-PEPTIDE RADIOIMMUNOASSAY KIT.

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A radioimmunoassay kit for estimating proinsulin C-peptide in human serum has been developed. The high titre antiserum was obtained by immunization of rabbits with synthetic C-peptide conjugated to bovine serum albumin. Synthetic C-peptide and I-125-Boc·Tyr·Gly·C-peptide were used as the standard and radioactive substances, respectively. Free and bound radioactivity were separated by the double antibody method. First and second incubations were 20 and 1 hrs at 15-25 °C, respectively.

The assay kit is capable of detecting 200pg/ml in a 100μl sample of serum. The criteria for recovery, accuracy,and precision in the assay were satisfied. The assay kit was available to determine C-peptide immunoreactivity in human serum.