In the inhibition curve of CCK-PZ, minimum detectable concentration was about 200pg/ml, and measurable range was 200–3000pg/ml in this assay system.

We are now studying the measurement of CCK-PZ level in human serum.

Studies of Gastrointestinal Hormones by Radioimmunoassay

Report III Radioimmunoassay of Secretin

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We carried out and reported previously a series of fundamental studies on secretin RIA. Supplied with Secretin RIA Kit through the courtesy of Daiichi Radioisotope Laboratories, we conducted both fundamental and clinical investigations with this device. The results are presented in this paper.

In order to determine the optimal incubation time and temperature specimens were incubated at 4°C or room temperature for 1 to 5 days. A nearly identical calibration curve was obtained both from specimens incubated at 4°C for 3 to 5 days and from those incubated at room temperature for 2 to 4 days. Values for CV at different points on calibration curve ranged from 4.2 to 13%, 8% on the average, indicating an excellent reproducibility of calibration curve, with a significant difference in CV observed between levels of 0 and 50 pg/ml. The recovery test also yielded a satisfactory result with an average recovery rate of 101%. Mean CV for intra-assay of 11 serum specimens was 2.9% while a corresponding value for interassay was 8.1%. At low concentration levels of below 100 pg/ml CV was found at an average of 7.3%. From combined consideration of these figures and the reproducibility of calibration curve it seems possible to determine a secretin concentration level of down to 50 pg/ml with reasonable accuracy by this particular technique.

Average secretin levels in the fasting blood as measured by the radioimmunoassay method in a total of 40 subjects of 4 distinct categories, i.e. healthy state, gastric ulcer, duodenal ulcer and duodenal ulcer scar, were 113 pg/ml, 102 pg/ml, 117 pg/ml and 102 pg/ml, respectively, hence with no significant differences observed between these disease states. In a further study the blood level of this hormone was investigated for its eventual correlation with gastrin levels in circulating blood. At the present stage, however, no definite correlation has been shown to exist.

Clinical Evaluation for Secretin Radioimmunoassay kit


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Sensitive and specific radioimmunoassay kit for secretin (Daiichi radioisotope laboratory Japan) was developed using antiserum raised in rabbit against synthetic secretin (synthesized by Yanaihara, Shizuoka pharmaceutical college Japan). Human insulin, pork monocomponent glucagon, C-peptide, human gastrin I, GIP, VIP, motilin and substance P did not cross-react with this antiserum. Labelled hormone was obtained by conventional chloramine-T method using [Tyr1] secretin. Separation of bound label from free label was made by double antibody techni-