administration of 2-deoxyglucose (2-DG) in a dose of 100 mg/kg.

1) Hepatic clearance value of endogenous gastrin was 102±2.2% during the control period, and was ranged from 99.2±2.5% to 107.0±2.2% after intravenous administration of 2-DG.
2) The extraction rate of small intestine was 19.2± 11.2% during the control period, and was 29.3±14.1% in stimulating time.
3) The extraction rate of kidney was 33.3% during the control period, and was 27.6±13.4% in stimulating time.

Radioimmunoassay of Secretin

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Radioimmunoassay of secretin has been studied by using synthetic secretins. Antiserum was produced in 3 rabbits against synthetic porcine secretin (Schwarz-Mann Co.). After 4 consequtive immunizations, specific antibody was detected in all 3 animals through both binding reaction and biologic inhibition (by Dr. Tachibana, Eisai ph. Lab.).

Radioiodination of synthetic 6-Tyrosil secretin, (Schwarz-Mann Co.) was performed by a modified chloramine-T method-reduced reaction time (30 sec.) with chloramine T and whole procedures under cold condition. A Sephadex G-25 column (1.2×20 cm) was used for the separation. The initial)organic) elution radioactivity peak with 0.1N HCI was collected and stored at −20°C. Labeling efficiencies of 200 to 250 μCi per μg were achieved. After storage, significant generation of damaged hormone was observed by Sephadex G-50 gel chromatography. For the removal of the damaged, Talc method was found suitable. Undamaged hormones were absorbed effectively to the Talc and then extracted by acetic acid acetone. Using these antiserum, labeled 6-Tyrosil secretin and standard secretin of Schwarz-Mann Co. origin, possibility of a radio-immunoassay system was investigated. An unequilibrated incubation system was employed for 5 days including preincubation of 3 days, and charcoal dextran absorption system was used for B.F separation. An antibody which gave 1.0 of B/F ratio at × 5,000 final dilution was used. This antibody did not cross significantly with synthetic human gastrin I and cholecystkinin-pancrezymin (both up to 1 μg). The system could detect 80 pg/tube of secretin which was considered too low to access resting level of circulating secretin. Recently, a highly potent antiserum was obtained (a kind gift from Dr. Chey Rochester), which gave 1.0 of B/F ratio at × 600,000 final dilution. Utilization of this antibody and labeled synthetic secretin (Sqnibb Co.) gave high sensitivity)detectable of 25 to 50 pg/ml secretin. This seems quite applicable for clinical study, and further studies will be performed using this new system.

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