

315

THE EXAMINATION OF GLYCINE-1-¹³C-CHOLATE BREATH TEST USING INFRARED ANALYZER-CLINICAL APPLICATION. T.Suzuki,H.Ohara,T.Nakagawa,S.Takahashi,M.Ishikawa and K.Someya. St.Marianna Univ.School of Medicine,Kawasaki. Y.Sasaki. Toho Univ.School of Medicine.

The ¹³C-breath test is useful for clinical diagnosis of detecting some malabsorption syndromes. In the condition of bacterial over growth, administered glycine-1-¹³C-cholate are deconjugated 1-¹³C-glycine in the intestine and it flow out to ¹³CO₂ in expired air after absorbed and metabolized. This time, We report a case, whose malabsorption syndrome was due to jejunocholeostomy and was diagnosed by ¹³C-GC breath test. A 25 years old anemic male patient, in 7 years old, he was suffered from ileus and operated, after operation symptom of diarrhea and malabsorption syndrome was suspected. Fasting time, we measured the ¹³CO₂ in expired air after administered glycine-1-¹³C-cholate 500mg at 30min. interval. The ¹³CO₂ exhaust curve after administered of ¹³C-compound had increased 30min. and had a peak 180min. and decreased immediately in 6hrs.. From the above finding, that malabsorption syndrome due to micell dysformation was diagnosed.

317

GASTRIC CONDUIT EMPTYING TEST USING Tc99m-Sn-COLLOID IN ESOPHAGEAL CANCER. M.Kumano,K.Fujii,O.Ishida,T.Kuroda,Y.Ooura,I.Sakashita and M.Shiraha*, A.Kajita** Kinki Univ. School of Med. Dept. of Radiology, Surgery* and Center for Adult Diseases, Osaka**

Emptying of a mixed solid and liquid meal through different gastric conduits was assessed in 22 esophageal cancer patients postoperatively using a single camera/computer system in order to compare the function as a gastric conduit of retrosternal, antero-sternal and post-mediastinal routes. The subjects ate a standard light lunch, then drank a 40 ml solution of Tc99m-Sn(1mCi). The study was performed in the sitting position with the detector behind the patient. The disappearance half time of the radionuclide from the gastric conduit was determined, and the curves showed three different patterns: slow, delayed and rapid. Emptying was slowest in cases with a post-mediastinal route, possibly caused by dilatation of the conduit due to the relatively large post-mediastinal space. For the retrosternal route, the emptying time seemed to depend on the elasticity of the conduit. The antero-sternal route showed a rapid emptying pattern typical of an intact esophagus, suggesting that this should be the route of choice.

316

CLINICAL EVALUATION OF THE DETECTION OF GASTRO-ESOPHAGEAL REFLUX BY RADIONUCLIDE SCINTIGRAPHY. M.Noguchi,Y.Sasaki,S.Otsuka,Y.Naruki,Y.Miura,Y.Maruyama and M.Shimizu.Toho Univ. School of Med.,Tokyo and Hamamatsu Shakai Hoken Hosp.,Hamamatsu.

Radionuclide studies of gastrointestinal function have recently attracted much interest, as morphological examinations such as liver scintigraphy tend to be replaced by US and CT. We validated the method of detection of gastro-esophageal reflux first described by Malmud as well as hepato-biliary scintigraphy for detection of bile reflux. Tc-99m-Sn-Colloids(0.4-1.0mCi) were orally administered together with 250ml of orange juice after overnight fast. Serial anterior images of the abdomen were taken first in sitting for 10min., and later in supine position fastened by abdominal binder increasing the pressure by every 20mmHg up until 100 or 120mmHg. Also image data simultaneously stored in mini-computer(Scintipac 1200) were analyzed setting ROIs on the stomach and esophagus. In the present preliminary study with 12 patients, we encountered only one case of esophageal reflux demonstrated by this method. Application of hepato-biliary scintigraphy for detection of bile reflux was described and representative cases were shown. Radionuclide evaluation of gastrointestinal function and physiology such as reported here should prove useful and become prevalent in future nuclear gastroenterology.

318

THE STUDY OF DOUBLE RI TRACER METHOD FOR MEASUREMENT OF GASTRIC EMPTYING TIME (GET) H.SHIBATSUJI,S.Tsutsui,K.Tanaka,E.Kitaba F.Uenoyama,A.Shirai,E.Murakami,I.Yoshikawa T.Amesara, and S.Hamada.Nara Medical college,Nara

It's reported that the usefulness of GET in one RI to understand the gastric emptying function. By marking the solid and the liquid by different mono-nucleus and making clear about the respective movements, we can get much more knowledge on grasping the gastric emptying function. But when we use two different RI, it the aberration occurs without separating energy peak which the nucleus has, and so it has been reported that the combination of Tc-99m and In-113m, so far, we tested the combination of In-111-DTPA and Tc-99m-DTPA which energy peaks and a little comes close, but is easy to get. To measure the influence of In-111 to Tc-99m, we measured and examined about a window-width with a camera, the thickness of scatter form (acrylic plate) and each dose, etc. The result in the case of its minimum was 4%, and maximum was 12% in the each factor combination. So that, it can be thought that the GET which the combination of the In-111 and Tc-99m is able to be represented by separating each property of the solid phase and the liquid phase. On the basis of these results, we examined about the influence that the several changes of the solid density, near the liquid to perfect solid to the GET clinically.