
The 13C-breath test is useful for clinical diagnosis of detecting some malabsorption syndromes. In the condition of bacterial overgrowth, 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 jejunocholestopathy and was diagnosed by 13C-6C 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 administrated glycine-1-13C-cholate 500mg at 30min. interval. The 13CO2 exhaust curve after administrated 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 dysfomation was diagnosed.


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, anterostersternal and postmediastinal routes. The subjects ate a standard light lunch, then drank a 40 ml solution, of Tc99m-Sn(0.1mCi). 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 postmediastinal route, possibly caused by dilatation of the conduit due to the relatively large postmediastinal space. For the retrosternal route, the emptying time seemed to depend on the elasticity of the conduit. The anterostersternal route showed a rapid emptying pattern typical of an intact esophagus, suggesting that this should be the route of choice.


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 Malaud 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(Scientific 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.


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 marking 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 abregation occurs without seperating energy peak which the nucleus has, and so it has been reported that the combination of Tc-99m and In-111,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 examine 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 seperating 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.