

PANCREATIC VISUALIZATION WITH ⁷⁵Se-SELENOMETHIONINE AFTER SURGERY

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The use of ⁷⁵Se-selenomethionine as a pancreas scanning agent is well established. However, there are no reports of this radiopharmaceutical being concentrated by granulation tissue or by a functioning pancreatic adenoma. The purpose of this paper is to report an unusual case.

CASE REPORT

The patient was a 67-year-old white female who had had hypoglycemic episodes since 1959. Her physician suspected that she had an insulinoma but the patient repeatedly refused to have any diagnostic workup done. However, in June 1971 she had an arteriogram which was normal. Subsequently she underwent exploration and no pancreatic tumor was found, but the body and the tail of the pancreas were removed. Postoperatively she developed infection and intra-abdominal abscess which required re-opening of the abdomen and drainage of the abscess. She was left with a draining fistula.

Her symptoms became worse after the operation, and she was admitted to our hospital with severe hypoglycemic attacks. The workup included a pancreas scan and celiac axis and superior mesenteric arteriograms.

The scan showed the pancreas outline in its entirety (Fig. 1) and showed a very "hot" area in the head of the pancreas. With the above history the hot area was interpreted as a functioning adenoma. Angiography showed narrowing of the proximal portion of the splenic artery measuring approximately 2 in. and irregularity of left gastric artery. It was felt that these abnormalities were probably due to encasement of the vessels by a tumor, probably in the pancreas or as a result of previous surgery.

The patient underwent a second exploratory laparotomy. Palpation of the head of the pancreas revealed a smooth nodule that felt different from the

surrounding pancreatic tissue. It was near the third part of the duodenum, just to the right of the superior mesenteric vein. This nodule was enucleated from the head of the pancreas. It was oval in shape

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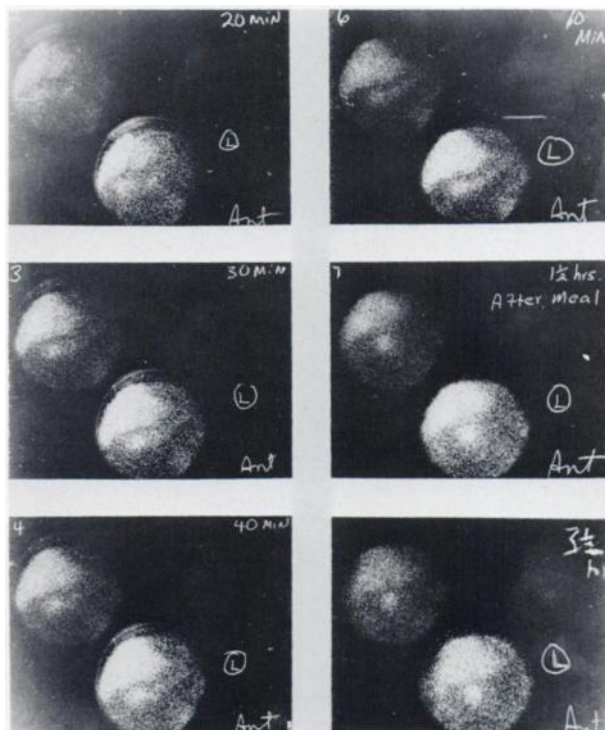


FIG. 1. Pancreas scintigraphs at various time intervals. "Hot" area in pancreatic head starts to appear at 30 min and can be clearly seen in 1½- and 3½-hr scintigraphs. Activity in region of pancreas body and tail can be seen up to 60 min.

and measured approximately $1 \times 1\frac{1}{2}$ cm. Histological examination showed it to be an islet cell carcinoma.

Postoperatively the patient made satisfactory recovery. She required insulin initially but was gradually taken off it.

DISCUSSION AND CONCLUSION

It is known that ^{75}Se -selenomethionine takes part in the protein synthesis and is concentrated to a varying degree by metabolically active organs (1,2).

In this case the explanation for visualization of the nonexistent pancreas body and tail would appear to be that the patient had chronic inflammation in the pancreatic bed and presumably the radioisotope was concentrated in the granulation tissue. The tumor was well visualized and was unusual because it had a much higher concentration of the radioisotope instead of the generally accepted reduced activity in the lesion. This increased radioactivity was un-

changed even at 22 hr, and this fact supports our impression that it was in the metabolically active tumor. Unfortunately we were not able to obtain a tissue sample after the operation to determine its radioactivity. All patients suspected of having a functional adenoma of the pancreas should have the benefit of a pancreatic scan since it is a completely safe and atraumatic procedure unlike angiography or hypotonic duodenography which are no better in specificity and sensitivity (3).

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