

SHOULD EVERY RADIOLOGICALLY DETECTED TUMOR BE BIOPSIED?

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QUESTION: Does biopsy of a biochemically confirmed insulinoma change the planned surgical treatment strategy?

CLINICAL ASPECTS:

A 35-year-old gastroenterologist developed symptoms suggestive of hypoglycemic spells. Biochemical evaluation revealed low fasting serum glucose levels accompanied by inappropriately elevated insulin and C-peptide secretion. This confirmed a diagnosis of endogenous hyperinsulinism, most likely caused by a solitary and benign islet cell tumor of the pancreas (insulinoma).

In preparation for elective surgical exploration, tumor localization was sought by performing endoscopic ultrasonography (EUS). This sensitive test confirmed the clear presence of a 1.3 cm hypoechoic mass in the body of the pancreas compatible with an insulinoma (Figure 1). *Unwisely*, endoscopic fine-needle biopsy (FNAB) was performed and confirmed the lesion was an islet cell tumor.

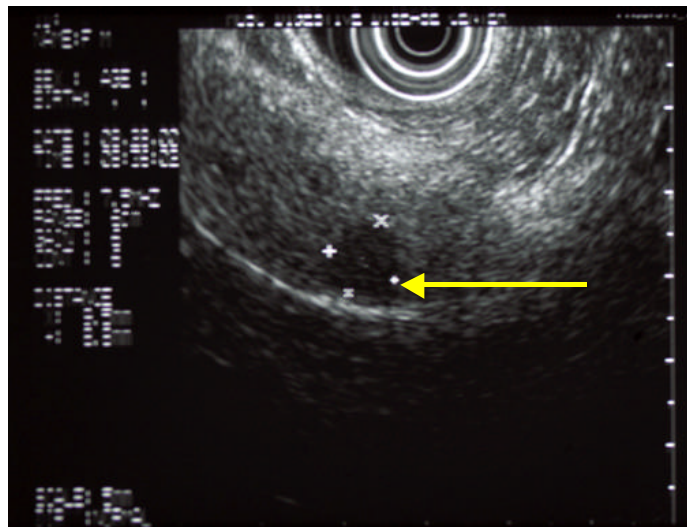


Figure 1: Endoscopic ultrasonography showing a 1.3 cm hypoechoic mass in the body of the pancreas

Over the ensuing six months, the CT features of acute pancreatitis resolved, and the patient was left with an asymptomatic pancreatic pseudocyst (Figures 3A and B). Interesting and ill-explained, the prior hypoglycemic symptoms were markedly improved.

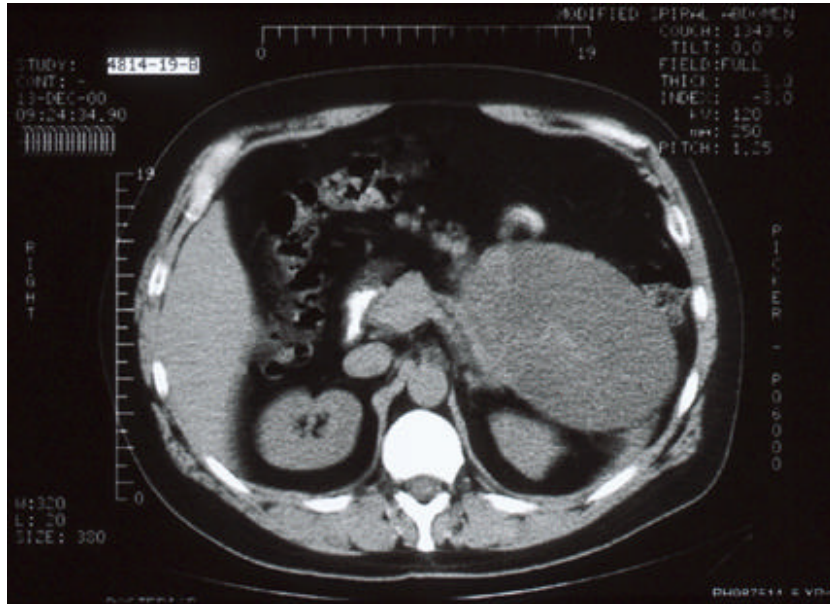


Figure 3A

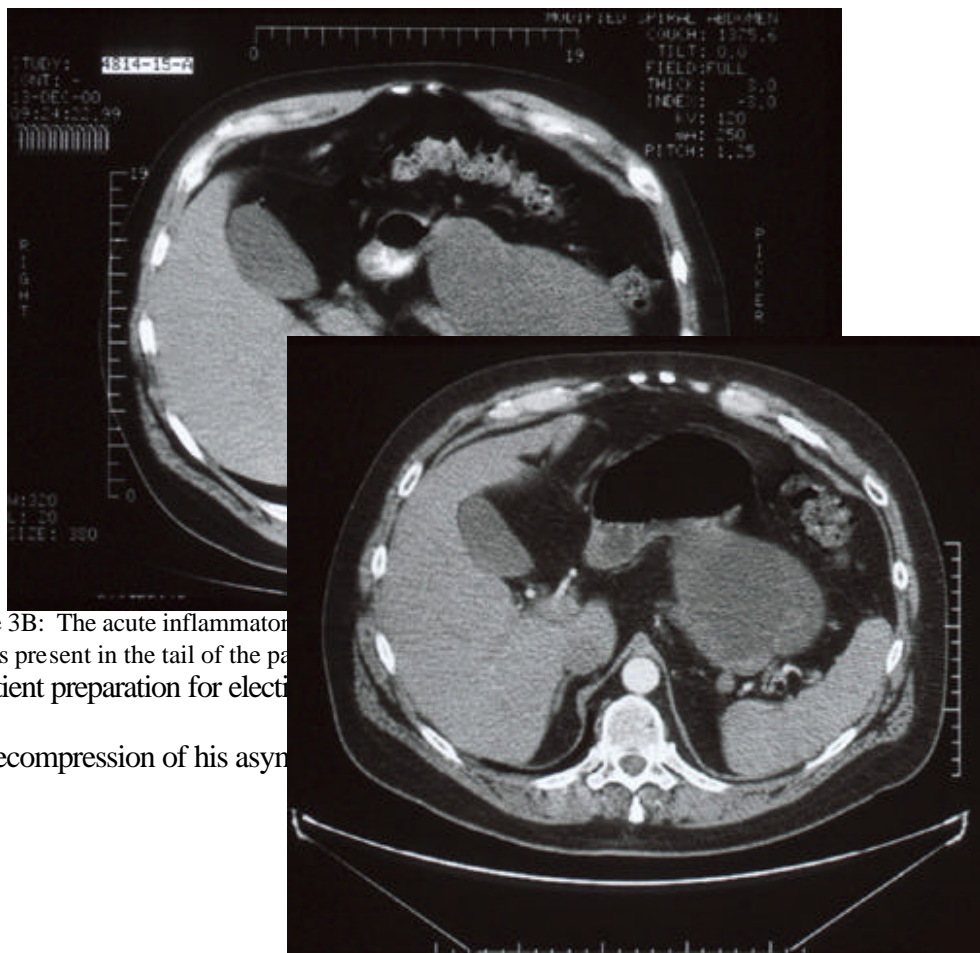


Figure 3B: The acute inflammatory mass is present in the tail of the pancreas. In patient preparation for elective surgery, the focus was focused on decompression of his asymptomatic pseudocyst.

transgastric drainage was considered the optimal mode of decompression, since this was the least likely to cause subsequent difficulties with elective abdominal exploration. Thus, nine months following his original endoscopic biopsy, a transgastric J-stent was placed endoscopically (Figure 5).

Figure 45: The intimate relationship of the pseudocyst to the posterior wall of the stomach is well demonstrated.

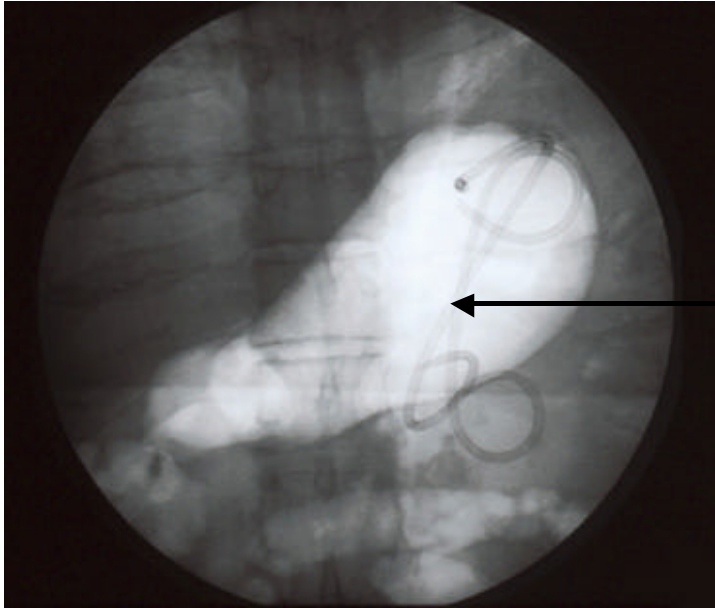


Figure 5: The endoscopically-placed transgastric J-stent is shown.

Two weeks following stent placement, the patient developed severe epigastric pain and became febrile. A repeat CT scan demonstrated an infected pancreatic pseudocyst (Figure 6).

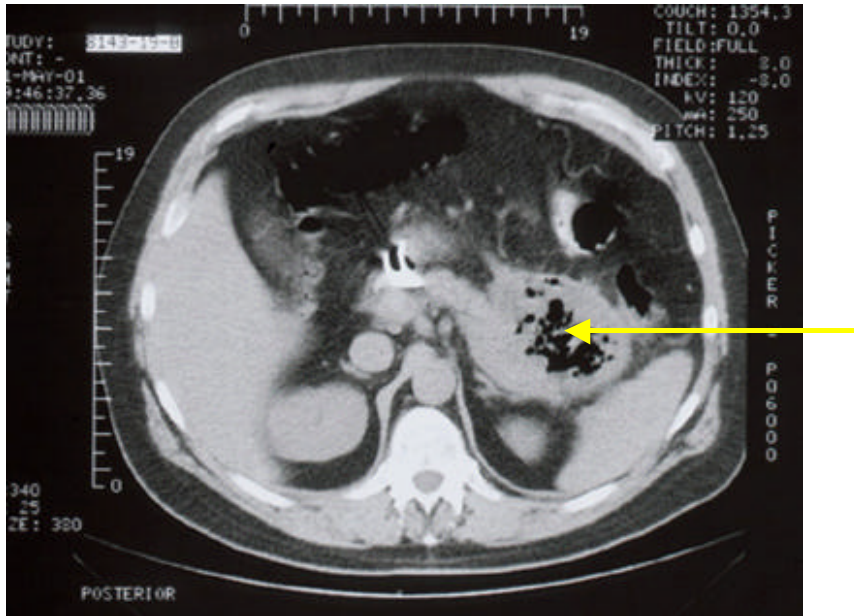


Figure 6: Typical infected pseudocyst.

Re-hospitalization was required for a week. With a combination of systemic broad-spectrum antibiotics and frequent transgastric irrigation of the abscess, clinical and radiological resolution of the abscess ensued (Figure 7).

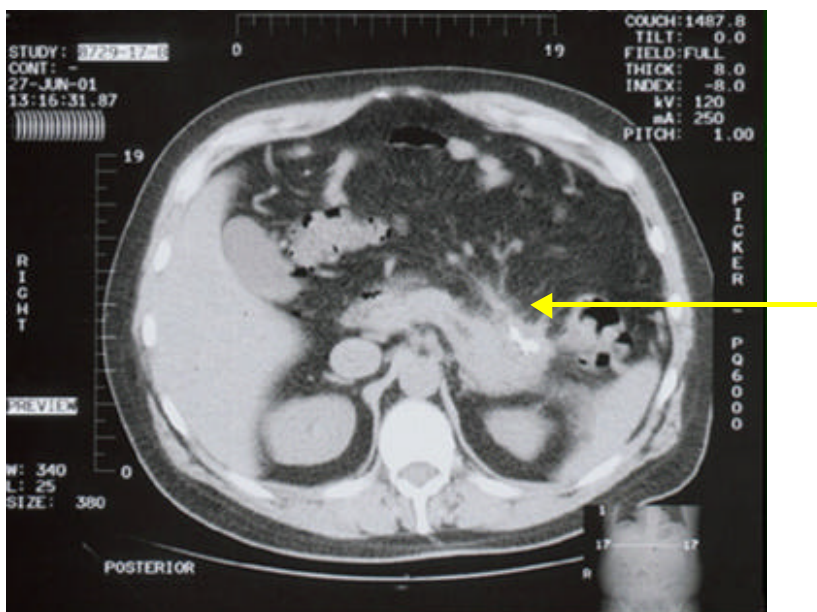


Figure 7: Resolution of abscess-- some residual stranding remains in the lesser sac.

The patient remains under observation with minimal hypoglycemic symptoms, 16 months following his eventful endoscopic biopsy.

DATA SUMMARY

Today, expert radiologists, endoscopists, and surgeons are able to insert needles and catheters, for drainage and biopsy purposes, into radiologically evident abnormalities with amazing accuracy and *usually* with minimal complications. With the accepted accuracy and safety of FNA, an increasing number of biopsies are being performed -- at times with insufficient clinical justification. That a biopsy can technically be accomplished is not an indication for it to be performed. The physician in charge has to ask the key question: "will biopsy alter our intended therapy?" If the answer to this basic question is "no", then biopsy is superfluous and potentially detrimental to the patient. In general, our philosophy is to perform biopsies when:

1. the patient is not going to be treated surgically, and
2. the patient is to be entered into a preoperative chemo/radiotherapeutic protocol.

Although the complications of biopsy (hemorrhage, infection, tumor spillage/implantation, pancreatitis) are rare, they are real and have serious consequences, as illustrated by this unfortunate patient.

ANSWER:

There is no indication for the preoperative biopsy of an insulinoma. The biochemical diagnosis of endogenous hyperinsulinism (insulinoma) is very accurate, and histological verification thereof is non-contributory. The majority (~95%) of insulinomas are benign (adenomas), measuring 1.0 to 1.5 cm in diameter, and are safely treated by either enucleation or conservative pancreatic resection.

EUS is gaining in popularity as an accurate tool for localization of such insulinomas. Experts performing EUS should restrain themselves from biopsying radiologically visible (and biochemically proven) insulinomas.

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"Medicine is like gardening; if your hands are gentle, you'll find you
have to work really hard at it to actually kill anything."

Michael O'Donnell