WHAT'S THE TAKE HOME?

A 42-Year-Old Man With Persistent Abdominal Pain

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Introduction. A 42-year-old man presents to the office describing several weeks duration of abdominal pain. The pain is in the upper abdomen, midline, and is "boring" in nature. Although not constant, he experiences some degree of pain several days a week. Nausea is another feature that accompanies the painful episodes. He denies hematemesis, melena, or jaundice. There has been, however, increased frequency of bowel movements from once daily to three times per day.

Patient history. The patient has been admitted several times for acute pancreatitis in the last 5 years, roughly once per year. He recognizes the nature of the current abdominal pain as similar to those episodes of acute pancreatitis, but not as severe. He is a salesman, frequently traveling, and is a former heavy drinker, although his alcohol consumption has decreased in recent years. He also has a 25+ pack year smoking history.

Physical examination. The patient’s physical examination was generally unremarkable: mucosae are dehydrated and non-icteric, moderate tenderness in the mid-epigastrium with some radiation to the back but no rebound, and his stool is heme negative. The patient’s basic laboratory tests indicate a complete blood count that is within normal range and electrolytes with a fasting blood glucose of 134 mg/dL (normal range, <100 mg/dl).

The presented patient has the onset of chronic pancreatitis. Significant clues for his current abdominal pain include the patient's background history of acute pancreatitis events, the strong history of alcohol and tobacco use, and his diarrhea symptoms. He is a rather classic example, in both demographics and epidemiology, of chronic pancreatitis (annual incidence 5-8/100,000 and prevalence 42-73/100,000).[1]

Which of the following is the correct statement on the management of the patient diagnosed with chronic pancreatitis?

A. The patient requires a biopsy to confirm the diagnosis by demonstrating the presence of fibro-inflammatory disease.

B. Endoscopic retrograde cholangiography (ERCP) is the preferred method to make an imaging diagnosis.

C. A variety of effective analgesics and/or neuromodulators are available and often result in most patients obtaining very satisfactory pain control.

D. When procedures are required in therapeutic schemes endoscopic maneuvers should be the initial option reserving surgical procedures for persistent cases.

E. Appropriate enzyme supplements when effective in diarrhea control will also result in pain control.

(Answer and Discussion on the next page).

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Answer: D. When procedures are required in therapeutic schemes, endoscopic maneuvers should be the initial option, reserving surgical procedures for persistent cases.

Prominent risk factors associated with chronic pancreatitis include alcohol and smoking, which are encountered in more than two-thirds of cases.[1,2] Therefore, a diagnosis of chronic pancreatitis is suspected when a chronic abdominal pain syndrome is found in patients with these risk factors.

It can be very difficult to manage and control pain for patients with chronic pancreatitis, with mixed results at best from several different pain medications.[1-3] Attempts at structural alleviation through endoscopic techniques include stone removal, duct dilation, and stenting. The surgical techniques to alleviate pain involve anastomotic bypass and relief of obstruction. Although surgery has been shown to have better results at pain control, generally, clinicians try endoscopic maneuvers first and reserve open surgical procedures for resistant cases. Considering this, Answer D is correct.

>> Pop Quiz: Monitoring Patients With Chronic Pancreatitis for Malignancies

Discussion. Unlike what is suggested in Answer A, which is incorrect, there is no specific "tissue diagnosis" for chronic pancreatitis, although fibro-inflammatory changes are present. Rather, the combination of clinical sequelae of the chronically damaged pancreas (e.g., pain, exocrine, and endocrine loss of function) and some rather specific imaging abnormalities are used to "confirm " the diagnosis and are considered definitive.[3]

Currently, the former plain film findings of punctate calcifications in the pancreas have been replaced by the far more specific and sensitive CT scans and MRI techniques. The findings from these images generally involve combinations of dilatation of pancreatic ducts, stone formation, calcifications, and strictures.[3] In very severe cases, collapse, involution and fibrosis of the pancreas will be seen.[3] A variety of comparison studies have demonstrated equivalency of CT, MRI, and the endoscopically invasive retrograde cholangiography (ERCP) for diagnosising chronic pancreatitis. However, there is a significant complication rate associated with ERCP, and so it is not used. [1-3] Therefore, Answer B is incorrect.

Managing pain is the crux of treating patients with chronic pancreatitis. The pain syndromes associated with chronic pancreatitis have been placed into a definition schema reminiscent of other pain syndromes: migraine, intermittent versus continuous pain, frequency of attacks, and the nature of medications required (e.g. especially whether a patient needs narcotics) are all considerations.[3] In brief, these patients represent a bona fide major pain syndrome, which is often best addressed by an experienced pain clinic to assist in management. The epidemiology of the two prominent risk factors, smoking and alcohol, are associated with addictive behaviors such that addiction is an ever-present risk when pain medication are used to treat pain. Given that most neuromodulators, non-narcotic analgesics, and narcotics do not have good records of efficacy,[1-3] Answer C is incorrect.

Along the diagnostic evaluation trail, the disabled functionality of the pancreas should be measured in the form of endocrine dysfunction as the islets are destroyed and glucose intolerance progressing to diabetes mellitus will be found. Of interest, is the early need for insulin in a middle-aged patient with diabetes, which is unusual for the typical type 2 diabetes seen in that age group, and a strong clue of underlying pancreatic dysfunction.[4] Finally, a similar destruction in exocrine function occurs wherein pancreatic digestive enzymes become deficient and nutrient malabsorption, especially of fat, occurs. Clinically, this presents as a somewhat specific form of diarrhea with the so-called "floating stools" accompanied by an unusual odor.[1-3] Laboratory testing to confirm this aspect of chronic pancreatitis involve measuring stool elastase (>50 ugm/gm stool) and fecal fat (< 7 gms/day).[3] Indeed, the patient in this case had signs of the initial onset of both endocrine and exocrine dysfunction with a fasting blood glucose above normal range and onset of diarrhea.

This brings us to the use of structural interventions where either endoscopic or actual surgical interventions are employed to try to correct the pathologic anatomical derangements now readily demonstrable via imaging. Such examples include stone removal, stenting of duct strictures, drainage of pseudocysts, surgical drainage of obstructed ducts with internal anastomoses, and in the most difficult cases, removal of diseased pancreatic tissue or even total pancreatectomy.[1-3] These cases are among the most difficult manage. There exist several excellent trials comparing endoscopic methods with surgical methods to address the diseased anatomy.[5] They all agree that: (1) Surgery provided significantly better pain relief; (2) complication rates and mortality seem equivalent and; (3) endoscopic techniques will require more interventions down the line.[5,6]

Since endoscopic maneuvers still allow for later surgery when unsuccessful, current standard of care is to try the former and get the desired results it may offer and proceed to surgery when satisfactory results are not obtained. An important point is that control of these exocrine and endocrine abnormalities has little if any correlation to the major morbidity of chronic pancreatitis: chronic, often severe abdominal pain.[3] Therefore, Answer E is incorrect.

Patient Follow-Up. The patient underwent a CT study for the suspected diagnosis of chronic pancreatitis. The study revealed a constellation of findings including calcifications, strictures, tortuosity and dilatation of the pancreatic ducts diagnostic of chronic pancreatitis. Interestingly and not unusual serum amylase and lipase were not elevated. Stool studies revealed fecal elastase of 50 ugm/gm and fecal fat og 6.8 gm/day. His overall clinical picture was felt to be Type A disease perhaps trending toward Type B. He will totally stop alcohol and enzyme supplements will be initiated. He also has enrolled in a smoking cessation program. If the pain and further episodes are infrequent management will be expectant whereas if there is deterioration structural intervention (initially in the form of ERCP) based on his imaging will be advise.

What's The Take Home? Chronic pancreatitis is a disease entity characterized by fibro-inflammatory changes in the pancreas that result in structural changes including ductal dilatation, strictures and stone formation, calcifications, and potentially, the eventual destruction of pancreatic

tissue. These abnormalities result in a severe chronic abdominal pain syndrome in most patients.

The structural destruction is accompanied by functional loss of endocrine and exocrine function with resultant insulin deficient form of diabetes mellitus and nutritional fat malabsorption pictures. The current method of diagnosis is imaging with CT being the most convenient at this time but MRI techniques being utilized more and more. Classical findings include the aforementioned calcifications, ductal dilatation stricture formation with obstruction and stone formation. Therapeutics involve trying to alleviate the pain. Strict cessation of alcohol and tobacco use is optimal.

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DISCLOSURES

The author reports no relevant financial relationships.

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