

Quick Diagnosis a Must in Gallstone Pancreatitis

Endoscopic ultrasound, the best diagnostic imaging modality for this indication, is not always available.

BY BETSY BATES
Los Angeles Bureau

LOS ANGELES — Timely diagnosis and treatment are essential in cases of gallstone pancreatitis, a tricky ailment that assumes a severe, necrotizing form in up to 25% of patients.

"This is a very serious disease, particularly in [those] patients who generally have a normal pancreas," Kenneth F. Binmoeller, M.D., said at the 12th International Symposium on Pancreatic and Biliary Endoscopy sponsored by the Cedars-Sinai Medical Center.



Physicians should suspect gallstones in every acute pancreatitis patient with risk factors for gallstone disease, advised Dr. Binmoeller, director of interventional endoscopy at California Pacific Medical Center in San Francisco.

Many drugs heighten the risk of gallstone formation, including clofibrate, octreotide, ceftriaxone, and estrogens. Furthermore, laparoscopic cholecystectomy can cause stones to be milked from the cystic duct or the neck of the gallbladder into the common bile duct.

"If a patient develops pancreatitis a few days after [laparoscopic gallbladder surgery], you definitely want to think about gallstone pancreatitis," he said.

Studies have shown that only one laboratory parameter—alanine aminotransferase greater than three times normal limits—has more than 95% sensitivity for diagnosing acute biliary pancreatitis. Bilirubin and alkaline phosphatase may rise because of extrinsic bile duct compression secondary to pancreatitis, so abnormal laboratory values are not diagnostic.

Because very small stones, especially at the ampulla of Vater, are most likely to cause biliary pancreatitis, the best diagnostic imaging modality for this indication is endoscopic ultrasound (EUS). "Here we get marvelous images of the bile duct," Dr. Binmoeller said, pointing out tiny stones that could be missed on transabdominal ultrasound, computed tomography, or magnetic resonance cholangiopancreatography (MRCP).

DR. BINMOELLER

Another advantage of EUS is its ability to image the ampulla both ultrasonographically and endoscopically. Studies have shown that MRCP has 100% sensitivity with stones larger than 1 cm, he noted. But it has a much lower sensitivity in detecting small stones: 89% for stones 5-10 mm, and 71% for those smaller than 5 mm. Artifacts can make MRCP images milky, obscuring visualization of small stones and sludge shown clearly on EUS.

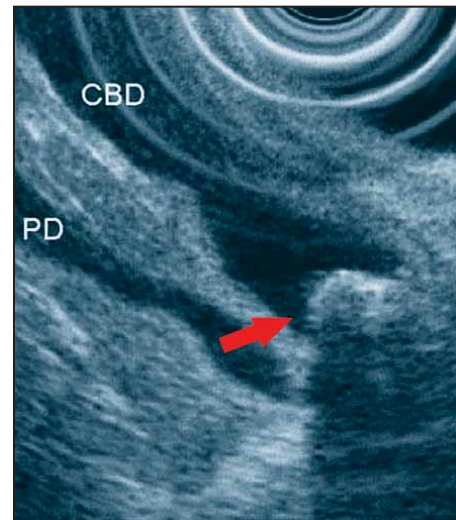


A small impacted stone has been freed from the ampulla after sphincterotomy.

Unfortunately, neither EUS nor MRCP is widely available on an urgent basis, so some stones may go undetected when a patient presents with possible gallbladder pancreatitis. Nor is the best management strategy always clear.

A series of trials in the United Kingdom, Hong Kong, and Germany reached conflicting conclusions about the benefits and risks of urgent endoscopic retrograde cholangiopancreatography (ERCP) with or without sphincterotomy. A multicenter study in Germany found no outcome benefit and higher mortality in patients who underwent early ERCP compared with those managed conservatively, a conclusion that was "a real jolt to the whole endoscopic community," Dr. Binmoeller said (N. Engl. J. Med. 1997;336:237-42).

Several methodologic problems plagued that study and the others, however, so the salient question remains: Is sphincterotomy more efficacious than conservative



Endoscopic ultrasound detects stones too small to see with other techniques.

management in patients with severe pancreatitis without jaundice?

Until a well-designed study answers that question, Dr. Binmoeller proposes the following management algorithm, which he uses in his practice:

► Patients presenting with acute pancreatitis associated with a bilirubin value of more than 3 mg/dL or cholangiosepsis should undergo urgent ERCP with sphincterotomy and sweeping of the bile duct, regardless of whether a stone is seen on cholangiography.

► In the absence of the above criteria, patients should undergo at least a duodenoscopy for visualization of the ampulla and, if possible, EUS. An ERCP and sphincterotomy should be performed if pus or a bulging, edematous papilla is seen on duodenoscopy or if EUS reveals an impacted stone. ■

Etiologies of Pancreatitis Are Becoming Easier to Pinpoint

BY BETSY BATES
Los Angeles Bureau

LOS ANGELES — The list of purely idiopathic causes of pancreatitis is shrinking, Stephen J. Pandol, M.D., said at the 12th International Symposium on Pancreatic and Biliary Endoscopy sponsored by the Cedars-Sinai Medical Center.

Alcohol use remains the most common etiology, but an enhanced understanding of genetic and autoimmune contributors has demystified the cause of pancreatitis in many patients whose alcohol intake does not appear to put them at risk for the disorder.

No blood markers exist to pinpoint the cause of pancreatitis, and histologic evaluation of the pancreas is difficult, Dr. Pandol noted. Imaging is helpful in diagnosing structural etiologies but is most often nonspecific in terms of identifying a cause.

Alcohol intake directly relates to the relative risk of pancreatitis, and may interact with other fac-

tors, such as a hereditary predisposition or virus, to cause pancreatitis. Risk is elevated slightly at 50 g/day, equivalent to four beers, three-quarters of a bottle of wine, or a fifth of a fifth of hard liquor. At three times that intake level, the relative risk of pancreatitis reaches 15.

But automatically attributing pancreatitis to alcohol intake can be a mistake, said Dr. Pandol, professor of medicine at the University of California, Los Angeles.

"You could have gallstones causing pancreatitis in someone who drinks a lot," he explained.

Certain drugs, cancer, toxins, and vascular abnormalities can trigger acute pancreatitis, and in some cases it can be iatrogenic, occurring after procedures to remove gallstones, for example.

Other potential etiologies that should not be overlooked include:

► **Gallstones.** Calculi are an obvious potential cause of pancre-

atitis, but they nonetheless are missed, sometimes with catastrophic results. Dr. Pandol said he is familiar with cases in which patients died of acute pancreatitis that was caused by unrecognized gallstones.

"You need good imaging studies to make sure you haven't

Automatically attributing pancreatitis to alcohol can be a mistake. 'You could have gallstones causing pancreatitis in someone who drinks a lot.'

missed this, because it's very treatable," he said.

► **Infectious etiologies.** Salmonella can contribute to pancreatitis through a toxic mechanism. Parasitic infections can obstruct the pancreatic duct. In some cases, viruses may be to blame for pancreatitis, although the mechanism remains unclear. In mice, certain strains of coxsackievirus are benign until mice are fed alcohol, after which they develop "severe, rip-roaring, and lethal

pancreatitis," Dr. Pandol said.

► **Trauma.** Even distant trauma should not be ruled out as a possible etiology for pancreatitis. Dr. Pandol recalled a case of a female patient who had been kicked in the abdomen during a sexual assault several years prior to presenting with pancreatitis. Imaging revealed a stricture in the pancreatic duct.

Steering wheel injuries from motor vehicle accidents can rupture the pancreatic duct, he added.

► **Autoimmune disease.** Dr. Pandol isn't certain whether autoimmune pancreatitis is increasingly common, or just better recognized than in the past. Typically, symptoms are subacute, and imaging studies reveal an irregular, narrowed duct.

IgG4 markers are transient but may be seen early in the disease. IgE and autoimmune markers may also be positive, the latter in severe cases. Histology may reveal periductal lymphocytic-plasmacytic inflammation and fibro-

sis, but features may closely resemble pancreatic cancer. A large amount of tissue may be required at biopsy for a firm diagnosis.

If a patient has preexisting autoimmune disease such as Sjögren's syndrome or systemic lupus erythematosus, autoimmune pancreatitis is a likely diagnosis.

"But if there's a mass, one still has to rule out the possibility of cancer," Dr. Pandol said.

Autoimmune dysfunction is one of the rare treatable causes of pancreatitis, since it is steroid responsive.

► **Hereditary causes.** Many trypsinogen mutations, mutations in the cystic fibrosis transmembrane regulator genes, and familial hypertriglyceridemia can cause pancreatitis.

Genetic testing—offered by companies such as Amby Genetics, Irvine, Calif.—can detect relevant abnormalities in trypsin and trypsin inhibitor genes and cystic fibrosis genes, although some families don't want to be tested because of insurance concerns, he noted. ■