

Cholecystectomy for idiopathic acute pancreatitis: Not yet there!

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Gall stones (GSs) and alcohol are the most common causes of acute pancreatitis (AP).^[1] Apart from these pancreato-biliary tumors, endoscopic retrograde cholangiopancreatography, hypertriglyceridemia, hypercalcemia, medication, and autoimmune diseases can also cause AP.^[2-5] Despite exhaustive diagnostic evaluation the cause of AP cannot be determined in about 10–30% of cases, and those are labeled as idiopathic AP.^[6,7] Identifying the etiology is crucial to prevent further episodes of AP. The diagnosis of GS related AP or acute biliary pancreatitis (ABP) is confirmed by the presence of GS along with abnormal liver function tests around the onset of an episode of AP, and/or by demonstrating lithiasis in the bile duct. It is well accepted that patients with ABP should have an early cholecystectomy, preferably in the same admission, to prevent future episodes of AP.

The current retrospective study by Lei and colleagues from China, studied the effect of cholecystectomy on the severity of subsequent attacks of pancreatitis using propensity score matching to correct baseline confounding factors.^[8] There were two main observations. First, cholecystectomy reduced the frequency of biliary pancreatitis (30% vs. 46%). Although a known fact, 30% recurrence of ABP after cholecystectomy is still high if the culprit GB has been removed, unless there are remnant biliary calculi or some other cause of ABP, for example, worms moving into the CBD.^[9] The second observation is even more striking—there was a lower risk of the severe forms of AP (both moderately severe and severe acute pancreatitis) in patients who had prior cholecystectomy compared to those having intact gallbladder (GB) among the idiopathic acute pancreatitis (IAP) group. This provoking observation indirectly suggests that cholecystectomy is associated with milder severity of acute pancreatitis, if it happens to occur. Can one extrapolate this information and suggest performing cholecystectomy in IAP to prevent future “severe” attacks?

A careful analysis of history and investigations of the presentation of acute pancreatitis helps to identify the etiology. Delving into the available literature, the

randomized multicenter trial by Raty, *et al.*^[10] reported that cholecystectomy can prevent the recurrence of IAP and also reduce the number of recurrences. It highlighted that a total of five patients are needed to be treated to prevent one IAP.^[10] The meta-analysis from Umans *et al.*^[11] of 524 patients including 10 studies, showed a decreased rate of recurrence after cholecystectomy to 11.1%, compared to 35.2% in the non-cholecystectomy group. da Costa *et al.*^[12] proved the efficacy of cholecystectomy in preventing the recurrence of biliary pancreatitis. All these studies suggest that there is a reduced rate of recurrence of AP after cholecystectomy not only in ABP, but also in a subset of patients labeled IAP. The initially missed diagnosis of inciting GB pathologies like sludge, microliths, or even small stones in the setting of ABP can erroneously be labeled as IAP. The incidence of microlithiasis and sludge in the presence of AP ranges from 28 to 80%.^[13] Even the pathological examination of resected GB reports a high rate of microliths.^[10,14] However, one must remember that GB sludge can occur after prolonged fasting in patients with AP, and hence it can be an “effect” and not the cause of AP.

A high-quality endoscopic ultrasound (EUS) of the common bile duct (CBD) after the negative transabdominal ultrasound and biochemical tests, can identify biliary causes of AP. The EUS has higher sensitivity for diagnosing microliths compared to contrast tomography and magnetic resonance cholangiopancreatography.^[6,7] Although EUS is recommended at a later stage in the diagnostic algorithm of idiopathic recurrent acute pancreatitis, it should be considered early in the course of suspected ABP.

Though not routinely performed, bile microscopy is reported to be abnormal in 75% of IAP patients. Patients with abnormal bile microscopy, treated either with cholecystectomy or more conservative endoscopic biliary sphincterotomy, have protection from recurrent attacks of pancreatitis.^[14]

To summarize, lack of firm evidence in the causal relationship between cholecystectomy and severity of recurrent attacks of AP, hence surgical removal of GB, cannot be recommended for IAP at this time. Obviously, more data is needed to be collected prospectively from across the globe and scrutinized, including carefully

planned randomized controlled studies after negative high-quality EUS examination.

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