Role of biochemical parameters in prediction of biliary etiology of acute pancreatitis

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Introduction: Occult biliary stones escape detection on conventional investigations and clinic-biochemical systems proposed for predicting biliary pancreatitis have low predictive values.

Objective: To evaluate the accuracy of biochemical parameters in predicting biliary etiology of acute pancreatitis.

Materials & Methods: This was a retrospective review of all patients diagnosed with acute pancreatitis from December 2012 to December 2013, which was conducted at the Aga Khan University Hospital. Liver function tests followed by abdominal ultrasound were performed in 155 patients presenting with acute pancreatitis within 24 hrs of admission. The etiologies of all patients were determined after complete evaluations and biochemical characteristics of patients with a biliary cause (biliary group) and non-biliary causes (non-biliary group) were compared.

Results: Biliary pancreatitis was diagnosed in 81 patients and 74 patients had non-biliary causes. The biliary group had a female predominance and significantly more derangement of liver function. On multivariate analysis, serum alkaline phosphatase >100 U/L (p=0.002) was an independent predictive factor for biliary cause of acute pancreatitis.

Conclusion: Clinic biochemical prediction for biliary cause of acute pancreatitis improves in the era of endoscopic ultrasonography. In centers where endoscopic ultrasonography is inaccessible or local expertise is unavailable, biochemical parameters may provide a useful alternative in excluding non-biliary etiology of acute pancreatitis, hence excluding the need for unnecessary abdominal ultrasound.

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