

Relationship between Anomalous Pancreaticobiliary Ductal Union and Pathology of Bile Duct

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Lecture : Anomalous pancreaticobiliary ductal union (anomalous union of pancreaticobiliary duct: AUPBD) is a condition in which the junction of pancreatic duct and bile duct locates outside the duodenal wall and the sphincter of Oddi, resulting in a long common duct channel usually more than 1.5 cm in length. It may develop due to the incomplete migration of ducts into the duodenum during embryogenesis.

In this anatomical variation prevalent in Asian populations, reciprocal reflux between pancreatic and bile duct can occur. Usually, the pressure of pancreatic duct is higher than that of bile duct, so pancreatic juice frequently enters the bile duct. Mixing pancreatic juice and bile juice in the biliary tract results in the increased amylase levels in bile, intraductal activation of pancreatic enzymes and biliary epithelial damages that can further progress into the ductal dilatation, cyst formation and dysplasia-carcinoma transformation.

According to one Japanese study of 91 patients with AUPBD, biliary tract cancers were found in 48 (53%) patients: the study population consists of 42 patients with biliary dilatation and 49 without biliary dilatation. In cases with biliary dilatation, bile duct and gallbladder cancer were seen in 7 (17%) and in 8 (19%) respectively. Contrary to this, only gallbladder cancers were detected in 33 (67%) patients without dilatation. The molecular pathogenesis of gallbladder cancer associated with AUPBD seems to be different from those with gallstone disease. Cancers related to AUPBD occur at a younger age, have less female preference and are characterized by common KRAS mutations and late p53 mutations.

Continuous pancreatic juice reflux into bile duct in AUPBD is a premalignant condition of biliary tract cancer. So, a patient with AUPBD should be managed properly to prevent dismal event.