

Biliary Cysts in Liver: Pathology of Cystic Lesion in Liver

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Pathologic approach of cystic lesion in liver is simplified as two, based on the mechanism; the first one is exuberant dilatation of tissue component, and the second one is result of degeneration or necrosis in solid lesion. Most of the first one is the dilatation of bile duct structure or peribiliary glands, which can be made from congenital anomaly, neoplastic process, and simple inclusion of adjacent membranous tissue. Lining epithelial component is generally identified in the cystic wall of this type and depending on the proliferation and infiltrating growth pattern of the epithelial components or present of unique stromal component, neoplastic cyst and non-neoplastic cyst can be divided. The representative group of non-neoplastic cystic lesion in liver is the spectrum of ductal plate malformation (hepatic fibrocystic disease) encompassing solitary bile duct cyst and Von-Meyenburg complexes. Nomenclature and definition of neoplastic cystic lesion in liver was unified as the scheme of pancreatic cystic lesion, supposing the similarity of the histogenesis of pancreas and biliary system. Intraductal papillary neoplasm (IPN) and mucinous cystic neoplasm (MCN) are the main two disease entities. Definition of IPN in liver is the same of pancreatic intraductal papillary mucinous neoplasm (IPMN) but IPN in liver was reported to have different clinicopathologic characteristic of pancreatic IPMN. For example, mucin production is less prominent in liver than pancreas and the portion of intestinal type is higher than pancreatic IPMN. Diagnosis of MCN in liver also require the presence of ovarian stroma as pancreatic MCN in addition to no communication between cyst and ductal system. Intrahepatic cholangiocarcinoma with prominent cystic component or mucinous component can be difficult to be differentiated with IPN. Cysts resulting from degeneration or necrosis include sequelae of necrotizing infection, parasite infection, non-neoplastic cyst with secondary complication and highly aggressive malignant tumor. Necrosis in malignant can be induced by hypoxic state in the center of tumor, rapid turnover of tumor cells.

In summary, the diagnostic approach and interpretation of pathogenesis of biliary cyst is similar with pancreatic cystic lesion, especially in the neoplastic cyst, but clinicopathologic characteristic is different between pancreas and liver, implying underlying different etiology or risk factors.