



JSMRM

SY07-2

## IPNB and CC: Change of Pathologic Concept and Controversies

Kyoungbun Lee

Department of Pathology, Seoul National University Hospital, Korea

Intraductal papillary neoplasm of bile duct (IPNB) has been reported as the entity similar to intraductal papillary mucinous neoplasm (IPMN) of pancreas. However from a long time ago papillary denocarcinoma, papillary carcinoma, tubulopapillary adenoma, papillomatosis, or intraductal growing cholangiocarcinoma have been used to describe histologically similar lesions at different biliary tracts, eg gallbladder, intrahepatic bile duct, and extrahepatic bile duct. IPNB is unified term based on the histologic similarity and biologic feature, but they are still used interchangeable when the previous disease entities better reflect the histology. Definition of IPNB is same with that of pancreas, but frequency of cell type, pattern of tubular and papillary, mucin production are not same with pancreas and different among intrahepatic bile duct, extrahepatic bile duct and gallbladder. New issue in IPNB is subtype classification based on similarity to their counterparts of pancreas. Type 1 is similar with IPMN of pancreas, more common in intrahepatic bile duct and less aggressive. Type 2 is more common in extrahepatic bile duct and more aggressive than type 1.

Intrahepatic cholangiocarcinoma can be subdivide into several group having different clinical feature, genotype and biological behaviors. It is due to the difference of cell of origin, "cholangiocyte", which is embryogenetically heterogeneous cell group and has different types of injury and biologic response for injuries. Small bile duct type has mass-forming gross type, composed of small-size tubular or acinar histologic feature with no prominent mucin production and central sclerosis. Chronic liver disease, such as viral hepatitis, alcohol, or steatohepatitis, is reported as one of the risk factor and IHD1 mutation, altered BAP1, expression of NCAM and N-cadherin are major molecular alteration. Vascular invasion is frequent. Large bile duct type has mass-forming around large bile duct or periductal infiltrative gross and mucin producing adenocarcinoma is major histology accompanying with biliary intraepithelial neoplasia in large bile ducts or peribiliary glands. K-ras mutation, SMAD4 loss, expression of S100P or MMP7 are major molecular alteration. Perineural invasion is frequent than vascular spread. Large duct type intrahepatic cholangiocarcinoma is similar with perihilar or distal bile duct cancer. Bile ductular type is also called as cholangiolocellular carcinoma and having hepatic progenitor cell feature and was classified as subgroup of combined hepatocellular and cholangiocarcinoma.

*Keywords: Intraductal papillary neoplasm of bile duct, cholangiocarcinoma, intrahepatic bile duct, extrahepatic bile duct, hilar duct*