

## **Histological features of cholangiolocellular carcinoma: Possibility of interlobular duct carcinoma**

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This lecture is given based on the formerly published article: Maeno M, Kondo F, Sano K, et al. Morphometric and immunohistochemical study of cholangiolocellular carcinoma: comparison with non-neoplastic cholangiole, interlobular duct and septal duct. J Hepatobiliary Pancreat Sci.19:289-296, 2012

### **Background/purpose**

The origin of cholangiolocellular carcinoma (CoCC) is still controversial.

To solve this problem, morphometric and immunohistochemical features of CoCC were examined.

### **Materials and methods**

#### *Cancerous ducts:*

Fifteen CoCC lesions from 13 resected and two autopsied cases.

#### *Non-neoplastic ducts:*

Twenty specimens of non-cancerous areas of eight resected CoCC cases and of 12 resected hepatocellular carcinoma (HCC) cases.

From these specimens, cholangioles, interlobular ducts of small size (ILD-S), interlobular ducts of medium size (ILD-M) and septal ducts were randomly selected.

#### *Morphometry:*

The outer and inner diameters of these ducts were measured.

#### *Immunohistochemistry:*

Two hepatocyte markers [Hep Par 1 and a-fetoprotein (AFP)], two cholangiocyte markers (cytokeratin CK7, CK19), a marker for mucin (Muc1), a hepatic stem/progenitor cell marker (c-Kit) and epithelial membrane antigen (EMA) were used.

### **Results**

#### *Morphometry:*

Both mean values of the outer and inner diameters of CoCC were far larger than those of cholangioles, and showed intermediate values between those of ILD-S and ILD-M.

#### *Immunohistochemistry:*

All ducts of CoCCs were negative for the two hepatocyte markers and positive for CK 7.

Most CoCC ducts were positive for CK 19.

Positive rate of c-Kit of cholangiole was most remote from that of CoCC.

The positive rates of EMA in the membranous area of ducts were similarly very high in CoCC, cholangiole and ILD-S.

**Conclusion** These results suggest that CoCCs may originate from ILDs.