Poster Presentation

Similar expression of cytokeratin (CK7+/CK20+), Her-2, P53 and CA 125 in intrahepatic and extrahepatic cholangiocarcinoma: an immunohistochemical study

Chamgramol Y[1], Waraasawapati S[1], Titipungul T[2], Pairojkul C[1]

[1]Department of Pathology, Faculty of Medicine, Khon Kaen University, Khon Kaen, Thailand

[2]Department of Pathology, Mahasarkham Hospital, Mahasarkham, Thailand

Objective: To evaluate cytokeratin CK7+/CK20+ and common oncogene, tumor suppressor gene and tumor marker in intrahepatic and extrahepatic cholangiocarcinoma.

In 2009, the American Joint Committee on Cancer regrouped extrahepatic cholangiocarcinoma (EH-CCA) by placing hilar cholangiocarcinoma under the group of proximal extrahepatic cholangiocarcinoma and referring to it with the new name, perihilar cholangiocarcinoma and redefining intrahepatic cholangiocarcinoma (IH-CCA) as intrahepatic tumors arising proximal to the right and left hepatic ducts. The new classification affects the epidemiology, tumor staging, prognosis and risk factor assessment of this carcinoma. Therefore, our study seeks to compare the immunoprofile of IH-CCA and EH-CCA based on this new classification.

Methods: We evaluated the combined immunohistochemical expression of CK7 and CK20; Her-2; P53 and CA 125 on paraffin-embedded TMA material of 70 resection specimens for primary liver cancers (hepatocellular carcinoma, HCC and IH-CCA) and EH-CCA, which comprised: 18 IH-CCA; 13 HCC and 39 EH-CCA specimens. The immunohistochemical staining was considered positive if 10% or more of the tumor cells were stained. Statistical analysis was performed by applying the chi-square test.

Results: Apart from the obvious difference of IH-CCA and HCC in CK7+ phenotype, the prevalence of P53 expression was significantly higher in IH-CCA (66.7%) to HCC (23%), p=0.029. There were no significant differences between IH-CCA and EH-CCA: the CK7+/CK20+ phenotypes were 22% and 20.5%; P53 expression were 66.7% and 41%; HER-2 expression 22.2% and 51.3% and positive tumor marker CA 125 were 16.7% and 20.5%, respectively.

Conclusion: Cholangiocarcinoma expressions of the studied immunoprofiles were similar and independent of their localization. This implied that the majority of IH-CCA specimens arose from the intrahepatic large bile ducts, which is histologically analogous to the extrahepatic bile ducts.