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Pathology of liver tumors

GERMAN OSORIO SANDOVAL¹

Liver tumors can be classified according to the origin cell in epithelial and non-epithelial. The epithelial tumors source of the duct or the hepatic cell. It is malignant and benign. The principal epithelial tumors malignant are hepatocellular carcinoma, hepatoblastoma and cholangiocarcinoma. The hepatoblastoma is the most common malignant epithelial tumor of the liver, in the first two years of life. Malignant Primary tumors of the liver are relatively rare especially in patients without underlying liver disease.

The most frequent benign epithelial tumors are focal nodular hyperplasia, liver cell adenoma and bile duct adenoma. The adenoma is the most important benign tumor of the liver; and its association with synthetic oral contraceptive and anabolic steroids is well established. Focal nodular hyperplasia occurs in all ages and sexes. It is usually solitary, around 5 cms in size and forms a well-circumscribed fibrous globular mass. A central stellate scar is frequently seen in the imaging studies.

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¹ Associate Professor, Facultad de Medicina, Grupo de Gastrohepatología, Universidad de Antioquia

Hepatocellular carcinoma (HCC) is the most common primary hepatic malignancy of adults. The association of HCC with chronic liver disease have been the subject of study in many fields. The majority of hepatocellular carcinomas (75%-90%) arise in a background of cirrhosis. In an AFIP study of North American patient the prevalence of cirrhosis was 57%. A gross classification has been proposed by Nahshima and Kojiro: a. infiltrative type b. expansive type c. mixto, infiltrative and expansive. D. diffuse. The histology classification is based on the cell pattern of organization. A trabecular, pseudoglandular, solid are most frequent. In the liver transplantation indicated by HCC pathological prognostic factors include: vascular invasion, tumor size, microsatellitosis and cell proliferation index among others

Cholangiocarcinoma (CC) is defined, as an adenocarcinoma arising from bile duct epithelium. It is intrahepatic or peripheral according to the clinical presentation. CC may be massive, nodular or diffuse, rarely cystic. It grows more often in the right lobe, but this tumor may arise in any functional segment, and can spread widely within the liver. CC can display a glandular pattern, similar to carcinoma of extrahepatic origin. Most of the tumors are well differentiated, and are composed of columnar or cubical epithelial cells, immersed in a prominent desmoplastic stroma.

The cholangiocarcinoma (CC) is defined as an adenocarcinoma arising from bile duct epithelium. It is intrahepatic or peripheral according to the clinical presentation. Cholangiocarcinoma may be massive, nodular or diffuse, rarely cystic. It grows more often in the right lobe, but the tumors may arise in any lobe and can spread widely within the liver. Cholangiocarcinoma display glandular pattern, similar to carcinoma of extrahepatic origin. Most of the tumors are well differentiated and composed of columnar or cubical epithelial cells. It is immersed in desmoplastic stroma. The mucin production is often demonstrable with special colorations.

Combined hepatocellular carcinoma and cholangiocarcinoma has been found in a background of cirrhosis. It displays unequivocal elements of both hepatocellular and cholangiocarcinoma.

In the precancerous lesions, the cirrhotic state is considered to be the one with more weight. Though, the risk of malignancy development varies with the cirrhotic etiology. It is

high in chronic HBV and HCV infection, and low in alcoholic disease or NASH. Though the risk of the malignancy varies with the etiology. It is high in chronic HBV and HCV infection and low in alcoholic disease or NASH. The dysplastic nodule, adenomatous hyperplasia and macroregenerative nodule has been associated with hepatocellular carcinoma.

The immunochemistry can be of utility for the differential diagnosis with metastatic carcinomas. The immunohistochemistry can be of utility in the differential diagnosis with metastatic carcinomas. Liver proteins like albumin, fibrinogen, alpha 1 antitrypsin, alpha fetoprotein, and CK 8,18,20 can be used for the demonstration of primary origin. The task has been greatly facilitated by the introduction of Hep-par1 antibody. This binds to an antigen in the liver cells and tumors arising from them.

Fibrolamellar carcinoma (FLC) is a variant of hepatocellular carcinoma characterized by fibrous lamellae and polygonal tumor cells that have eosinophilic, coarsely granular cytoplasm. The tumor has distinctive clinical aspects. It appears in young patients in the absence of preexisting liver disease, has a better resectability rate than the usual type of HCC and a better survival with surgical resection or transplantation.

No epithelial tumors arise mainly in the mesenchymal tissue. The mesenchymal hamartoma, infantile hemangioendothelioma and cavernous hemangioma are the more frequent lesions between the benign ones.

Mesenchymal hamartoma is a benign lesion in children. It appears like a great serous fluid cyst, surrounded by loose stroma containing small bile ducts. Accounts for 7.9% of all liver tumors and pseudotumors. The infantile hemangioendothelioma is a benign vascular tumor which occurs almost exclusively in the first years of life. Cavernous hemangioma can be single or multiple, composed by communicating vascular spaces of varied size, lined by a single layer of flat endothelial cells. It is the most common benign hepatic tumor. The incidence is around 5% and the majority of patients are asymptomatic.

Primary malignant mesenchymal tumors are much rarer than epithelial neoplasms; they account approximately 2% of the liver malignant tumors. Angiosarcoma, epithelioid hemangioendothelioma and embryonal sarcoma are the most important in this category.