Histological tumour type (Required)

Reason/Evidentiary Support

Hepatocellular carcinoma

With the exception of the fibrolamellar variant of HCC, which is regarded in the current World Health Organisation (WHO) classification as a distinct tumour from HCC, the architectural and cytological variants of HCC (such as trabecular, compact, pseudoacinar, scirrhous, sarcomatoid, clear cell, steatohepatitic etc) are all classified as HCC.

Early HCC is a low grade and early stage HCC measuring ≤2cm diameter and with a vaguely nodular appearance that merges imperceptibly into the adjacent parenchyma.[1] It has a different blood supply and imaging profile compared with conventional (progressed) HCC, and can co-exist with progressed HCC giving a nodule-in-nodule appearance. It is not separately classified from HCC in the current WHO schema.

Fibrolamellar HCC has a better prognosis when compared to conventional HCC as a whole, but the outcome is similar when compared to conventional HCC arising in non-cirrhotic liver.[2,3]

Cholangiocarcinoma

Cholangiocarcinoma is further classified by site into intrahepatic, perihilar and distal types.[4] Intrahepatic cholangiocarcinoma is defined as being located upstream of the second degree bile ducts. Perihilar cholangiocarcinoma is localised to the area between second degree bile ducts and the insertion of the cystic duct into the common bile duct.

Combined hepatocellular – cholangiocarcinoma is defined as containing unequivocal, intimately mixed elements of both hepatocellular carcinoma and cholangiocarcinoma.[5] The classical type shows areas of typical HCC and cholangiocarcinoma, which can be confirmed with histochemical (mucin) and immunohistochemical stains.[6] Some tumours exhibit putative stem cell or progenitor cell features, but these remain incompletely understood.

Intraductal papillary neoplasm (IPN) with an invasive component should specify the type of invasive carcinoma. IPN with pancreatobiliary differentiation of the lining epithelium usually give rise to tubular adenocarcinoma, whilst those with intestinal-type lining may be associated with a mucinous (colloid) type of invasive carcinoma, which has a better prognosis.[7]

Intrahepatic CC typically has a microacinar glandular pattern with central sclerosis, and distinction from metastatic adenocarcinoma particularly from stomach or pancreas is based on the single or dominant intrahepatic mass and absence of a known extra-hepatic primary tumour. Most intrahepatic CCs are pure adenocarcinomas. Rare variants listed in the WHO classification include adenosquamous, squamous, mucinous, signet ring, clear cell, mucoepidermoid, lymphoepithelioma-like (Epstein-Barr Virus (EBV) associated) and sarcomatous intrahepatic CCs.

There are other liver tumours such as hepatoblastoma, neuroendocrine tumours, rhabdoid tumour, carcinosarcoma etc, which have an epithelial component, however, it is not envisaged that this dataset would be used for such resections.

WHO classification of tumours of the liver and intrahepatic bile ducts[a]

Descriptor	ICD-O codes
Epithelial tumours: hepatocellular	
Malignant	
Hepatocellular carcinoma	8170/3
Hepatocellular carcinoma, fibrolamellar variant	8171/3
Undifferentiated carcinoma	8020/3
Epithelial tumours: biliary	
Malignant	
Intrahepatic cholangiocarcinoma	8160/3
Intraductal papillary neoplasm with an associated invasive carcinoma	8503/3*
Mucinous cystic neoplasm with an associated invasive carcinoma	8470/3
Malignancies of mixed or uncertain origin	
Combined hepatocellular-cholangiocarcinoma	8180/3

a The morphology codes are from the International Classification of Diseases for Oncology (ICD-O) and the Systematized Nomenclature of Medicine (SNOMED). Behaviour is coded /0 for benign tumours; /1 for unspecified, borderline, or uncertain behaviour; /2 for carcinoma in situ and grade III intraepithelial neoplasia; and /3 for malignant tumours.
* These new codes were approved by the IARC/WHO Committee for ICD-O at its meeting in March 2010.

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