Intrahepatic Cholangiocarcinoma, Perihilar Cholangiocarcinoma and Hepatocellular Carcinoma Histopathology Reporting Guide

Family/Last name

Given name(s)

Date of birth DD – MM – YYYY

Patient identifiers

Date of request DD – MM – YYYY

Accession/Laboratory number

Elements in **black text** are CORE. Elements in **grey text** are NON-CORE.

☐ indicates multi-select values ◯ indicates single select values

SCOPE OF THIS DATASET

SPECIMEN(S) SUBMITTED (select all that apply)

- ◯ Not specified
- ◯ Indeterminate
- ☐ Liver
  - ☐ Total hepatectomy
  - ☐ Segmental resection, *specify segment(s) or type of segmentectomy*
  - ☐ Wedge resection, *specify site/segment*
- ☐ Extrahepatic bile duct
- ☐ Gallbladder
- ☐ Diaphragm
- ☐ Lymph nodes, *specify site(s), distinguishing between portal and extra-portal nodes*
- ☐ Other, *specify*

SPECIMEN DIMENSIONS

(Indicate greatest measurement for each parameter in an irregularly shaped specimen)

mm x mm x mm

Length of extrahepatic bile duct *(Applicable to perihilar cholangiocarcinoma only)* mm

SPECIMEN WEIGHT

g

SATELLITOSIS

(Applicable to hepatocellular carcinoma only)

◯ Cannot be assessed ◯ Not identified ◯ Present

MACROSCOPIC TUMOUR RUPTURE

(Applicable to hepatocellular carcinoma and perihilar cholangiocarcinoma only)

◯ Fragmented specimen ◯ Ruptured ◯ Intact

TUMOUR SITE AND NUMBER

◯ No macroscopic residual tumour

Tumour ID	Specify	No./site, *if possible*

MAXIMUM TUMOUR DIMENSION

◯ Cannot be assessed

Tumour ID	Maximum dimension
	mm
	mm
	mm
	mm
	mm

For a large number of tumours include a range mm to mm

Linear extent of tumour along the bile duct *(Applicable to perihilar cholangiocarcinoma only, where possible)* mm

HISTOLOGICAL TUMOUR TYPE

(Value list from the World Health Organization Classification of Tumours of the Digestive System (2019))

- ◯ Hepatocellular carcinoma
- ◯ Intrahepatic cholangiocarcinoma
  - ◯ Large duct ◯ Small duct ◯ Other
- ◯ Perihilar cholangiocarcinoma
- ◯ Combined hepatocellular – cholangiocarcinoma
- ◯ Intraductal papillary neoplasm with an associated invasive carcinoma
- ◯ Mucinous cystic neoplasm with an associated invasive carcinoma
- ◯ Undifferentiated carcinoma
- ◯ Carcinoma, type cannot be determined

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HEPATOCELLULAR CARCINOMA SUBTYPE

- ◯ Steatohepatitic
- ◯ Clear cell
- ◯ Macrotrabecular massive
- ◯ Scirrhous
- ◯ No special type
- ◯ Chromophobe
- ◯ Fibrolamellar
- ◯ Neutrophil-rich
- ◯ Lymphocyte-rich

TUMOUR GROWTH PATTERN

Hepatocellular carcinoma

- ◯ Cannot be determined
- ◯ Early hepatocellular carcinoma
- ◯ Single distinct nodule
- ◯ Large dominant nodule with multiple small satellite nodules
- ◯ Cirrhotomimetic
- ◯ Multiple distinct nodules

Intrahepatic and perihilar cholangiocarcinoma

- ◯ Cannot be determined
- ◯ Mass-forming
- ◯ Intraductal-growth
- ◯ Periductal infiltrating
- ◯ Mixed mass-forming and periductal infiltrating

HISTOLOGICAL TUMOUR GRADE

- ◯ Not applicable
- ◯ Cannot be assessed
- ◯ Grade 1: Well differentiated
- ◯ Grade 2: Moderately differentiated
- ◯ Grade 3: Poorly differentiated

EXTENT OF INVASION

- ◯ Cannot be assessed
- ◯ No evidence of primary tumour
- ◯ Macroscopic invasion
  - ◯ Tumour confined to liver
  - ◯ Tumour confined to the extrahepatic bile ducts (carcinoma in situ/high grade dysplasia) *(Applicable to perihilar cholangiocarcinoma only)*
  - ◯ Tumour involves visceral peritoneum
  - ◯ Tumour directly invades gallbladder
  - ◯ Invasion of periductal tissue - either adipose or hepatic tissue *(Applicable to perihilar cholangiocarcinoma only)*
  - ◯ Tumour directly invades other adjacent organs, *specify*
- ◯ Microscopic invasion
  - ◯ Tumour confined to liver
  - ◯ Tumour confined to the bile duct mucosa histologically (carcinoma in situ/high grade dysplasia) *(Applicable to perihilar cholangiocarcinoma only)*
  - ◯ Tumour involves visceral peritoneum
  - ◯ Tumour directly invades gallbladder
  - ◯ Invasion of periductal tissue - either adipose or hepatic tissue *(Applicable to perihilar cholangiocarcinoma only)*
  - ◯ Tumour directly invades other adjacent organs, *specify*

PERINEURAL INVASION

(Applicable to intrahepatic and perihilar cholangiocarcinoma)

◯ Not identified ◯ Indeterminate ◯ Present

VASCULAR INVASION

- ◯ Not identified
- ◯ Indeterminate
- ◯ Present macroscopically (large portal or hepatic veins)
- ◯ Present microscopically (small portal or hepatic veins or microvessels)

COEXISTENT PATHOLOGY

Other histopathological features (select all that apply)

- ◯ None identified
- ☐ Steatosis
- ☐ Steatohepatitis
- ☐ Iron overload
- ☐ Biliary disease, *specify if known*
- ☐ Chronic hepatitis, *specify type if known*
- ☐ Other, *specify*

Fibrosis

◯ Not identified ◯ Indeterminate ◯ Present

ISHAK stage	/6
OR	
KLEINER stage	/4
OR	
METAVIR stage	/4
OR	
BATTS-LUDWIG stage	/4
OR	
SAF system	/4

Dysplastic/pre-malignant lesions

- ◯ None identified

BILIARY INTRA-EPITHELIAL NEOPLASIA (BilIN)

◯ Absent ◯ Present
- ◯ High grade BilIN
- ◯ Low grade BilIN

INTRADUCTAL PAPILLARY NEOPLASM OF THE BILE DUCTS (IPNB)

◯ Absent ◯ Present
- ◯ High grade IPNB
- ◯ Low grade IPNB

LOW GRADE HEPATOCELLULAR DYSPLASTIC NODULE

◯ Absent ◯ Present

HIGH GRADE HEPATOCELLULAR DYSPLASTIC NODULE

◯ Absent ◯ Present

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RESPONSE TO NEOADJUVANT THERAPY

- ◯ No neoadjuvant treatment
- ◯ Complete response – no viable cancer cells
- ◯ Partial response – residual cancer with some tumour regression
  - Percentage necrosis ____ %
- ◯ No response – extensive residual cancer with no evident tumour regression
- ◯ Cannot be assessed, *specify*

MARGIN STATUS

- ◯ Cannot be assessed
- ◯ Not involved by invasive carcinoma
  - Distance of tumour to closest margin ____ mm
  - OR
  - ◯ Clearance is ≥10 mm
- ◯ Involved by invasive carcinoma
  - Specify margin(s), if possible
- ◯ Involved by BilIN *(Applicable to cholangiocarcinoma only)*
  - Specify margin(s), if possible

LYMPH NODE STATUS

- ◯ Cannot be assessed
- ◯ No nodes submitted or found
- Number of lymph nodes examined
- ◯ Not involved
- ◯ Involved
  - Number of involved lymph nodes
  - ◯ Number cannot be determined

ANCILLARY STUDIES

- ◯ Not performed
- ◯ Performed, *specify*

PATHOLOGICAL STAGING (UICC TNM 8th edition)[a]

Primary tumour (pT)

INTRAHEPATIC CHOLANGIOCARCINOMA[b]
(Intrahepatic bile ducts)

- ◯ TX Primary tumour cannot be assessed
- ◯ T0 No evidence of primary tumour
- ◯ Tis Carcinoma in situ (intraductal tumour)
  - ◯ T1a Solitary tumour 5 cm or less in greatest dimension without vascular invasion
  - ◯ T1b Solitary tumour more than 5 cm in greatest dimension without vascular invasion
- ◯ T2 Solitary tumour with intrahepatic vascular invasion or multiple tumours, with or without vascular invasion
- ◯ T3 Tumour perforating the visceral peritoneum
- ◯ T4 Tumour involving local extrahepatic strcutures by direct hepatic invasion

HEPATOCELLULAR CARCINOMA
(Liver excluding intrahepatic and perihilar bile ducts)

- ◯ TX Primary tumour cannot be assessed
- ◯ T0 No evidence of primary tumour
  - ◯ T1a Solitary tumour 2 cm or less in greatest dimension with or without vascular invasion
  - ◯ T1b Solitary tumour more than 2 cm in greatest dimension without vascular invasion
- ◯ T2 Solitary tumour more than 2 cm dimension with vascular invasion or multiple tumours none more than 5 cm in greatest dimension
- ◯ T3 Multiple tumours any more then 5 cm in greatest dimension
- ◯ T4 Tumour(s) involving a major branch of the portal or hepatic vein or with direct invasion of adjacent organs (including the diaphragm), other than the gallbladder or with perforation of visceral peritoneum

PERIHILAR CHOLANGIOCARCINOMA
(Perihilar bile ducts)

- ◯ TX Primary tumour cannot be assessed
- ◯ T0 No evidence of primary tumour
- ◯ Tis Carcinoma in situ
- ◯ T1 Tumour confined to the bile duct, with extension up to the muscle layer or fibrous tissue
  - ◯ T2a Tumour invades beyond the wall of the bile duct to surrounding adipose tissue
  - ◯ T2b Tumour invades adjacent hepatic parenchyma
- ◯ T3 Tumour invades unilateral branches of the portal vein or hepatic artery
- ◯ T4 Tumour invades main portal vein or its branches bilaterally; or the common hepatic artery; or unilateral second-order biliary radicals with contralateral portal vein or hepatic artery involvement

Regional lymph nodes (pN)

- ◯ No nodes submitted or found

HEPATOCELLULAR CARCINOMA & INTRAHEPATIC CHOLANGIOCARCINOMA
(Liver including intrahepatic bile ducts and excluding perhilar bile ducts)

- ◯ NX Regional lymph nodes cannot be assessed
- ◯ N0 No regional lymph node metastasis
- ◯ N1 Regional lymph node metastasis

PERIHILAR CHOLANGIOCARCINOMA
(Perihilar bile ducts)

- ◯ NX Regional lymph nodes cannot be assessed
- ◯ N0 No regional lymph node metastasis
- ◯ N1 Metastases to 1-3 regional lymph nodes
- ◯ N2 Metastases to 4 or more regional lymph nodes

Distant metastasis (pM)

- ◯ Not applicable
- ◯ M1 Distant metastasis

TNM Descriptors (only if applicable) (select all that apply)

- ☐ m - multiple primary tumours
- ☐ r - recurrent
- ☐ y - post-therapy

[a] *Reproduced with permission. Source: UICC TNM Classification of Malignant Tumours, 8th Edition, eds by James D. Brierley, Mary K. Gospodarowicz, Christian Wittekind. 2016, Publisher Wiley-Blackwell.*

[b] *Combined Hepatocellular-Cholangiocarcinomas are staged as per Intrahepatic Cholangiocarcinoma.*

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