

Appendix A TNM classification¹

This appendix lists the TNM classifications for HCC, intrahepatic CC, perihilar CC and gallbladder carcinoma. There should be histological confirmation of the disease and separation of cases by histological type.

The pT, pN and pM categories correspond to the T, N and M categories.

Primary tumour (pT)

Hepatocellular carcinoma

- pT0 No evidence of primary tumour
- pT1 pT1a Solitary tumour 20 mm or less in greatest dimension with or without vascular invasion
pT1b Solitary tumour more than 20 mm in greatest dimension without vascular invasion
- pT2 Solitary tumour with vascular invasion more than 20 mm dimension or multiple tumours, none more than 50 mm in greatest dimension
- pT3 Multiple tumours any more than 50 mm in greatest dimension
- pT4 Single or multiple tumour(s) of any size involving a major branch of the portal or hepatic vein or tumour(s) with direct invasion of adjacent organs (including the diaphragm), other than the gallbladder or with perforation of visceral peritoneum

Intrahepatic cholangiocarcinoma (ICC), combined HCC/ICC, cholangiolocellular carcinoma and NEN

- pT0 No evidence of primary tumour
- pTis Carcinoma in situ (intraductal tumour)
- pT1 pT1a Solitary tumour 50 mm or less in greatest dimension without vascular invasion
pT1b Solitary tumour more than 50 mm in greatest dimension without vascular invasion
- pT2 Solitary tumour with intrahepatic vascular invasion or multiple tumours, with or without vascular invasion

- pT3 Tumour perforating the visceral peritoneum
- pT4 Tumour or involving the local extra hepatic structures by direct invasion

Perihilar cholangiocarcinoma

- pT0 No evidence of primary tumour
- pTis Carcinoma in situ, high grade BillIN
- pT1 Tumour confined to the bile duct, with extension up to the muscle layer or fibrous tissue
- pT2 pT2a Tumour invades beyond the wall of the bile duct to surrounding adipose tissue
pT2b Tumour invades adjacent hepatic parenchyma
- pT3 Tumour invades unilateral branches of the portal vein or hepatic artery
- PT4 Tumour invades the main portal vein or its branches bilaterally or the common hepatic artery or unilateral second-order biliary radicals with contralateral portal vein or hepatic

Gallbladder carcinoma

- pT0 No evidence of primary tumour
- pTis Carcinoma in situ, high grade BillIN
- pT1 pT1a Tumour invades lamina propria
pT1b Tumour invades muscular layer
- pT2 pT2a Tumour invades perimuscular connective tissue on the peritoneal side with no extension to the serosa
pT2b Tumour invades perimuscular connective tissue on the hepatic side with no extension into the liver
- pT3 Tumour perforates the serosa (visceral peritoneum) and/or directly invades the liver and/or one other adjacent organ or structure, such as the stomach, duodenum, colon, pancreas, omentum or extra-hepatic bile ducts
- pT4 Tumour invades main portal vein or hepatic artery or invades two or more extrahepatic organs or structures.

Regional lymph nodes (pN)

Hepatocellular carcinoma/intrahepatic cholangiocarcinoma

pNx Regional lymph nodes cannot be assessed

pN0 No regional lymph node metastases

pN1 Regional lymph node metastasis

Histological examination of a regional lymphadenectomy specimen will ordinarily include six or more lymph nodes for ICC, there is no recommended number of nodes for HCC. If the lymph nodes are negative, but the number ordinarily examined is not met, classify as pN0.

Perihilar cholangiocarcinoma/gall bladder carcinoma

pNx Regional lymph nodes cannot be assessed

pN0 No regional lymph node metastases

pN1 Metastasis to 1–3 regional nodes

pN2 Metastasis to 4 or more regional nodes

Histological examination of a regional lymphadenectomy specimen will ordinarily include six or more lymph nodes for gall bladder cancer, and 15 lymph nodes for Perihilar CC. If the lymph nodes are negative, but the number ordinarily examined is not met, classify as pN0.

Distant metastasis (pM)

The only pM code that can be assigned by the pathologist is pM1 – it is not possible to ascertain the absence of distant metastases.

pM1 Distant metastasis

This includes metastasis to non-regional lymph nodes, including periaortic, pericaval, superior mesenteric artery and/or coeliac artery lymph nodes.

Stage grouping

Hepatocellular carcinoma

Stage IA	T1a	N0	M0
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Stage IB	T1b	N0	M0
Stage II	T2	N0	M0
Stage IIIA	T3	N0	M0
Stage IIIB	T4	N0	M0
Stage IVA	Any T	N1	M0
Stage IVB	Any T	Any N	M1

Intrahepatic cholangiocarcinoma

Stage IA	T1a	N0	M0
Stage IB	T1b	N0	M0
Stage II	T2	N0	M0
Stage IIIA	T3	N0	M0
Stage IIIB	T4	N0	M0
	Any T	N1	M0
Stage IV	Any T	Any N	M1

Perihilar cholangiocarcinoma

Stage 0	Tis	N0	M0
Stage I	T1	N0	M0
Stage II	T2a, b	N0	M0
Stage IIIA	T3	N0	M0
Stage IIIB	T4	N0	M0
Stage IIIC	Any T	N1	M0
Stage IVA	Any T	N2	M0
Stage IVB	Any T	Any N	M1

Gallbladder carcinoma

Stage 0	Tis	N0	M0
Stage IA	T1a	N0	M0
Stage IB	T1b	N0	M0
Stage IIA	T2a	N0	M0
Stage IIB	T2b	N0	M0

Stage IIIA	T3	N0	M0
Stage IIIB	T1, T2, T3	N1	M0
Stage IVA	T4	N0, N1	M1
Stage IVB	Any T	N2	M0
	Any T	Any N	M1

References

1. Brierley JD, Giuliani M, O'Sullivan B, Rous B, Van Eycken L (eds.). *TNM Classification of Malignant Tumours* (9th edition). Oxford, UK: Wiley-Blackwell; 2025.