

# Tumour site and number (Core)

## Hepatocellular carcinoma

Tumour size and number are important prognostic factors in hepatocellular carcinoma while the site may determine resectability. Based on survival data, the 8<sup>th</sup> edition of the TNM system<sup>1,2</sup> has subdivided the T category by tumour size, number and invasion of vessels and/or adjacent structures. For TNM staging, multiple tumours include satellitosis, multifocal nodules and intrahepatic metastases. Several clinical algorithms are used in practice to guide treatment decisions including rationale for transplantation. Guidelines for HCC based on the Barcelona Clinic Liver Cancer Classification (BCLC) (the most widely used algorithm) recommend liver resection only for patients with a single HCC (without portal hypertension).<sup>3,4</sup> The number of tumours is one of the most significant predictors of recurrence and overall survival<sup>5-9</sup> and it is correlated with the presence of microvascular invasion.<sup>10</sup> A tumour with an apparent surrounding satellite nodule(s) should be regarded as a single tumour when the co-nodule(s) is attached to the main tumour.<sup>11</sup> In this setting, the apparent satellite may represent an irregular leading edge of the tumour.

## Intrahepatic cholangiocarcinoma

The number of tumours is also recognized as an important prognostic factor in intrahepatic cholangiocarcinoma.<sup>12-16</sup> Multifocality has been incorporated into the TNM staging system (8<sup>th</sup> edition).<sup>1,2</sup> In the 2010 study by Nuzzo et al,<sup>17</sup> patients with greater than four lesions showed significantly lower disease free and overall survival. Additionally, having greater than four lesions was found to be an important prognostic factor for recurrence. For TNM staging, multiple tumours include satellites and intrahepatic metastases.<sup>1,2</sup> The presence of satellite lesions has been demonstrated to negatively impact on overall survival on both univariate and multivariate analyses.<sup>18</sup> Roayaie et al (1998)<sup>19</sup> demonstrated the presence of satellite lesions to be associated with shorter disease-free survival. However, a clear definition of satellites in the setting of intrahepatic cholangiocarcinoma does not currently exist.

Location of all tumours (HCC and intrahepatic cholangiocarcinoma) should be reported since this is important for correlation with imaging when this is available.

## Perihilar cholangiocarcinoma

Perihilar cholangiocarcinoma is defined as a primary carcinoma arising above the junction of the common hepatic duct and the cystic duct, and up to the second order divisions of the left and right hepatic duct – corresponding to the ducts that have peribiliary glands. The site of the perihilar CC should be described according to the ducts involved macroscopically (right, left, common hepatic duct).

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