

AB004. S1-3. Biliary imaging in diagnosis and staging

Bang-Bin Chen

Department of Medical Imaging and Radiology, National Taiwan University Hospital, Taipei, Taiwan

Correspondence to: Bang-Bin Chen. Department of Medical Imaging and Radiology, National Taiwan University Hospital, Taipei, Taiwan. Email: bangbin@gmail.com.

Abstract: Preoperative staging is the prime concern when evaluating the possibility of surgical resectability in cholangiocarcinoma. Currently, multidetector computed tomography (MDCT) is the essential primary step to assess the local extension of the tumor and it should be undertaken prior to biliary drainage to prevent modifications of the bile duct wall thickness or enhancement by a drainage catheter mimicking the tumor extension. Tumor invasion of the liver parenchyma, hepatic vein and inferior vena cava (IVC), or intrahepatic metastasis can be assessed by MDCT and magnetic resonance imaging (MRI). In addition, lymph node metastasis is evaluated mainly by MDCT, and fluorodeoxyglucose PET scan is sometimes informative to assess distant and/or lymph node metastasis. In terms of recent advances in imaging techniques, MDCT and 3D CT angiography have replaced conventional angiography to assess the degree of vascular involvement and to delineate the vascular anatomy in each individual cholangiocarcinoma

case. The characteristic MR findings include hypointensity on T1-weighted images, hyperintensity on T2-weighted images, the presence or absence of a central scar, ductal dilatation, satellite nodules, portal vein invasion, and lobar atrophy. Magnetic resonance cholangiopancreatography (MRCP) is useful for a comprehensive understanding of the biliary tree as a whole; however, it is still unable to diagnose the intricate local anatomy of the separated intrahepatic segmental ducts and to design an appropriate operative procedure in patients with Bismuth type III or IV cholangiocarcinoma. MRI and MRCP remain mandatory to define resectability of perihilar cholangiocarcinomas. A recent study found gadoxetic acid-enhanced 3-T MR imaging provides high per-lesion sensitivity and PPV for preoperative malignant liver lesion detection overall, although sensitivity for 0.2–0.5 cm malignant lesions is poor. The recently introduced simultaneous PET/MRI combines the metabolic imaging capabilities of PET and the unmatched soft tissue contrast of MRI and appears to be a promising modality for oncologic imaging. Simultaneous acquisition provides better spatial registration compared to the sequential acquisition of PET and CT. PET/MRI is expected not only to improve the diagnostic potential but also holds promise for better delineation of the target volume in staging and surgical planning.

Keywords: Computerized tomography (CT); magnetic resonance (MR); PET-MR

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