

Diagnostic And Prognostic Impact Of Fluorodeoxyglucose- positron Emission Tomography In Diagnosing Intraductal Papillary Neoplasms Of The Bile Duct Of The Liver

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Background : Malignant intraductal papillary neoplasm of the bile duct of the liver (IPNB-L) cannot readily be diagnosed through preoperative computed tomography or magnetic resonance imaging, but fluorodeoxyglucose-positron emission tomography (FDG-PET) is a viable alternative. This study evaluated the diagnostic and prognostic impacts of FDG-PET in patients with IPNB-L.

Methods : This was a retrospective single-center study of 101 IPNB-L patients who underwent hepatectomy between 2010 and 2019.

Results : Mean age was 64.4 ± 8.3 years and 76 (75.2%) were male. Anatomical hepatic resection was performed in 99 (98.0%). Concurrent bile duct resection and pancreaticoduodenectomy were performed in 41 (40.1%) and 1 (1.0%), respectively. R0 and R1 resections were performed in 88 (87.1%) and 13 (12.9%), respectively. Low-grade intraepithelial neoplasia and high-grade neoplasia/invasive carcinoma were diagnosed in 19 (18.8%) and 82 (81.2%), respectively. Median FDG-PET maximal standardized uptake values (SUVmax) in low-grade neoplasia and high-grade neoplasia/carcinoma were 3.6 (range: 1.7–7.6) and 5.2 (range: 1.5–18.7; $p=0.019$), respectively. Receiver operating characteristic curve analysis of SUVmax showed area under the curve of 0.674, with sensitivity of 84.2% and specificity of 47.4% at SUVmax cutoff of 3.0. This cutoff had no significant influence on tumor recurrence ($p=0.832$) or patient survival ($p=0.996$) in patients with IPNB-L of high-grade neoplasia or invasive carcinoma

Conclusions : IPNB-L is a rare type of biliary neoplasm and encompasses a histological spectrum ranging from benign disease to invasive carcinoma. An FDG-PET SUVmax cutoff of 3.0 appears to effectively discern high-grade neoplasia/carcinoma from low-grade neoplasia, which will assist with the surgical strategy for these cases.

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