BP-PP-1-4

Prediction of malignancy in main-duct intraductal papillary mucinous neoplasm (MD-IPMN) based on radiologic features: How should we treat if main duct dilatation is under 10 mm?

Hye-Sol JUNG, Youngmin HAN, Jae Seung KANG, Yoo Jin CHOI, Heeju SOHN,
Jung Min LEE, Hongbeom KIM, Wooil KWON, Jin-Young JANG*

Department of Surgery and Cancer Research Institute, Seoul National University College of Medicine, Seoul, Korea

Introduction: Surgical indications of main-duct intraductal papillary mucinous neoplasm (MD-IPMN) except for main pancreatic duct (MPD) diameter ≥ 10 mm remain controversial. Diameter of MPD alone could result in overestimation of malignancy. We aimed to predict malignancy risk of MD-IPMN based on morphologic features presented in CT scan or MRI.

Methods: We retrospectively reviewed 258 patients with main-duct or mixed-type IPMN between 2000 and 2017 in our institute. MD-IPMN is defined as segmental or diffuse dilatation of MPD > 5 mm without other causes of obstruction. We divided MD-IPMN into focal ectatic and diffuse type by pattern of dilated MPD.

Results: Of 258 patients with main-duct involved IPMN, 47 (18.2%) and 211 (81.8%) had main-duct and mixed-type IPMN. Risk of malignant (high-grade dysplasia + invasive lesion) (66.0% vs. 46.9%; $p = 0.018$) and invasive IPMN (53.2% vs. 26.1%; $p < 0.001$) were higher in MD-IPMN than mixed-type. Patients with MPD ≥ 10 mm ($n = 100$) had more malignant (64.0% vs. 41.8%; $p < 0.001$) and invasive (43.0% vs. 23.4%; $p < 0.001$) lesion than those with MPD 5–9 mm ($n = 158$). Of 47 patients with MD-IPMN, focal ectatic and diffuse type were presented in 27 (57.4%), and 20 (42.6%). Forty three patients (91.5%) showed MPD ≥ 10 mm. Mean MPD diameter (maximal) was 17.4 ± 12.2 mm in MD-IPMN group. Diffuse type had more invasive carcinoma compared with focal ectatic type (70% vs. 40.7%; $p = 0.047$). Five-year survival was worse in diffuse type (85.0% vs. 52.1%; $p = 0.011$). Focal ectatic MD-IPMN and mixed-type IPMN did not significantly differ in risk of malignant (55.6% vs. 47.4%; $p = 0.425$) lesion and in 5-year survival (85.0% vs. 77.6%; $p = 0.995$). Symptoms ($p = 0.011$), CA19-9 > 37 IU/mL ($p = 0.014$), MPD ≥ 10 mm ($p = 0.017$), thickened cyst wall ($p = 0.005$), and distal atrophy ($p = 0.015$) were independent predictive factors for malignant IPMN.

Conclusions: Malignancy risk increased proportionally to the diameter of MPD in MD-IPMN. Those with above mentioned risk factors should be the candidate of surgery.

Corresponding Author: Jin-Young JANG (jangjy4@gmail.com)

Presenter: Hye-Sol JUNG (hyesoljung@gmail.com)

Copyright © The Korean Association of Hepato-Biliary-Pancreatic Surgery

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.