

**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?**

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**Introduction :** Surgical indications of MD-IPMN except for main pancreatic duct (MPD) diameter  $\geq 10$ 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(HGD)+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  $\geq 10$ 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 5-9mm( $n=158$ ). Of 47 patients with MD-IPMN, focal ectatic and diffuse type were presented in 27(57.4%), and 20(42.6%). 43(91.5%) patients showed MPD  $\geq 10$ mm. Mean MPD diameter(maximal) was  $17.4 \pm 12.2$ mm in MD-IPMN group. Diffuse type had more invasive carcinoma compared with focal ectatic type (70% vs 40.7%,  $p=0.047$ ). 5-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  $\geq 10$ 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.

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