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CONCISE COMMENTARY

Concise Commentary: Presurgical Evaluation of IPMNs—Eight Is Enough

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Optimal management of intraductal papillary mucinous neoplasia (IPMN), a premalignant pancreatic cystic tumor often discovered incidentally by imaging studies, represents a major challenge for clinicians, who must balance the risk/benefit of observation versus resection. The main goal of intervention for patients with IPMN is to prevent development of pancreatic ductal adenocarcinoma. IPMN is clearly a precursor to pancreatic ductal adenocarcinoma (PDAC), and despite the relatively improved outcome of patients with PDAC arising in IPMN, the ultimate outcome once malignancy develops is uniformly fatal. Thus, the stakes are quite high with this premalignant cystic neoplasm in patients who are simply observed. Conversely, despite improvements in operative technique and perioperative care, pancreatectomy is still a major undertaking. Not only are patients at relatively high risk for immediate perioperative complications (and in a small percentage mortality), the long-term consequences of pancreatectomy have substantial health impact with complications such as endocrine and exocrine insufficiency combined with the sequelae of surgical manipulation such as marginal ulceration in patients undergoing pancreatic head resection. Furthermore, surgical resection of IPMN does not completely eliminate the need for long-term observation: after resection of a primary (solitary) IPMN, 10–15% of patients will develop new IPMN within the pancreatic remnant.

Guidelines published in 2006 based on a conference in Sendai, Japan [1], updated in 2012 based on a second conference in Fukouka, Japan [2], formed the basis for the study published in this issue of *Digestive Diseases and Sciences* [3], originating from a well-respected pancreatic surgical unit in Gunma, Japan. The authors sought to evaluate the clinical utility of the Fukouka guidelines for predicting malignant degeneration in IPMN patients.

The authors evaluated 42 patients who had undergone pancreatectomy for pathologically proved IPMN, retrospectively applying both Sendai and Fukouka guidelines to a patient cohort consisting of 36% with branch duct IPMN, 28% with mixed-type IPMN, and 36% with main duct IPMN. Overall, high-grade dysplasia (HGD) was present in 11(%) and PDAC in 7(%). Among patients with "high risk stigmata" according to the Fukouka guidelines (enhancing mural nodule, main pancreatic duct [MPD] diameter > 10 mm), 73% had HGD or invasive PDAC. In contrast, those with "worrisome features" (cyst size > 3 cm, enhanced thickened cyst wall, non-enhancing mural nodule, MPD = 5–9 mm, abrupt change in MPD diameter with upstream atrophy, or lymphadenopathy) 2 of 15 had HGD and none had invasive cancer. Overall, the authors found that the accuracy of the Fukouka guidelines was improved (64% for predicting invasive disease) compared to Sendai guidelines (31%).

Perhaps the most important finding from the current study is receiver operating curve (ROC) analysis which calculated a maximal predictive value to a main pancreatic duct diameter ≥ 8 mm: 81.8% sensitivity and 83.8% specificity for predicting high-grade dysplasia. Keeping in mind the goal of cancer prevention (operating on patients prior to the development of invasive malignancy), this finding may offer maximal clinical utility.

Strengths of this report include very strict radiologic and pathologic evaluation and complete follow-up. An obvious limitation, which is consistently present in many surgical series of IPMN, is that no data are available for patients undergoing observation during this time period. The authors also acknowledge the relatively small sample size of their resected population.

What can be learned from this analysis? Clearly, evaluation of the patient diagnosed with IPMN is rapidly evolving. Optimal use of surgical intervention hinges on the ability to accurately predict early-stage dysplasia. To this end, using

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a main pancreatic duct threshold diameter of 8 mm likely represents a step forward, paving the way for evaluation in larger cohorts.

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