

## Editorial

# Side-Branch IPMN Dilemma – How Long and How Often should we Follow?

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Pancreatic cysts are being increasingly identified by cross-sectional imaging studies. The prevalence of incidentally detected pancreatic cysts on MR imaging was found to be as high as 13.5%. Pancreatic cystic lesions comprise a spectrum of underlying pathologies ranging from benign to pre-malignant and frankly malignant etiologies. Most common pancreatic cystic neoplasms include: intraductal papillary mucinous neoplasm (IPMN), mucinous cystic neoplasms (MCN), serous cystadenoma (SCA), pseudocyst and some of the less common tumors are ductal adenocarcinomas, cystic endocrine neoplasms, lymphoepithelial cysts and solid pseudopapillary neoplasms. An autopsy study performed in 300 patients reported that incidental pancreatic cysts were found in nearly half of the population, with the prevalence increasing with age.

All patients with pancreatic cysts, whether asymptomatic or symptomatic, must be thoroughly investigated to ascertain the underlying nature of the cyst. Most serous lesions are benign, and have little or no malignant potential, whereas, approximately half of the mucinous lesions are either pre-malignant or malignant. IPMNs are subdivided into the main duct (either diffuse or segmental), mixed or side branch types, depending on their location in the ductal system. Currently, five histologic types of intraductal papillary mucinous neoplasm are recognized: gastric foveolar type, intestinal type, pancreatobiliary type, intraductal oncocytic papillary neoplasm, and intraductal tubulopapillary neoplasm. Noninvasive IPMNs are classified into 3 grades based on the degree of cytoarchitectural atypia: low-, intermediate-, and high-grade dysplasia. The most important prognosticator, however, is the presence or absence of an associated invasive carcinoma. Preoperative prediction of the malignant potential of an intraductal papillary mucinous

neoplasm is of growing importance because pancreatic surgery can have serious complications, and many small intraductal papillary mucinous neoplasms, especially side-branch type, have a very low risk of progression to an invasive type. Better understanding of the molecular genetics of IPMN may be helpful to identify molecular markers of high risk lesions.

I would like to focus on side-branch IPMNs (SB-IPMN) which are the most common type. SB-IPMN is often identified incidentally by radiologists, and in most cases have no clinical symptoms. It is believed that the risk of malignancy is low. There is no consensus in the medical community about how to follow up these lesions and no data is available regarding the long-term course of the disease. The international pancreatic association working group in 2006 published a consensus guideline which was updated in 2012, which has been useful in clinical management of these patients. Despite these guidelines, there is a growing controversy about follow up strategies since most of these patients are older and have other health issues that may need more urgent attention. Conservative management with active surveillance with cross-sectional imaging has recently been recommended. The question of whether the interval of follow up can be lengthened beyond 1-2 years if there is no change is controversial. Some authors have advocated continuous surveillance every six months in view of the relatively high incidence of pancreatic ductal adenocarcinoma (PDAC) in patients with SB-IPMN.

The 2006 international consensus conference recommended follow up of patients with SB-IPMN every 6-12 months for lesions between 10 and 20 mm, and every 3-6 months for lesions > 20 mm, but the optimal interval between follow up examinations remains to be determined. Meanwhile, the surgical management of SB-IPMN has been controversial and the consensus guidelines are not specific for an indicator of malignancy in SB-IPMN. The revised version of the Sendai guidelines recommends a more conservative approach, suggesting that cystic lesion 3 cm or larger without involvement of the main pancreatic duct and other worrisome findings such as papillary nodules or thick irregular septations can be observed without immediate resection.

Longitudinal studies are needed to document the natural history of SB-IPMN on serial CT and MRI examinations to better determine which lesions do and do not require extended radiologic follow up to evaluate for malignancy.