BP SY 3-1

Surveillence strategy based on the natural course of IPMN: How often and until when?

Wooil KWON

Dept of Surgery, Seoul National University Hospital, Korea

Lecture : Intraductal papillary mucinous neoplasm (IPMN) is a well-known as premalignant lesion arising in the pancreas. It seems only natural to resect IPMNs in order to prevent transformation into cancer. However, pancreatectomy is associated with high complication rate and decreased quality of life. Therefore, the decision to undergo surgery should be carefully made considering the risk and benefit of the patient.
IPMN can mainly be classified into a main duct type and a branch duct type. The main duct type is known to have malignancy rate in about 50% of the patients, thus little need to hesitate for surgical treatment. On the other hand, the malignancy incidence in the branch duct type is about 25%. Therefore, patients with branch duct type IPMN need to be carefully selected to undergo surgery or surveillance. In addition, if surveillance was chosen, how often and until when is an important question.
At present, there are three widely used and referenced guidelines. They are guidelines proposed by the International Association of Pancreatology (IAP), the European Study Group on Cystic Tumours of the Pancreas, and the American Gastroenterological Association (AGA). The first two guidelines have much in common, but the AGA guidelines tend to be conservative and has different stance from other guidelines. The IAP consensus guidelines recommends surveillance in patients who do not have high risk stigmata or worrisome features. Even if there is a worrisome feature, surveillance is still recommended when there are no signs indicating malignancy in endoscopic ultrasonography (EUS). The European Study Group on Cystic Tumours of the Pancreas applies similar surveillance indications. The AGA guidelines recommend surveillance in all patients as long as there is pancreatic duct dilatation or mural nodules in EUS.
The surveillance interval recommendations are very different between the guidelines. The AGA guidelines recommend follow up in 1 year and then every 2 years for a total of 5 years if there is no change. The European guidelines recommend 6-month follow ups twice and then annual surveillance thereafter. There is little evidence for these surveillance strategies. The IAP guidelines recommend different surveillance interval according to the size of the branch duct type IPMN, larger ones having more frequent surveillance whereas small ones have more lenient follow up interval. This recommendation is based on a study of 1,369 IPMN cases analyzing their natural history. The follow up frequencies in the IAP guidelines were designed to detect outliers that have fast growth rate, and to detect major changes in 95% of the cases.
Another issue in surveillance is until when the patient should undergo surveillance. The AGA guidelines recommend stopping surveillance if there is no change during 5 years of surveillance. However, several large cohort studies investigating long term natural history. One study concluded that lifelong surveillance is necessary considering continuously increasing pancreatic cancer even after 5 years of follow up.
Another large cohort study also argued for the need of continued surveillance, as new developments of high risk stigmata or worrisome features were observed in 20% and 35% of the patients at 5 years and 10 years follow up, respectively.
Most clinicians agree on lifelong surveillance. However, lifelong surveillance may be associated with waste of medical cost and resources, leading to socioeconomic losses in some cases. This may be especially true for patients with very low risk of malignancy, patients with short life expectancy, or patients unfit for

surgery. Therefore, discontinuation of surveillance may be considered in selected patients considering the cost-effectiveness of surveillance.