

The high cost of incidental findings

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Story from the front lines:

A man in his 80s with a history of hiatal hernia with GERD complicated by stricture remotely presented with 2 day history of dysphagia to solids and liquids, even unable to swallow his own secretions. The patient was admitted to the hospital and underwent EGD which demonstrated a large, ulcerative friable mass at the GE junction that was concerning for malignancy. A CT scan was recommended for staging purposes which showed no evidence of metastatic disease. He was, however, noted to have an 11 mm cystic lesion in the uncinata of the pancreas that likely represented a side branch IPMN. Fortunately, the esophageal mass was ultimately found to stain positive for hyphae with no signs of dysplasia, and he was treated for candida esophagitis. He was advised to undergo periodic surveillance for his incidental IPMN.

Teachable moment:

Incidental imaging findings are an increasingly common occurrence as imaging modalities become more sensitive and more commonly used. Exact prevalence of incidental pancreatic cystic lesions is unknown, but some studies have suggested anywhere from 2.6% on CT to 19.6% on MRI,¹ an incidence that increases with age.² Although it is not entirely clear what proportion of cysts represent intraductal papillary mucin-producing neoplasms (IPMNs), surgical series have demonstrated that most larger cysts fall in to this category.¹ These cystic lesions are proliferations of mucin producing epithelial cells that have varying degrees of dysplasia. They frequently occur in the head of the pancreas of older men and can be histologically classified into four main types that can help to predict clinical behavior.³ An important distinction is whether these occur along the main duct of the pancreas or the side duct. Historically, these lesions were largely treated with surgical resection, which still remains the mainstay of treatment for main duct IPMNs as main-duct and combined IPMNs are associated with malignancy in up to 70% of cases.⁴ However, the surgical indications for side duct IPMNs have become more conservative with broader recommendations for surveillance due to their lower malignant potential.³

The most recent consensus guidelines on management of IPMNs came out in 2012, but were revised in 2017.^{3,5} All IPMNs >1 cm should undergo MRCP to evaluate for high risk stigmata or worrisome features. Those with high risk features such as obstructive jaundice, enhanced mural nodule >5 mm, pancreatic duct dilation >10 mm require immediate resection. Those that have worrisome features such as >3cm cyst, enhancing mural nodule < 5 mm, increased wall thickness or enhancement, MPD of 5-9 mm r abrupt change in MPD caliber, rapid growth should undergo EUS +/- fluid sampling to further characterize. Based on this stratification, varying lengths of follow up imaging for surveillance are recommended. For our particular patient, it would be recommended that he undergo CT or MRI every 6 months for a year, followed by yearly scans for two years, then a scan every two years thereafter.³

When we consider the above in the context of our elderly gentleman, how do we best approach surveillance? A meta-analysis from 2016 looked at the risk of malignant progression of patients with low risk branch duct IPMNs.⁴ In their analysis of 20 studies, the overall incidence of malignant

progression of BD- IPMN was 2.4% whereas the overall rate of pancreatic malignancy was 3.7%. This results in an annual risk of 0.7% of pancreatic malignancies with 0.4% risk of malignant IPMNs. Importantly, the annual risk of death from pancreatic malignancy was found to be 0.2%.⁴ While the compounding annual risk may be substantial in a younger patient, in our patient the annual risk of malignancy will most likely remain very small in his lifetime. If he were to undergo surveillance as the guidelines suggest, it is also worth considering what steps would be taken on the small chance he did have malignant progression. Following this hospitalization, the patient has had additional hospitalizations for varying reasons with increasing frailty each stay. It is unlikely that he would ultimately be a good candidate for a pancreatic resection, the definitive treatment if malignant progression were observed on serial scans. All of these considerations are important in framing this to the patient. While serial imaging may be the guideline-directed therapy, in this particular patient it is worth asking what may be gained at the expense of a patient's time, energy, mental cost, and money.

References

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