Sidetracked - Increasing incidence of incidental findings.

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In the modern medical world radiologic imaging has become a frequently used tool. In 2011 approximately 85.3 million CT scans were performed in the United States (1) In a retrospective cohort study of patients who underwent 1426 imaging studies, 40% had a minimum of one incidental finding. (2) These findings typically necessitate further workup with questionable benefit in asymptomatic patients.

Mr. U is one such patient. Two years ago, when he was 63, he presented to the emergency room with severe left flank pain. A CT scan showed a ureteral calculus as the cause of his pain. The CT also showed a lobulated soft tissue mass in the pancreas measuring 3.1x 3.1 cm. At the time the patient was asymptomatic with normal blood work. Mr. U recalls the initial conversation as being “very stressful” and “overwhelming” as he had believed himself previously healthy.

The patient was referred to a regional academic institution for further evaluation. Repeat CT confirmed the mass and the radiologist report stated the findings were consistent with mucinous cystic neoplasm or oligocystic serous neoplasm of the pancreas. After discussing the risks and benefits with the surgeons Mr. U was convinced that extensive surgery for tissue diagnosis and removal of the mass was the best option. After the surgery, excised tissue showed a benign pancreatic macrocystic serous cystadenoma.

Two weeks after discharge, Mr. U began to have worsening abdominal pain and fevers caused by an abscess. During his readmission it was noted that his blood sugars were continuously elevated. He was diagnosed with insulin dependent diabetes mellitus as a consequence of the pancreatic mass resection and started on insulin. Mr. U has now been insulin dependent for two years.
Mr. U continues to be grateful to the medical team for his treatment. However he now has a new chronic disease and clearly suffered from the surgery. But the upside was definitively dealing with a potentially life-threatening cancer, right? Wasn’t it worth it?

In 2010 the American College of Radiology (ACR) published the Managing Incidental Findings on Abdominal CT: White Paper of the ACR Incidental Findings Committee (3). Although not a comprehensive study, this paper was meant to be a guide for physicians to help evaluate incidental solid masses in the kidneys, liver, adrenal glands, and pancreas (3). The paper describes that most cystic lesions of the pancreas are benign or low-grade neoplasms and cites an article, which showed 17% of asymptomatic cysts were serous cystadenomas (4). Since mucinous cystic neoplasms have possible malignant potential the ACR developed an algorithm for pancreatic incidentaloma evaluation.

Following the ACR algorithm, cyst aspiration is highly advised prior to surgical resection. Secondly, the ACR recommends if the lesion is a serous cystadenoma, surgery is deferred until the cyst is >4cm. (3). In either case prior tissue biopsy would have identified the mass as a benign lesion allowing for close monitoring rather than immediate radical surgery. The biopsy possesses its own inherent risks such as bleeding, infection, and pancreatitis - but at less risk than open surgical resection. Also, the psychological strain on patients is clearly evident when diagnosed with potential cancer. In Mr. U’s case he now regrets the surgery, however, when first diagnosed he was anxious and urgently wanted the mass removed.

In the modern practice of medicine, imaging modalities provide many benefits. However, incidental findings continue to confuse and sidetrack medical care causing physical and emotional harm to patients. If 40% of CT scans show incidental findings, physicians must carefully consider the risks and benefits of advanced imaging studies, with
particular attention to the harms that may arise from downstream interventions.

1) IMV 2012 CT Market Summary Report, IMV Medical Information Division, Des Plains, Ill, USA, 2012


