

Story from the front lines

A man in his 60s with history of GERD presented to his primary physician with right and left lower quadrant abdominal pain worse with palpation but not associated with food, constipation, diarrhea, hematochezia, melena, or nausea. On exam he had normal vital signs and tenderness in right lower quadrant without guarding or rebound tenderness. An abdomen/pelvis CT scan with IV contrast was ordered to evaluate for diverticulitis or appendicitis.

The CT was negative for diverticulitis and appendicitis, but showed small bilateral inguinal hernias, "nonspecific mild external iliac and inguinal adenopathy" and several miscellaneous findings including an 8mm hepatic hypodensity, calcifications in the central prostate and seminiferous ducts bilaterally, a lipoma in the right flank, "inhomogeneous incomplete enhancement of the intrahepatic IVC," renal cysts and degenerative disk disease at L4-5 and L5-S1.

In response to these findings, consults were placed to general surgery, gastroenterology and urology. Urology felt the GU findings on CT were insufficient to explain his symptoms and did not warrant additional action. Gastroenterology diagnosed abdominal wall tenderness and a benign hepatic cyst suggesting discussion with radiology if follow-up imaging was needed for the cyst. Surgical consultation noted "very subtle" bulges with Valsalva, recommended bilateral hernia repair and dismissed his lipoma as unrelated to his pain.

A week before his surgery, he presented to the ED for anxiety over the operation and his numerous doctor appointments. His operation was canceled as surgery reported he had a 1% risk of an acute complication from his hernias.

Teachable Moment

Incidental findings (IFs), defined as radiographic findings unrelated to original intent of the study, present a Gordian knot to patients, providers and the healthcare system [Adams]. While these discoveries may represent serious medical conditions requiring treatment, they are frequently benign. The catch is that proving an IF is harmless is not harmless. To work up such findings, patients endure a cascade of additional imaging with possible procedures risking anxiety (which can last up to two years [Saltore]), morbidity from procedures and extra radiation and bills [Berland, James].

The lasso of IF is wide-reaching. They are present in 32-52% of CT scans in general and as high as 61.7% in abdomen/pelvis CTs [James]. In addition, the variety of IFs is also challenging with over 100 categories and at least 56 in scans of the abdomen and pelvis alone [James]. Moreover, with the increase in the frequency of CT scans as well as the improvement in spatial and contrast resolution of these tests over the past 20 years [Berland, Adams], the issue of IFs is only growing.

There are many issues tangled in this problem. First, there is a paucity of research on IFs and guidelines for their management are lacking, especially for abdominal and pelvic findings despite having the highest frequency of IFs [Berland]. Furthermore, many physicians are not familiar with the resources that are available [Zafar]. As a result of this limited guidance as well as inadequate systems for tracking and communicating findings to PCPs, 50-66% of IFs do not receive recommended follow-up [Zafar, James]. Similarly, patients' misunderstanding of risks makes discussions and decisions around IFs challenging [Zafar, Saltore]. Finally, unlike many other issues of medical overuse, IFs are inevitable.

Unlike Alexander the Great's solution to the knot (sliced with a sword), we cannot completely cut out imaging from medical practice, so we must learn to untie it.

How, then, do we approach this puzzle? The strategy is two-pronged: learning and communication. Practitioners must become familiar with the current resources for managing IFs including the Bosniak classification of renal cysts, Fleischner Society criteria for pulmonary nodules and the American College of Radiology's white papers for abdominal, pelvic and thyroid findings [Adams, Berland]. However, the white papers are only committee guidance rather than policy and more investigation is needed to develop true guidelines for management of IFs [Berland]. The second prong is improved communication on all fronts: radiologists to clinicians and clinicians to patients. There is currently no standardized way to communicate and track findings for PCPs even though radiologist communication is crucial factor successful work-up of IFs [Zafar, Berland, Adams]. Similarly, providers must improve communication with patients before and after imaging. An ethics perspective calls for clinicians to discuss and prepare patients potential IFs before obtaining scans [Adams, Zafar]. On the other side, effective communication can reduce anxiety after IFs have been found [Saltore]. In the 1970s, the problem of IFs was recognized and labeled 'Ulysses Syndrome' for the "long journey through the investigative arts" [Adams]. After 40 years, unlike Ulysses, we are still on the odyssey of IFs, but is that Ithaca on the horizon?

References

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