Abstract 25.

Abdominal pain: when the abdomen does not speak, the chest screams

Daniel Schneider (1), Fabián Villacrés (1), Julia Alegría (2), Claudio Silva (2).

(1) Resident. Department of Radiology, Clínica Alemana Santiago - Universidad del Desarrollo.
(2) Radiologist. Department of Radiology, Clínica Alemana Santiago - Universidad del Desarrollo.


Background Information/Purpose
Visceral pain is mediated by nociceptors in the cardiovascular, respiratory, gastrointestinal and genitourinary systems; usually described as deep, oppressive or colicky pain and is commonly referred to cutaneous sites, since the somatic and visceral structures have dual innervation, with common afferent fibers converging on the dorsal horn of the spinal cord. This pain results from the mechanical or chemical activation of the nociceptors, either by tumor compression, visceral distention or obstruction. The irritation of the diaphragmatic pleura is probably one of the main causes of abdominal symptoms in patients with thoracic pathology, it being important to keep in mind that some of these conditions may be visible in the lower thorax segment in an abdominal tomographic study.

Educational Goals/Teaching Points
To provide a pictorial review of some critical incidental chest findings on computed tomography requested for abdominal pain.

To describe the pathophysiology of abdominal pain of thoracic etiology.

To review the tomographic findings of thoracic conditions that can cause abdominal pain, such as of myocardial infarction, ventricular rupture, epipericardial fat necrosis and pulmonary embolism. To discuss the importance of not forgetting to check the inferior segment of the chest in abdominal computed tomography, to look for possible thoracic causes of abdominal pain.

Key Anatomic or Pathophysiologic Issues, Imaging Findings or Imaging Technique

Case 1: 84 yo male. Abdominal pain. Acute pancreatitis suspected.
NECT: Subendocardial fat in the lateral wall of the left ventricle representing healed myocardial infarction.
CECT: Myocardial hypoenhancement in the lateral, septal and anterior wall of the left ventricle and papillary muscle, indicative of myocardial ischemia.
**CECT:** Enhancement defect in the anteroseptal wall of left ventricle. Filling defect in the left ventricular apex that suggests the presence of a thrombus.

**CECT:** Hypoenhancement and rupture of the anterior wall of the left ventricle. Hemopericardium is also visible. Pericholecystic fluid, gallbladder wall thickening and a gallstone in the gallbladder.

Case 4: 57 yo female. Abdominal sepsis.
**CECT:** Filling defect in the left and right lower lobe segmental branches. Consolidation in the lateral segment of the left lower lobe representing lung infarction.

Case 5: 54 yo. Female. Epigastric pain and vomiting.
**CECT:** The left epicardial fat pad shows inflammatory stranding (yellow arrow) and contains a 30mm ovoid encapsulated fatty lesion.

**Conclusion**
Abdominal pain may be the only manifestation of a thoracic pathology, which is sometimes life-threatening, and can be identified in the lower segments of the chest on an abdominal computed tomography, so we emphasize the importance of not forgetting to carefully review this area.