Gastric diverticulum mimicking a left adrenal incidentaloma
Published on 22.06.2016

DOI: 10.1594/EURORAD/CASE.13362
ISSN: 1563-4086
Section: Abdominal imaging
Area of Interest: Adrenals
Procedure: Diagnostic procedure
Imaging Technique: CT
Special Focus: Diverticula Case Type: Clinical Cases
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Patient: 66 years, female

Clinical History:

66-year-old female presented with discomfort in left flank and microscopic haematuria. No h/o fever. Normal infection parameters. No h/o malignancy or weight loss. A CT urography was ordered to exclude nephrolithiasis.

Imaging Findings:

CT urography which was performed without iv contrast (not shown here) raised the suspicion of a left adrenal mass and the patient was referred for further evaluation.

CT adrenal glands without and with iv contrast (only portal venous phase) was performed, which showed a gastric diverticulum from the posterior wall of the stomach located close to a normal left adrenal gland.

Discussion:

Background:

Gastric diverticulum (GD) is an asymptomatic pouch protruding from the stomach most frequently located posteriorly and solitary. [1, 2] It is a rare, incidental finding with a prevalence of 0.02-0.04% [5] There can be congenital and acquired types, the former being more common, constituting about 75% of all GDs. [1, 2] Congenital GDs are true diverticula, involving all layers of the gastric wall occurring in the retroperitoneal space, and may be explained by embryogenesis. [1, 2, 5] Acquired GDs are pseudodiverticula which lack the muscularis or serosal layer and are typically located in the gastric antrum. Acquired GDs are usually associated with gastrointestinal diseases, such as peptic ulcers, gastric outlet obstruction, malignancies or following surgical procedures in the stomach including Roux-en-Y gastric bypass surgery. [1, 2, 5]

Clinical Perspective:

Most common in 5th-6th decades of life, with no sex predominance. [2, 5] It is usually asymptomatic but typical symptoms include upper abdominal and epigastric pain or discomfort, dyspepsia, anorexia, nausea and dysphagia or feeling of fullness after meals. Presentation may be dramatically related to their complications like intra-peritoneal or intra-luminal haemorrhage, perforation, and torsion requiring immediate surgical intervention. [1, 2, 5]

Imaging perspective:

CT may detect the presence of GDs as thin-walled cystic masses in the left adrenal area and lead to the
misdiagnosis of gastric diverticula as adrenal tumours. Scans with the patient in a prone position may further aid diagnosis by forcing gastric air into the diverticulum cavity, leading to the formation of an air-fluid level in the mass, or scanning after oral contrast administration can be used to differentiate between GD and adrenal mass. [1] Normal laboratory findings and ultrasonography examinations can also help rule out adrenal pathology. [1] Multiple cases of GDs misdiagnosed as adrenal masses have been reported. [2, 3] Masses mimicking adrenal tumours appear more frequently on the left side due to the close proximity of the left adrenal to organs such as the gastric fundus, the first loops of the jejunum, the spleen, pancreas, and left kidney. [3] Reviewing both axial and coronal sections of the abdominal CT is useful in distinguishing adrenal from non-adrenal lesions such as GD. [4]

Outcome:

Therapeutic options ranges from medical treatment with PPI’s, antacids, or antispasmodics to surgical resection depending on size, accompanied complications such as bleeding, perforation or malignancy. [1]

Teaching Point:

An accurate preoperative diagnosis of GD is important, so that an unnecessary exploratory laparotomy can be avoided. High clinical index of suspicion is needed to diagnose GDs.

**Differential Diagnosis List:** Gastric diverticulum mimicking left adrenal mass, Left adrenal mass, Renal cysts, Pancreatic cysts, Abscess or a necrotic tumour

**Final Diagnosis:** Gastric diverticulum mimicking left adrenal mass

**References:**


Araki A et al. (2006) Gastric diverticulum preoperatively diagnosed as one of two left adrenal adenomas. Int J Urol 13(1):64-6 (PMID: 16448434)


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Figure 3

Description: Sagittal contrast enhanced CT upper abdomen showing a gastric diverticulum which was mistaken as left adrenal mass during a previous scan. **Origin**: Regionshospital Nordjylland, Hjørring, Denmark.

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