

CASE REPORT

Large Pseudocyst of the Adrenal Gland: A Radiological Pathological Correlation

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Abstract:

Cystic lesion of adrenal gland is an uncommon entity and many are found incidentally. Large adrenal cysts can sometimes be found to be associated with abdominal discomfort. These entities can also be associated with hemorrhage, rupture or infection. Adrenal pseudocysts can be a sequel of hemorrhage or trauma within an adrenal gland and can expand to a massive size due to gross fluid accumulations. We report a case of a 35-year-old male who presented with bloating of abdomen and cosmetic concern due to the increase in size of the abdominal girth. On plain radiograph and gastrograffin study of abdomen the lesion appeared as a soft tissue opacity displacing the normal structures away from it. On ultrasound abdomen, lesion appeared as a large cyst of indeterminate origin. The high dose Contrast Enhanced Computed Tomography (CECT) scan revealed it as a hypodense cystic lesion with a well defined wall and showed hypodense contents of 15 HU densities. The lesion was displacing medial limb of the left adrenal, small, large bowel loops, left kidney and pancreas away from it. The complete excision tried by laparoscopy however converted to the open excision as the mass was attached to the left adrenal gland to its lateral aspect. The histopathological diagnosis confirmed it is an adrenal pseudocyst.

Keywords: Calcification, Malignancy, Radiograph

Introduction:

The adrenal pseudocysts are predominantly benign cystic mass lesions arising from the adrenals with a fibrous wall. The predictive

pathogenesis is due to repeated episodes of trauma, infection or bleeding. They are of four types: endothelial, parasitic, epithelial and pseudocysts [1]. Epidemiologically these lesions are commoner in female population between 30 to 60 years [2]. These are about 6% of the incidentally detected entities. Clinically the pseudocysts are rarely palpable but, there may be usual tenderness on palpation. We report the case of a 35-year-old male who presented as bloating of abdomen and increase in the abdominal girth and diagnosed later with a large unilateral left adrenal pseudocyst.

Case Report:

A 35-year-old male with no past medical history of any illness presented with chief complaints of bloating of abdomen over a period of 6 months. In spite of his efforts to change life style and dietary restriction, problem remained same which alerted the patient for reporting to the physician. There was no history of any trauma or malignancy.

On examination, he was found to have a mass in the entire left abdomen which was dull on percussion and non tender to palpation. Blood investigations were normal.

On X-ray abdomen, scout AP view film (Fig. 1) revealed a large opacity in the mid and left side of the abdomen with lack of bowel shadow. On gastrograffin study (Fig. 1) the stomach, C loop of

the duodenum and large bowel were displaced to right. The ultrasound abdomen (Fig. 2) demonstrated a large simple cystic lesion with well defined smooth walls and anechoic contents in the abdomen and suggested the diagnosis of mesenteric cyst. The lesion has displaced the stomach and left kidney away from it. The high dose Contrast Enhanced Computed Tomography (CECT) study (Fig. 3) showed a large cystic mass (density 15HU) measuring 24 x 25 x 26cm (AP X ML X CC) noted in the peritoneal and retroperitoneal space toward left, displacing the stomach superiorly, left kidney and its vessels inferiorly, and pancreas to right of midline. The left adrenal appeared to be displaced medially by the cyst with non visualization of the lateral limb separately.

The cyst was explored and aspirated. On aspiration, straw colored fluid was taken out and sent for pathological examination that revealed sterile fluid. The cyst was tried to excise laproscopically however, due to its adhesion with the left adrenal open excision was done with partial adrenal excision. The conclusion was drawn that the cyst was likely to originate from the adrenal.

On the excision biopsy, the gross pathological description (Fig. 4) stated an irregular cystic wall like structure with attached left adrenal gland measuring 10 x 5 x 4.9 cm. Microscopically, the cyst appeared thickened, fibrotic and hyalinised with no epithelial lining in the wall. At places the cystic wall was adherent to the normal adrenal cortical tissue, however, no entrapped cortical tissue or intracystic mature adipose tissue or calcification or metaplastic bone formation was noted. No evidence of any malignancy seen in the examined sections. On post operative 6 weeks follow up the patient remained asymptomatic and uneventful.



Fig. 1: Plain Scout and Gastrograffin Study Demonstrating Soft Tissue Opacity in the Abdomen displacing the Bowel Away from it. in the Gastrograffin Study, the Stomach and Small Bowel are Seen, Displaced to the Right and Posteriorly



Fig. 2: Ultrasound Abdomen Demonstrating a Large Cystic Lesion with Posterior Acoustic Enhancement

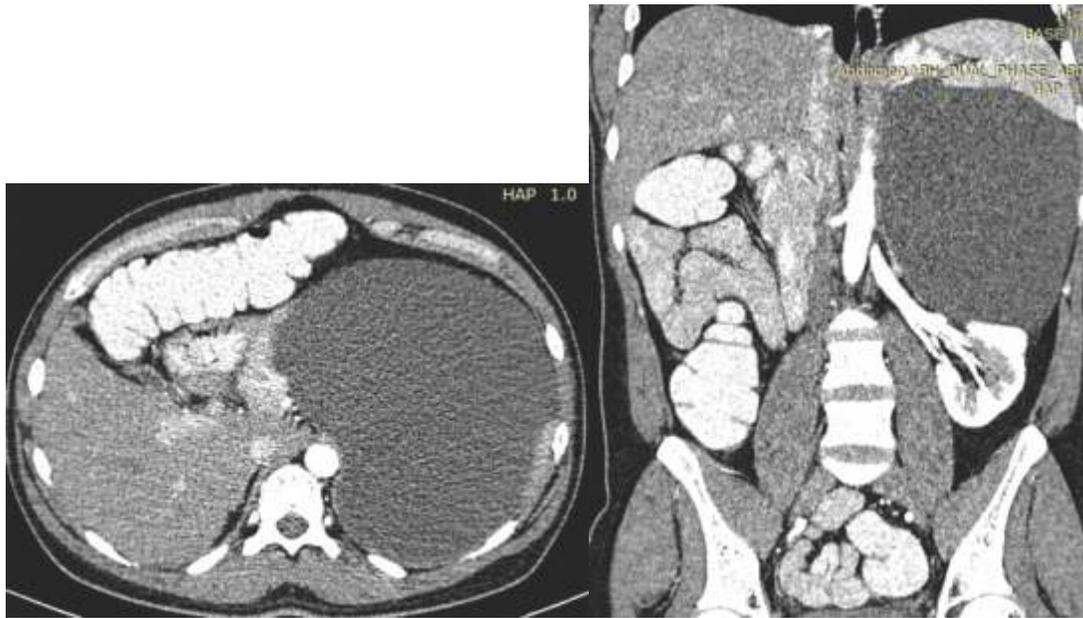


Fig. 3: Axial and Coronal CECT Abdomen Demonstrating of a Large Soft Tissue Density Mass with Fluid Density Contents in the Left Abdomen Involving the Peritoneal and Retroperitoneal Space of Left Causing Displacement of the Stomach and Pancreas to Right. Left Adrenal Gland is Pushed Medially with Non Visualized Lateral Limb. Left Kidney is Displaced Inferolaterally



Fig. 4: Demonstrating Gross Specimen of Excised Cyst and Microscopic Appearance showing Fibrinoid Wall on Gross Specimen. With Microscopically showing Adrenal Tissue and Cyst with Wall Which Lacks Epithelial Lining

Discussion:

Due to easily available radiological investigations, diagnosis of the asymptomatic adrenal pseudocysts is now more common than before 10 years back [4]. In spite of wide use of radiological investigation, the adrenal pseudocysts are still uncommon in males and account about 32–80% of all adrenal cysts [5]. Among all cystic lesions merely 7% of all reported adrenal pseudocysts are found malignant however, the risk of malignancy increases with increase in size, commonly over 6 cm [3, 6]. The patients of adrenal pseudocyst generally report to the surgeon once it has reached to a significantly large size, which causes pressure effects on the adjacent organs. Many cases remain asymptomatic but epigastric pain, nausea and vomiting and palpable mass has also been reported [7, 8]. They also sometimes cause Cushing's syndrome, adrenal malfunction, or pheochromocytoma [8].

A detailed history, clinical examination of the patient, laboratory investigations including complete blood count, liver function tests, renal function tests, serum cortisol, serum aldosterone, serum calcium and urinary catecholamine's, 5-HIAA and metanephrines are important to investigate for reaching a diagnosis.

On ultrasound imaging, large cysts differential can be kept for peritoneal cyst, pancreatic pseudocyst and adrenal cyst. However due to lack of peripancreatic fat stranding, pancreatic lesion are ruled out. Although, CT/MRI abdomen can be used to evaluate cystic lesions of the abdomen, CT scanning is found to be the gold standard for adrenal lesions as it is able to identify small tumours with 100% sensitivity [9, 10]. The adrenal gland pseudocysts on CT scan appear as

unilocular or multilocular cystic lesions arising from or sometimes not seen separately from adrenals. However, they can also appear as mixed or solid masses with areas of central calcification, which can mimic adrenal neoplasms [4]. MRI scanning is an excellent tool for differentiating pseudocysts from malignant neoplasms.

Surgical excision is favored for the lesions greater than 5 cm, any associated suspicion of malignancy or with evidence of any hormonally active nature. Patients with smaller tumors of size less than 4 cm can be followed up for CT scan at 3 months after diagnosis and should be monitored for next 1.5 years [3].

Conclusion:

This case has demonstrated that large adrenal pseudocysts are also amenable to laparoscopic resection however the better radiological description is necessary in proper planning of surgery. The radiological diagnosis of the large adrenal cystic masses can be made by ultrasound however mesenteric cyst is always a differential diagnosis. CT and MRI are required for better definition of the extent, surgical planning and commenting on the internal contents. This case report presents a pseudocyst of the adrenal gland in a male however; these are more common in females. Generally, the patients report abdominal pain, bowel abnormalities due to the mass effect but in this case the patient was asymptomatic. This case report provides further evidence and support to the CT scans supremacy role in the diagnosis and defining the extent of tumor for better surgical planning.

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