

Incidental Discovery of Adrenal Cyst in an Elderly Male - A Case Report

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Abstract: *An adrenal cyst is a rare, often incidental finding in medical imaging, characterized by a fluid-filled sac within or adjacent to the adrenal gland. These cysts can be classified into four main types: endothelial cysts, pseudocysts, epithelial cysts, and parasitic cysts, each with distinct histopathological features. Most adrenal cysts are asymptomatic and benign, discovered during evaluations for unrelated conditions. However, larger cysts may cause symptoms such as abdominal pain, hypertension, or hormone imbalances. Diagnostic modalities include ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI). Management depends on the cyst type, size, and associated symptoms, ranging from observation and periodic imaging to surgical intervention in symptomatic or uncertain cases. This case report describes a case of 69 year old male who was accidentally found to have an adrenal cyst upon doing Ultrasound for the complaints of burning micturition.*

Keywords: Adrenal cyst, incidentaloma, adenoma

1. Introduction

Rare cystic tumors that develop from the adrenal gland are called adrenal cysts. Typically, adrenal tumors are non-functioning and do not release any hormones. Less than 10 cm tumors are typically discovered by accident. An enormous adrenal tumor is an uncommon discovery. When surgery is not performed, differential diagnosis is challenging. As a result, surgery becomes a crucial tool for diagnosing adrenal tumors. Adrenal cysts are rather rare. The hemorrhage may cause the cyst's diameter to grow quickly, yet the clinical picture might range from asymptomatic to acute consequences like hypovolemic shock and abdominal discomfort.

2. Case Report

A 69year old gentleman who is presented with burning micturition on and off for 1 month. Patient is a known diabetic on medication. A thorough physical examination was done which was normal. Ultrasound abdomen was done which showed a lesion of 10 cm arising from the right adrenal gland. A Computed tomography of abdomen was done which showed 11 cm x 9cm x 9cm lesion seen abutting the right adrenal gland (FIGURE 1). Routine blood investigations were done and were within the normal limits. Hence the diagnosis was made as Adrenal Incidentaloma.



Figure 1: CT Abdomen showing right adrenal cyst

The patient was proceeded with right adrenal cyst excision. Open surgery with a right subcostal approach was done. A cyst measuring 10cmx10cm was seen superior to the right adrenal gland with dense peri cystic adhesions (FIGURE 2). Grossly it was a bluish black cyst filled with 30 ml of straw-colored fluid and was drained intra operatively. The cyst wall was sent for histopathological examination and was diagnosed as adrenal cyst arising from the right adrenal gland (FIGURE 3). Post operative period was uneventful and patient was discharged on post operative day ten. Patient is on regular follow up since then without any specific complaints.

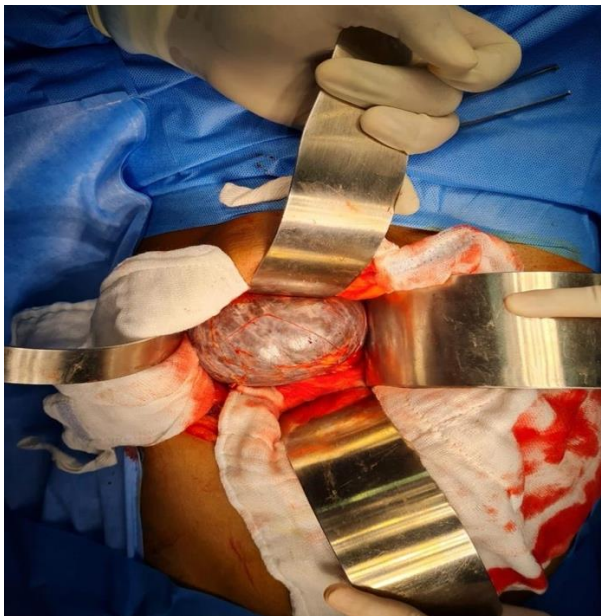


Figure 2: Intraoperative picture showing the adrenal cyst



Figure 3: Post operative specimen of adrenal cyst

3. Discussion

Adrenal cysts are relatively rare, with an estimated prevalence ranging between 0.06% and 0.18% in autopsy series [1]. They are typically asymptomatic and incidentally discovered during imaging for other conditions. These cysts are fluid-filled sacs within or adjacent to the adrenal gland and can be classified into four main types: endothelial cysts, pseudocysts, epithelial cysts, and parasitic cysts.

The classification of adrenal cysts is essential for understanding their pathogenesis and potential clinical implications.

- 1) Endothelial Cysts: These are the most common type, accounting for about 45% of adrenal cysts. They include lymphangiomatous and angiomatous cysts, characterized by their clear serous fluid content and benign nature [1]

- 2) Pseudocysts: Representing approximately 39% of cases, pseudocysts lack an epithelial lining and often contain blood or necrotic material. They typically result from previous adrenal hemorrhage, trauma, or infarction [2].
- 3) Epithelial Cysts: Making up around 9% of adrenal cysts, these are lined with epithelial cells and are usually associated with developmental anomalies [2]
- 4) Parasitic Cysts: These are rare in developed countries but can occur due to infections such as *Echinococcus granulosus*, causing hydatid disease.

Adrenal cysts are frequently asymptomatic and discovered incidentally on imaging studies such as ultrasound, computed tomography (CT), or magnetic resonance imaging (MRI) conducted for other reasons. When symptoms do occur, they are generally nonspecific and related to the size and location of the cyst. Symptoms can include abdominal pain, a palpable mass, hypertension, or hormonal imbalances caused by pressure effects on the adrenal gland or adjacent structures [3]

The initial evaluation of an adrenal cyst often involves imaging studies. Ultrasound is useful for detecting cystic structures, but CT and MRI are more effective for detailed characterization. CT and MRI can determine the cyst's size, location, and content, helping to differentiate between benign and potentially malignant lesions. The imaging characteristics of a benign cyst typically include a thin, smooth wall, and homogeneous fluid content [4].

Management strategies for adrenal cysts depend on various factors, including the cyst's size, type, and whether it is symptomatic.

- 1) Observation: Small, asymptomatic cysts are often managed conservatively with regular follow-up and imaging to monitor for changes in size or characteristics. This approach minimizes unnecessary interventions while ensuring that any potential complications are promptly addressed [4]
- 2) Surgical Intervention: Symptomatic cysts, those larger than 5 cm, or cysts with uncertain diagnosis may necessitate surgical removal. Laparoscopic adrenalectomy is the preferred method due to its minimally invasive nature and favorable outcomes. This technique reduces recovery time and associated morbidity compared to traditional open surgery [4]
- 3) Percutaneous Drainage: In some cases, particularly for cysts that are symptomatic but not suspicious for malignancy, percutaneous drainage can be considered. This less invasive option can provide symptom relief and is particularly useful for patients who may not be ideal surgical candidates [2]

4. Conclusion

Adrenal cysts, though rare and often asymptomatic, represent a diverse group of lesions that can present diagnostic and therapeutic challenges. The majority of these cysts are benign, with types including endothelial cysts, pseudocysts, epithelial cysts, and parasitic cysts. Diagnosis typically relies on imaging techniques such as CT and MRI, which help characterize the cyst's nature and guide management decisions. Hormonal evaluation is also crucial in cases with suspected functional activity.

Management strategies range from regular monitoring of small, asymptomatic cysts to surgical intervention for larger, symptomatic, or suspicious cysts. Laparoscopic adrenalectomy is the preferred surgical approach due to its minimally invasive nature and associated benefits.

Overall, the prognosis for patients with adrenal cysts is favourable, especially when malignancy is excluded. Early detection and appropriate management are key to ensuring positive outcomes. Regular follow - up remains essential to monitor for changes in the cyst's characteristics and ensure continued patient health.

References

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