

Giant Adrenal Cyst: A Case Report

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Abstract

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Background: Adrenal cysts are rare occurrences that arise from the adrenal gland. These cysts are usually small (<10 centimeters (cm)) in size, unilateral, nonfunctional, and asymptomatic. However, adrenal cysts can attain huge sizes surpassing a diameter of 10 cm (Giant) and become symptomatic.

Objective: To report a rare case of giant adrenal cyst and also emphasize the option of adrenal-sparing cyst excision in the management of benign giant adrenal cysts.

Clinical presentation: A 26 years old female patient presented with left flank pain of 2 years duration. Physical examination was only remarkable for mild left flank tenderness. A full blood workup including serum cortisol level revealed no abnormality. Left giant adrenal cyst was diagnosed using an abdominopelvic computed tomography scan that showed 18 cm x 10 cm well-demarcated and non-enhancing left suprarenal mass with no internal septations. The patient was then managed with adrenal sparing cyst excision. Histopathologic report of the excised specimen confirmed a benign endothelial adrenal cyst.

Conclusion: Adrenal-sparing cyst excision can be practiced and is a preferred surgical management option for benign adrenal cysts when indicated by preoperative imaging and intraoperative findings.

Keywords: Adrenal cyst, Adrenal sparing cyst excision, Case report, Giant adrenal cyst

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Background

Adrenal cysts are rare occurrences. They are reported to have an incidence of 5.4% in clinical series (1) and were counted in 0.064% – 0.18% in the autopsy series (2). The incidence is currently on the rise owing to the increasing use of diagnostic imaging modalities (3). Adrenal cysts are usually small in size, non-functional, and asymptomatic (2,3). Adrenal cysts that measure 10cm or more are labeled as giant adrenal cysts (2-4). This may be a consequence of bleeding into the cyst or infection. Symptoms such as pain and gastrointestinal disturbance can present in large cysts or when they become palpably enlarged (2).

Surgical exploration provides the definitive diagnosis when accompanied by pathology (3). Surgery is indicated when the cyst size exceeds 10 centimeter (cm) in diameter, in the presence of symptoms, endocrine abnormalities, intra-cystic bleeding, and suspicion of malignancy (4,5). The choices for surgical intervention include open cystectomy, en bloc adrenalectomy, or laparoscopic surgery with cyst decortication and partial or total adrenalectomy. Simple cyst excision with preservation of the kidney and the adrenal gland is the most favored procedure for benign cysts⁹. When available, laparoscopic management is a safe and minimally invasive method. Here, we report a 26 years old female who presented with a symptomatic giant left adrenal cyst measuring 18cm×10cm that necessitated surgical intervention.

Case Presentation

A 26 years old female patient presented to our hospital with a complaint of left flank pain of 2 years duration. The pain was dull aching and did not radiate to other body parts. She had been prescribed antibiotics multiple times before her current visit as a treatment for presumed urinary tract infection but got no improvement.

Physical examination was non-revealing except for left flank tenderness on abdominal examination. A full blood workup revealed no abnormality. Her serum cortisol and urinary catecholamine levels were assessed and were within the normal range. Abdominopelvic Computed Tomography (CT) scan showed large round water attenuating non-enhancing left suprarenal lesion with no internal septations (Figure 1). The lesion displaced the left kidney downwards.

The patient was subsequently operated on. The mass was approached using a left subcostal flank incision. The intra-operative finding was a

simple cyst measuring 18cm×10cm×9cm that arose from the left adrenal gland. Adrenal sparing cyst excision was done. There was no intra-operative accident except for the cyst rupture. The patient left the operation theater with stable vital signs and had an uneventful postoperative stay in the wards and discharged on the 2nd post-operative day.

Histopathologic report of the excised specimen confirmed a benign endothelial adrenal cyst (figure 2). On the subsequent follow-ups after discharge, the patient reported that her flank pain subsided and she was able to continue her normal day-to-day activities.

Discussion

Adrenal cysts have been known since the late 17th century. Greaseless, a Viennese anatomist, first described them in 1670 as the cause of death of a 45 years old nobleman after an adrenal cyst filled with 12 pounds of fluid ruptured (2,6,7).

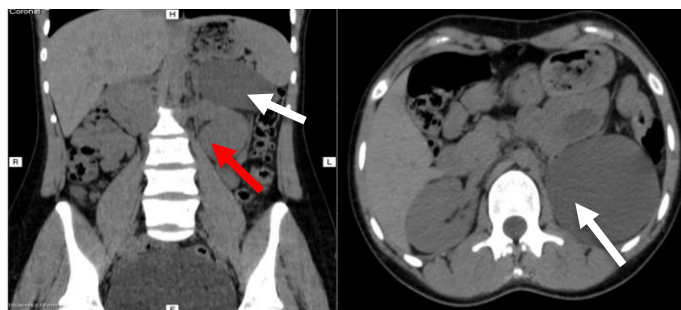


Figure 1: Abdominopelvic CT scan of the patient. A (left) shows coronal view of a huge left adrenal cyst (shown with white arrow). B (right) shows the axial view of the same lesion. The left displaced kidney is shown by the red arrow.

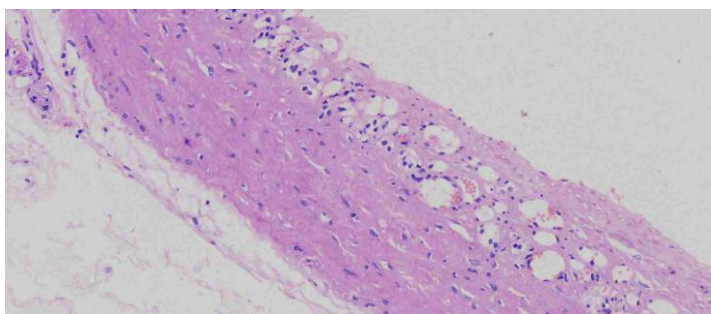


Figure 2: Histopathology report shows a flattened lining with adjacent normal adrenal gland indicating an endothelial adrenal cyst.

They can also present with flank pain as in our case and complications such as hypovolemic shock due to the rapidly increasing haemorrhage into the cysts causing an increase in diameter of the cyst. While most adrenal cysts are smaller than 10 cm in diameter, cysts as large as 45 cm have been reported (3). Adrenal cysts are commonly seen in the fourth and fifth decades of life. They occur in 5.1% of adrenal diseases and may

be malignant with an incidence of 7% (6-8). An experience from a single institution that looked into cystic lesions of the adrenal gland of 47 patients showed that the majority (61.7%) of the cases occurred in females and all cysts were unilateral (6).

Benign cystic lesions of the adrenal gland have been traditionally classified into four with different studies putting forwards differing incidences. They are namely endothelial cyst, pseudocyst, epithelial cyst, and parasitic cyst. Endothelial and pseudocysts have alternatively been put as the most common varieties in several studies (2,3,6). Our patient had an endothelial cyst.

Concerning the management, both laparoscopic and open procedures have been practiced. Both laparoscopic and open approaches have equivalent efficacy with the former providing a shorter hospital stay and better cosmetic results (6). In our case, we preferred the open procedure with an adrenal sparing approach because our experience with laparoscopy is very limited. A choice between adrenal-sparing cyst resections and adrenalectomies depends on the level of involvement and location of the cyst. For those located at the periphery and those where inoculation can be done, adrenal-sparing cyst excision is the preferred option.

Conclusion

With the current increased availability of imaging modalities, there is an increase in the rate of diagnosis of adrenal cysts. This warrants an understanding of the possible management options and timely intervention. Adrenal-sparing cyst excision can be practiced safely and is a preferred surgical management option for benign adrenal cysts when indicated by imaging and intraoperative finding.

Abbreviations

cm: Centimeter

CT: Computed Tomography

Declarations

Ethical approval

Ethical clearance was obtained from the institutional review board of St. Paul's Hospital Millennium Medical College and is available to the editors upon request.

Consent for Publication

Written informed consent was obtained from the patient for publication of this case report. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Conflict of Interests

All authors declares that they have no conflict of interest.

Acknowledgement

We thank the patient for giving consent to the publication of this case report.

Authors' contributions

All authors are involved in conceiving the idea, acquisition of data, writing the draft, and reviewing the literature.

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