

# GIGANTIC ADRENAL CYST MIMICKING MESENTERIAL TUMOR: A CASE REPORT

<sup>1</sup>Ario Baskoro, <sup>2</sup>Caesar Khairul Wallad, <sup>2</sup>Syamsu Hudaya, <sup>2</sup>Amrizal Umran.

<sup>1</sup> Department of Urology, Faculty of Medicine/Universitas Indonesia, Jakarta.

<sup>2</sup> Division of Urology, Department of Surgery, Fatmawati General Hospital, Jakarta.

## ABSTRACT

**Objective:** This study aims to know the effects of giant adrenal cysts and their challenges for surgeons. **Case(s) Presentation:** A 41 years old female was referred with a chief complaint of growing palpable mass on the left side of the abdomen since five months ago. During the past five months, the patient has also had complaints of hard narrow-caliber stools. The general conditions and vital signs have been within normal limits. **Discussion:** Complete resection of the tissue remains the current best treatment of choice. When available, laparoscopic adrenalectomy is the gold standard for treating giant adrenal cysts. Open adrenalectomy is an alternative when laparoscopic adrenalectomy is not available, or when there is not enough diagnostic information preoperatively. For large cysts with a size of >6cm, open surgery is the favorable treatment, because it is difficult to control the mass via the laparoscopic approach. **Conclusion:** The giant adrenal cyst is a rare condition that, due to its size, it could lead to moderate-severe abdominal symptoms. Localizing the origin of the cysts preoperatively poses a challenge for surgeons and diagnosticians. Intraoperative diagnostic and therapeutic with laparoscopy or open surgery is recommended for these cases.

**Keywords:** Giant adrenal cysts, abdomen, laparoscopy.

## ABSTRAK

**Tujuan:** Penelitian ini bertujuan untuk mengetahui efek kista adrenal raksasa dan tantangannya bagi ahli bedah. **Presentasi Kasus:** Perempuan 41 tahun dirujuk dengan keluhan utama teraba massa di abdomen kiri sejak 5 bulan yang lalu. Selama lima bulan terakhir, pasien juga memiliki keluhan tinja kaliber sempit yang keras. Keadaan umum dan tanda vital dalam batas normal. **Diskusi:** Reseksi lengkap jaringan tetap menjadi pengobatan pilihan terbaik saat ini. Bila tersedia, adrenalectomi laparoskopik adalah standar yang baik untuk mengobati kista adrenal raksasa. Adrenalectomi terbuka adalah alternatif ketika adrenalectomi laparoskopik tidak tersedia, atau ketika tidak ada informasi diagnostik yang cukup sebelum operasi. Untuk kista besar dengan ukuran >6cm, operasi terbuka adalah pengobatan yang menguntungkan, karena sulit untuk mengontrol massa di dalamnya melalui pendekatan laparoskopik. **Simpulan:** Kista adrenal raksasa adalah kondisi langka karena ukurannya dapat menyebabkan gejala perut sedang-berat. Melokalisasi asal kista sebelum operasi merupakan tantangan bagi ahli bedah dan diagnosa. Diagnostik dan terapeutik intraoperatif dengan laparoskopik atau operasi terbuka direkomendasikan untuk kasus ini.

**Kata kunci:** Kista adrenal raksasa, abdomen, laparoskopik.

Correspondence: Ario Baskoro; c/o: Department of Urology, Faculty of Medicine/Universitas Indonesia, Cipto Mangunkusumo Hospital. Jl. Diponegoro No. 71, Jakarta 10430, Indonesia. Email: dr.ariob@gmail.com.

## INTRODUCTION

Giant adrenal cysts are rare entities. It was described as cysts greater than 10 cm in diameter that derives from the adrenal glands. Given its size, this large mass induces abdominal discomfort and is often accompanied by gastrointestinal symptoms. Efforts to find the origins of the cyst have been recognized as challenging for practitioners and surgeons. Pitfalls arise from preoperative diagnosis,

adrenal cysts, and large mesenteric cyst tumors with specific radiographic characteristics that may render the final diagnosis troublesome.

## CASE(S) PRESENTATION

A 41 years old female was referred with a chief complaint of growing palpable mass on the left side of the abdomen five months ago. During the past five months, the patient has also had complaints of

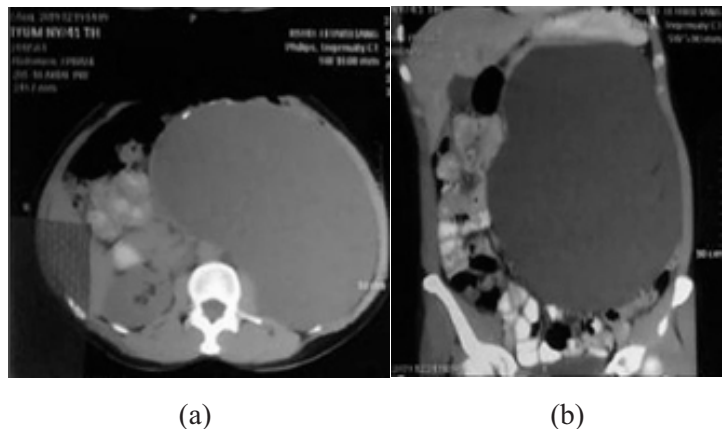
hard narrow-caliber stools. The general conditions and vital signs have been within normal limits. From physical examinations, the abdomen was distended with no signs of ascites.

A large, non-tender mass was palpable on the left side of the abdomen, stretching through the umbilical area. Routine blood tests, blood chemistry, electrolytes, and urinalysis were within normal limits. Contrast-Enhanced CT scan reveals a single, non-enhancing, hypodense mass on the left side of the abdomen with an estimated size of 24 cm x 18 cm x 18 cm, crosses the midline, pushes the left kidneys to the pelvis, and compresses the adjacent organs (Figure 1).

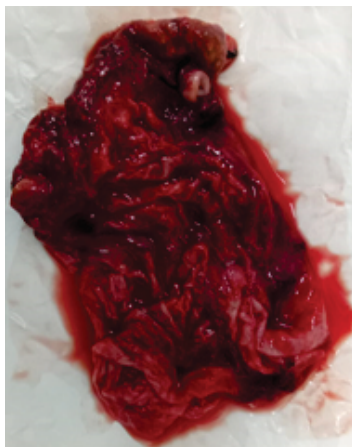
The patient then underwent laparotomy. Intraoperatively we found the giant mass arising from the retroperitoneal space pushing surrounding organs, especially the colon. Due to lack of surgical

space, we decide to puncture, and 3500cc of fluids were drained from the cyst. The cyst was dissected from the surrounding tissue for better visualization. The adrenal vein was identified, clamped, and resected. The post-operative period was uneventful. The cyst and the adrenal gland were extracted and sent for microscopic examination (Figure 2).

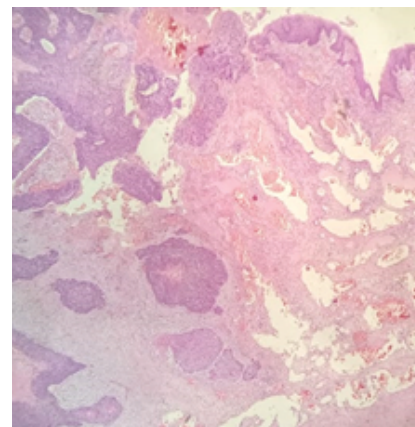
A microscopic examination from the extracted tissue reveals a section of cystic tissue covered by epithelial cells similar to the endothelium. The wall was composed of fibrous stroma with mononuclear infiltrates. Adrenal glandular cells was also observed with no noticeable pathology, hence suggesting a benign adrenal lesion (Figure 3). The cytology result reveals an adrenal cyst with lymphocytes and the minimum number of histocytes.



**Figure 1.** Axial (a) and coronal (b) computed tomography imaging shows cystic mass occupying the abdominal cavity.



**Figure 2.** Gross appearance of the adrenal cyst after open left adrenalectomy procedure.



**Figure 3.** Microscopic examination showed evidence of benign adrenal cysts.

## DISCUSSION

Adrenal cysts are rare cysts found in the adrenal region and covered by a fibrous wall without an epithelial or endothelial lining. They are generally non-functional and are commonly identified serendipitously by radiologic examination. Until now, only approximately 600 cases of adrenal cysts reported by various literature worldwide.<sup>3</sup> Adrenal cystic lesions are slightly more common in the female population (1:1.3) and mostly found in 30- to 50-year-old patients.<sup>2</sup> Moreover, giant adrenal cysts also pose diagnostic challenges and management conundrums. Only four publications reported adrenal cysts greater than 20 cm in diameter were correctly diagnosed before surgery.<sup>3</sup>

Adrenal cysts can be categorized as true glandular cysts or epithelial cysts, endothelial cysts, cystic adenomas, pseudocysts, and infectious cysts. The most prevalent adrenal cysts are endothelial cysts and pseudocysts, which contribute to 32-80% of all adrenal cysts. Other cystic adrenal lesions comprise lymphangiomas, hemangiomas, hamartomas, and cystic adrenal carcinoma.<sup>4</sup>

The patient presentation is often asymptomatic, this often leads to delayed diagnosis and treatment. Non-specific gastrointestinal symptoms might be complained by the patient. These symptoms are usually induced by mass effect, infection, rupture, or hemorrhage of the cyst.<sup>2</sup>

In the evaluation of adrenal cyst following a physical examination, if there is a palpable mass in the flank region, a complete blood test must be performed, as well as liver and renal function tests. Analysis of serum and urinary levels of the three main forms of adrenal hormones: sex hormones, mineral corticosteroids, and glucocorticoids is also performed.<sup>2</sup>

With advances in diagnostic imaging techniques, the detection rate of adrenal cystic lesions has increased. Non-contrast and contrast-enhanced CT scanning remains the gold standard for imaging adrenal masses with a reported sensitivity of 85-95%.<sup>5</sup> On a CT, adrenal cysts appear homogeneous, with a density of the fluid.<sup>6</sup>

Complete resection of the tissue remains the current best treatment of choice. When available, laparoscopic adrenalectomy is the gold standard for treating giant adrenal cysts.<sup>2</sup> Open adrenalectomy is an alternative when laparoscopic adrenalectomy is not available, or when there is not enough diagnostic information preoperatively. For large cysts with a size of >6 cm, open surgery is the favorable treatment, because it is difficult to control the mass via the laparoscopic approach.<sup>7</sup>

## CONCLUSION

The giant adrenal cyst is a rare condition that, due to its size, it could lead to moderate-severe abdominal symptoms. Localizing the origin of the cysts preoperatively poses a challenge for surgeons and diagnosticians. Intraoperative diagnostic and therapeutic with laparoscopy or open surgery is recommended for these cases.

## REFERENCES

1. Atim T, Mukhtar A. Giant adrenal cyst in a young female patient: A case report. *African J Urol*. 2016; 22(2): 83-5.
2. Passoni S, Regusci L, Peloni G, Brenna M, Fasolini F. A giant adrenal pseudocyst mimicking an adrenal cancer: Case report and review of the literature. *Urologia Internationalis*. 2013; 91: 245-8.
3. Olaoye IO, Adesina MD, Afolayan EA. A giant adrenal cyst with an uncertain preoperative diagnosis causing a dilemma in management. *Clin Case Reports*. 2018; 6(6): 1074-6.
4. Levison PH. A Case of Bilateral Adrenal Cysts. *Endocrinology*. 1933 Jul 1; 17(4): 372-6.
5. Sioka E, Symeonidis D, Chatzinikolaou I, Koukoulis G, Pavlakis D, Zacharoulis D. A giant adrenal cyst difficult to diagnose except by surgery. *Int J Surg Case Rep*. 2011; 2(7): 232-4.
6. Dunnick NR, Avram A, Mendiratta-Lala M, Turcu AF. Adrenal Imaging. Vol. 46, *Endocrinology and Metabolism Clinics of North America*. Elsevier Inc. 2017; 46: 741-59.
7. Stimac G, Katusic J, Sucic M, Ledinsky M, Kruslin B, Trnski D. A giant hemorrhagic adrenal pseudocyst. *Med Princ Pract*. 2008; 17(5): 419-21.