

Case Report

Giant Adrenal Pseudocyst

Ahmadreza Soroush MD¹, Taha Anbara MD¹, Marzieh Lashkari MD², Ali Mir MD^{•1}**Abstract**

Adrenal cysts are rare lesions which are usually nonfunctional and asymptomatic. Adrenal pseudocysts do not have epithelial linings and account for about 40% of adrenal cysts. We report a case of giant adrenal pseudocyst in a 32 year old woman presenting with flank pain who had undergone surgical excision.

Keywords: Adrenal, giant, pseudocyst

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Introduction

Cysts of adrenal gland are rare lesions and are usually non-functional, asymptomatic and incidental findings.¹ They are identified in approximately 4% (0.35% to 4.4%) of abdominal CT scans.^{2,3} Adrenal pseudocysts accounts for about 40% of adrenal cysts.⁴ They are surrounded by fibrous tissues and are usually small in size.⁵ There are three formation mechanisms for an adrenal pseudocyst: cystic degeneration of a primary adrenal neoplasm, degeneration of a vascular neoplasm, and malformation and hemorrhage of adrenal veins into the adrenal gland.³ Pressure effect on adjacent organs, infection, rupture and hemorrhage sometimes make large cysts symptomatic.¹

Case report

A 32-year-old woman presented with 20 days of constant left flank pain. She had no other complaints or past medical history. On physical examination, mild left CVA tenderness and a palpable mass on the left side of the upper abdomen were found. Other examinations were normal.

The routine laboratory tests including complete blood count (CBC), biochemistry and liver function tests were normal. Abdominopelvic sonography revealed a large cystic mass (152 × 135 cm) adjacent to the upper pole of the left kidney in favor of left adrenal cystic mass (Figure 1).

Laboratory exams for pheochromocytoma and Cushing's syndrome were unremarkable.

The abdominopelvic CT scan showed a large cystic mass (151 × 115 × 170 cm) in the left upper abdomen. The origin of the mass was not clearly evident (Figure 2a and 2b).

A cortical renal scan with DMSA was performed and a photopenic area in the upper pole of left kidney was reported.

In the operating room, a midline incision was made. A large cyst-

tic mass was located in the left upper quadrant which contained about 2000 mL of clear yellowish fluid. Left adrenalectomy was completed. The post-operative period was uneventful and the patient was discharged after 3 days.

The pathology of cyst wall was fibrosis and no evidence of malignancy was found. Cyst fluid cytology revealed no malignant or atypical cells, either.

Discussion

An adrenal pseudocyst is a cystic mass that is usually asymptomatic because of its nonfunctioning nature. When it is large in size, pressure effect on adjacent organs, infection, rupture and hemorrhage can make cysts symptomatic.¹ The mass is in the adrenal gland and surrounded by an indistinguishable fibrous layer.^{6,7} There are three formation mechanisms for an adrenal pseudocyst: cystic degeneration of a primary adrenal neoplasm, degeneration of a vascular neoplasm, and malformation and hemorrhage of adrenal veins into the adrenal gland.³

The first adrenal pseudocyst was reported by Greiselius in 1988 and since then 300 reports of adrenal pseudocysts are found in literature.⁴ Adrenal pseudocysts range vastly in size but the majority of them are smaller than 10cm.⁵ The largest adrenal pseudocyst was reported by Arundathi Rao in 2007 which measured 30cm in the largest diameter.³

The mainstay of treatment for adrenal pseudocysts is surgical excision, especially for symptomatic, functional cysts and those greater than 4–5 cm in diameter.^{1,3} The surgical approach can be through abdominal or thoracoabdominal incision. In our case, the abdominal incision was preferred. The prognosis of non-malignant cysts is excellent.

When confronting an adrenal cyst, the first and most important step is to determine the function and possible malignancy of the mass. Functional masses may be identified by their symptoms and by laboratory tests for pheochromocytoma, Cushing and aldosteronoma. The patient's past and present medical history alongside imaging characteristics of the lesion can provide clues on the malignant potential of the mass. The second most important question is how to manage an adrenal cyst. The answer depends primarily on the size of the lesion and its mass-related symptoms. Asymptomatic non-malignant cysts smaller than 4 cm in diam-

Authors' affiliations: ¹Department of Surgery, Shariati Hospital, Tehran University of Medical Science, Tehran, Iran. ²Department of Radiation Oncology, Cancer Institute, Tehran University of Medical Science, Tehran, Iran.

Corresponding author and reprints: Ali Mir MD, #9th, Ordibehesht Alley, 5th St., Simaieiran St., Shahrak Gharb Ave., Tehran, Iran. Fax: +98-218-807-7526, E-mail: amna207@yahoo.com.

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Figure 1. Sonographic feature of the left upper quadrant cystic lesion.

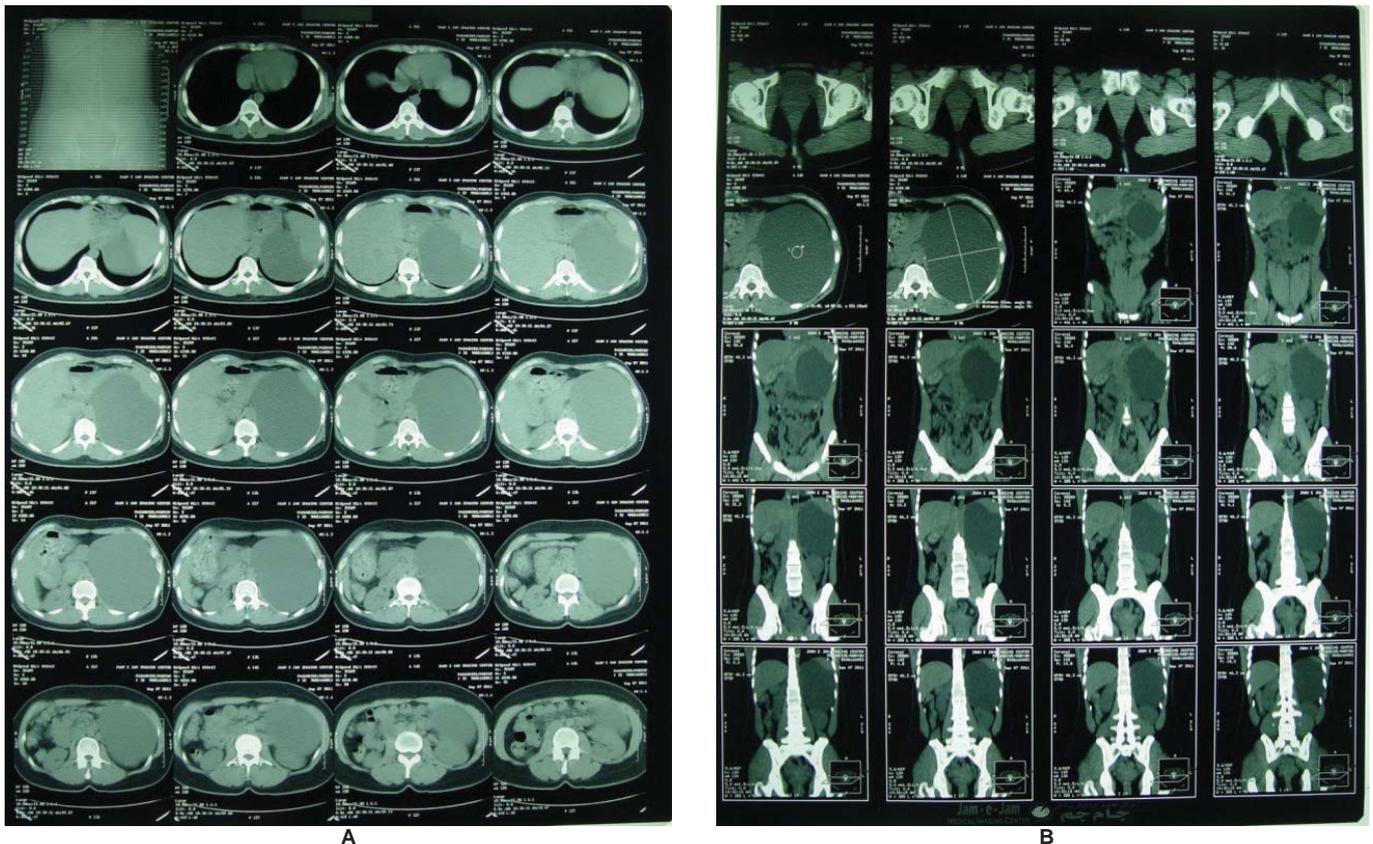


Figure 2. A) CT scan feature of the left upper quadrant cystic lesion (Horizontal section). **B)** CT scan feature of the left upper quadrant cystic lesion (Coronal section).

eter may be followed closely by imaging. All non-malignant cysts may be managed by surgery with excellent prognosis.

Conflict of Interest

Ali Mir and other authors of this article have no conflict of interest.

Reference

- Papaziogas B, Katsikas B, Psaralexis K, Makris J, Chatzimavroudis G, Tsiaousis R, et al. Adrenal pseudocyst presenting as acute abdomen during pregnancy. *Acta Chir Belg.* 2006; **106**: 722 – 725.
- Di Cataldo A, Lanteri R, Trombatore G, Licitra E, Licata A. Adrenal pseudocyst: case report and review of the literature. *Gi chir.* 2004; **25**:65 – 67.
- Rao A, Majmudar B, Bumpers H. Giant adrenal pseudocyst. *Surg Rounds.* 2007; **30**: 210.
- Mohan H, Aggarwal R, Tahlan A, Bawa AS, Ahluwalia M. Giant adrenal pseudocyst mimicking a malignant lesion. *Can J Surg.* 2003; **46**:474.
- Yue CT, Liao A, Huang P, Lowe GT. A large adrenal pseudocyst mimicking malignant intraabdominal tumor: a case report. *Zhonghua Yi Xue Za Zhi (Taipei).* 1997; **60**: 321 – 325.
- Medeiros LJ, Lewandrowski KB, Vickery Jr AL. Adrenal pseudocyst: a clinical and pathologic study of eight cases. *Hum Pathol.* 1989; **20**: 660 – 665.
- Lee SH, Goodacre BW, Scudamore CH. Case report: Unusual appearance of a giant adrenal pseudocyst. *Clin Radiol.* 1991; **43**:349 – 351.