

Case Report

DOI: <https://dx.doi.org/10.18203/2349-2902.isj20233006>

Adrenal pseudo cyst presenting as retroperitoneal lesion: a rare presentation

Shalu Gupta, Nidhi Gupta*, Ghanshyam Khumawat, Vijeta Tomar

Department of General Surgery, Sawai Man Singh Medical College, Rajasthan, India

Received: 24 August 2023

Accepted: 20 September 2023

***Correspondence:**

Dr. Nidhi Gupta,

E-mail: ngupta1411@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Adrenal pseudocyst are cystic lesions arising from the adrenal gland and do not contain any definitive epithelial lining. These are extremely rare and very few cases are reported, representing 1-2% of adrenal incidentalomas. Patients generally have a non-specific presentation with most patients being asymptomatic and detected incidentally, while others may present with the ensuing mass symptoms in cases of large cysts. Multiple differential diagnosis may be considered for the same. Here we reported the case of a 43 year old female who presented to us with worsening pain abdomen in the left upper quadrant. An ultrasonography revealed an 8×9×9 cm cystic lesion in the region of the tail of pancreas. Subsequent CT was suggestive of a retroperitoneal cyst with multiple diagnostic possibilities owing to the many intra-abdominal structures it was found to be associated with. A definitive pre-operative diagnosis regarding the origin of the cystic swelling could not be made. A decision to remove the lesion operatively via an open approach through an upper midline laparotomy was made and eventual histopathological diagnosis confirmed it to be an adrenal pseudocyst.

Keywords: Adrenal pseudocyst, Incidentalomas, Diagnosis, Retroperitoneal cysts

INTRODUCTION

Adrenal cysts are rare lesions representing 1-2% of all adrenal incidentalomas.¹ Adrenal cysts may be divided as-epithelial cysts, endothelial cysts, parasitic cysts and pseudocysts. 80% of adrenal cysts are pseudocysts and are characterized by lack of a well-defined epithelial or endothelial lining and possible pathogenesis could be of vascular origin- haemorrhage or infection secondary to trauma.^{2,3}

Most cysts are benign and show a female preponderance between the ages 40 to 60 years.⁴ We reported the case of a forty three year old female patient with chronic worsening abdominal pain who was worked up for a retroperitoneal cyst and eventually diagnosed with a large unilateral adrenal pseudocyst.

CASE REPORT

A previously asymptomatic 43 year old woman presented with left upper quadrant pain since the past one and a half years which was progressively increasing with time. The pain was intermittent, diffuse and dull aching type with occasional radiation to the back. No complaint of any fever, vomiting, early satiety, acidic reflux, anorexia or weight loss. No complaint of any episodes of palpitations, excessive sweating, headache or anxiety. No complaint of hematuria or painful micturition. No history of any swelling or bluish skin discolouration. No history of trauma or malignancy. Patient was not on any anti-coagulant drugs.

On examination patient was normotensive and did not have tachycardia. There was mild tenderness in the left

hypochondrium and left lumbar quadrant. There was no guarding or rigidity. Neither palpable mass, nor fullness was apparent and no organomegaly was present. Murphy's punch test was negative.

Routine blood investigations reported a normal total leucocyte count, clotting profile, hemoglobin, glucose and amylase, lipase levels. Kidney function tests were normal and urine routine microscopy showed a normal study. Serum Cortisol, Aldosterone levels were normal and Urine metanephrines were negative. An ultrasound of the abdomen was done which revealed a 9×8×8 cm cystic mass at the tail of pancreas. As no history consistent with pancreatitis was elicited, a contrast enhanced CT scan was done for further delineation which revealed a 9×9×7 cm hypodense cystic lesion abutting tail of pancreas, stomach, spleen, left kidney and left adrenal with extension posterior to the stomach and a mild inferior displacement of the left kidney. Possible differential diagnosis for the same included a pancreatic pseudocyst, renal cortical cyst, gastric duplication cyst or adrenal cyst- no definitive origin could be determined.

Operative excision of the lesion through upper midline laparotomy was planned. Intra operatively a well encapsulated cystic mass of 8 cm diameter was identified posterior to the stomach arising from the left kidney, just adjacent to the spleen. It was removed in toto after accessing the retroperitoneum through the greater omentum. Cut section grossly revealed soft cystic wall with whitish pus like discharge and haemorrhagic areas. Microscopic examination revealed hemosiderin laden macrophages with compressed benign adrenal cortical tissue on the periphery with no endothelial or epithelial lining and necrotic cystic contents- consistent with the diagnosis of an adrenal pseudocyst. Patient had a full recovery and an uneventful post-operative period. Patient was clinically asymptomatic in six month follow up with no recurrence of abdominal pain.

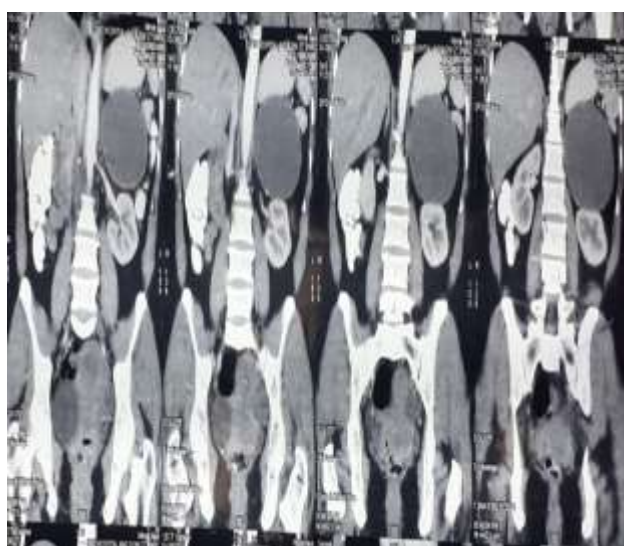


Figure 1: Hypodense smooth cyst (star) abutting the stomach, spleen and the left kidney.

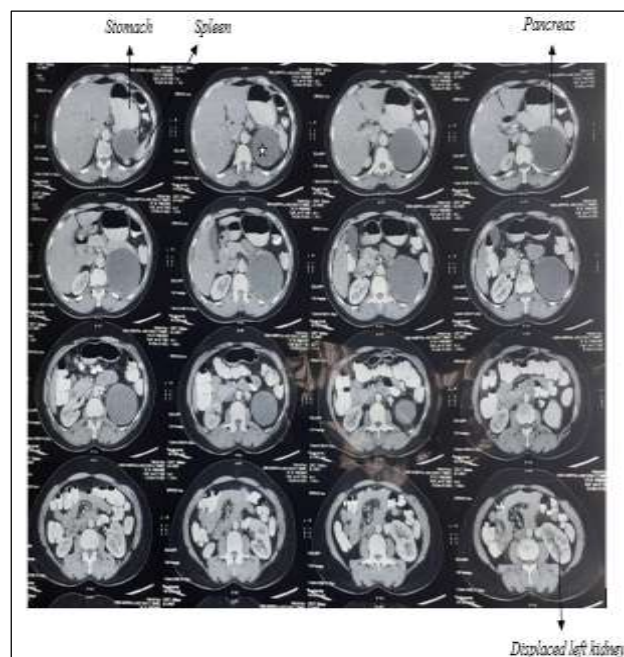


Figure 2: Axial sections of CT scan showing intra-abdominal relations of cyst.

DISCUSSION

Due to the increased availability of higher imaging modalities, the incidence of adrenal pseudocysts has increased over the past few years but it is still a relatively rare diagnosis. Only 7% of the reported pseudocysts are malignant or have malignant potential and there is an increased risk with increase in size over 6 cm.^{5,9} Such cysts are mostly formed due to haemorrhage following trauma, coagulopathy or during delivery- accumulation of blood or fluid occurs through a tear in the capsule in the adrenal parenchyma. They may be further complicated by infection or bleeding.⁴ These cysts mostly present to the surgeon when an increase in size results in compression of the surrounding structures leading to pain or a palpable mass. Some cases of acute abdomen have too been reported where rupture of the cysts have led to severe retroperitoneal haemorrhage and shock.⁶ Most of the cysts are non-functional and are not associated with any Cushing's syndrome or pheochromocytoma.⁷ In our case the patient presented with chronic and progressive pain abdomen owing to the gradual increase in size of the cyst. Since on imaging, it was found to be associated with multiple retroperitoneal structures, a careful history was taken and lab investigations were conducted to determine the possible diagnosis- with no conclusive results. Hence a definitive pre-operative diagnosis could not be made regarding the origin of the cystic lesion. A USG guided aspiration was decided against since any possible communication with the pancreatic ducts could result in a fistula and haemorrhage could occur during the procedure. An operative intervention and excisional biopsy was the best possible treatment which could hence be offered to our patient. CT imaging generally reveals cystic mass as seen in our case but some complex cysts may have solid

components which do not enhance with contrast and thus help differentiate from adrenal neoplasms which do.⁸ Heterogenous haemorrhagic cysts do however have solid components that enhance with contrast and differentiating them from adrenal malignancies is not possible on a radiological basis- 7-44% of such radiologically labeled haemorrhagic cysts are later found to be tumors.¹⁰

Small, asymptomatic, non-functional adrenal pseudocysts may be managed conservatively and serially followed up on imaging to check for any further increase in size or change in components.¹¹ Symptomatic patients such as ours, functional cysts or those with suspicion of malignancy are best treated by resection. An open approach may be disadvantageous as compared to a laparoscopic approach which also allows magnified visualization which proves to be both diagnostic and therapeutic.¹²

CONCLUSION

Adrenal pseudocysts are rare entities and definitive pre-operative diagnosis is difficult. We presented a case of a middle aged female who was diagnosed with a non-specific left sided retroperitoneal cyst for which an open resection was done and histopathological diagnosis was done for confirmation of nature.

ACKNOWLEDGEMENTS

The authors thank the Department of Radio Diagnosis for providing CT reports and all the colleagues who were involved in the patient care.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Calissendorff J, Juhlin CC, Sundin A, Bancos I, Falhammar H. Adrenal cysts: an emerging condition. *Nat Rev Endocrinol*. 2023;19(7):398-406.
2. Habra MA, Feig BW, Waguespack SG. Image in endocrinology: adrenal pseudocyst. *J Clin Endocrinol Metab*. 2005;90(5):3067-8.
3. Ujam AB, Peters CJ, Tadrous PJ, Webster JJ, Steer K, Martinez-Isla A. Adrenal pseudocyst: Diagnosis and laparoscopic management - A case report. *Int J Surg Case Rep*. 2011;2(8):306-8.
4. Wieneke JA, Thompson LDR. Non-neoplastic lesions of the adrenal gland. In: Thompson LDR, editor. *Endocrine pathology*. In: Goldblum JR, series eds. *Foundations in diagnostic pathology*. Philadelphia, PA: Churchill Livingstone Elsevier; 2006: 183-204.
5. Aloraifi F, O'Brien G., Broe P. Giant adrenal pseudocyst treated laparoscopically: case report and review of the literature. *Open Surg J*. 2008;2:39-42.
6. Mahmoodlou R, Valizadeh N. Spontaneous rupture and hemorrhage of adrenal pseudocyst presenting with acute abdomen and shock. *Iran J Med Sci*. 2011;36(4):311-4.
7. Demir A, Tanidir Y, Kaya H, Turkeri LN. A giant adrenal pseudocyst: case report and review of the literature. *Int Urol Nephrol*. 2006;38(1):167-9.
8. Wang LJ, Wong YC, Chen CJ, Chu SH. Imaging spectrum of adrenal pseudocysts on CT. *Eur Radiol*. 2003;13(3):531-5.
9. Kyoda Y, Tanaka T, Maeda T, Masumori N, Tsukamoto T. Adrenal hemorrhagic pseudocyst as the differential diagnosis of pheochromocytoma--a review of the clinical features in cases with radiographically diagnosed pheochromocytoma. *J Endocrinol Invest*. 2013;36(9):707-11.
10. Wedmid A, Palese M. Diagnosis and treatment of the adrenal cyst. *Curr Urol Rep*. 2010;11(1):44-50.
11. Porpiglia F, Fiori C, Daffara F, Zaggia B, Bollito E, Volante M, et al. Retrospective evaluation of the outcome of open versus laparoscopic adrenalectomy for stage I and II adrenocortical cancer. *Eur Urol*. 2010;57(5):873-8.
12. Yokoyama Y, Tajima Y, Matsuda I, Kamada K, Ikehara T, Uekusa T, et al. Differential diagnosis and laparoscopic resection of an adrenal pseudocyst: A case report. *Int J Surg Case Rep*. 2020;72:178-82.

Cite this article as: Gupta S, Gupta N, Khumawat G, Tomar V. Adrenal pseudo cyst presenting as retroperitoneal lesion: a rare presentation. *Int Surg J* 2023;10:1724-6.