Ectopic retroperitoneal bronchogenic cyst mimicking an adrenal hematoma: A case report

MI MENG[1*], YUFAN NIE[2*], YE HE[3], BO YU[3], NI FU[3], CHENG YANG[2], DI WU[2], HAOYI LI[2], LIN LU[2], XIANGYU XIE[4] and QIANG XU[3]

[1]Department of Thoracic Oncology, The Second Affiliated Hospital of Zunyi Medical University, Zunyi, Guizhou 563000, P.R. China; [2]Department of Clinical School, Zunyi Medical University, Zunyi, Guizhou 563000, P.R. China; [3]Department of Urology, The Second Affiliated Hospital of Zunyi Medical University, Zunyi, Guizhou 563000, P.R. China; [4]Department of Urology, The People's Hospital of Tongliang District, Chongqing 402560, P.R. China

Received March 20, 2025; Accepted September 16, 2025

DOI: 10.3892/etm.2025.12992

Abstract. A bronchogenic cyst (BC) is a rare congenital bronchopulmonary malformation, typically found in the thoracic cavity and rarely found in the retroperitoneum. Due to its anatomical location, BCs are often misdiagnosed as adrenal or pancreatic solid tumors on radiological evaluation. The present study reports a case of an ectopic BC (EBC) in a patient who presented with left-sided lumbar pain and fever. Initial imaging suggested a cyst in the adrenal region, complicated by hemorrhage and infection. However, after posterior laparoscopic surgery, pathological analysis confirmed the diagnosis of an EBC. The present case report highlights the importance of considering BCs as a potential diagnosis in cystic hemorrhagic lesions located in the retroperitoneum, thereby preventing misdiagnosis and providing valuable insight for clinical management.

Introduction

Bronchogenic cysts (BCs) are rare congenital benign tumors that arise during early embryonic foregut development. The pathogenesis is hypothesized to be a result of the abnormal detachment and displacement of primitive tracheobronchial tree buds (1). These cysts can be found in any organ derived from the embryonic primitive foregut and, according to the site of occurrence, can be classified into the intrapulmonary type, mediastinal type and ectopic type. Over 80% of cases occur in the lungs and posterior mediastinum. Clinically, BCs located outside of the thoracic cavity are referred to as ectopic BCs (EBCs). EBCs, although rare, can also be found in various locations, including the neck, brain, meninges and abdominal cavity, with retroperitoneal occurrences being uncommon and accounting for only 0.03% of retroperitoneal tumors (2). The first report of an EBC was made by Miller *et al* (3) in 1953. Due to their common growth locations within body cavities, BCs are typically asymptomatic and are often discovered incidentally during routine imaging. Preoperative definitive diagnosis is relatively challenging and final confirmation still relies on histopathological analysis. The present case report describes a patient with an ectopic retroperitoneal BC (ERBC), successfully treated through laparoscopic excision after cyst puncture and drainage. A literature review is also included to update the clinical features of this rare disease in adult patients, in order to provide a reference for the diagnosis and treatment of patients with ERBC.

Case report

A 53-year-old male patient presented at The Second Affiliated Hospital of Zunyi Medical University (Zunyi, China) in August 2023 with a 2-week history of recurrent lower back pain and a fever of 38.8˚C. Despite these symptoms, the patient's mental and physical health were good, and there was no history of trauma. A computed tomography (CT) scan revealed a cystic lesion in the left retroperitoneum, suspected to be an adrenal cyst complicated by hemorrhage and infection (Fig. 1). Upon admission, the patient denied any significant history of infectious or chronic diseases, except for a previous kidney stone surgery, which was performed in May 2020. No mass was detected in the upper abdomen and CT findings confirmed a left adrenal cyst with hemorrhage and infection. Given the fever and infection, a provisional diagnosis of a left adrenal cyst with hemorrhage and infection was made. A CT-guided aspiration of the left perinephric fluid yielded brown purulent fluid. Routine analysis of the aspirate showed red blood

Correspondence to: Professor Xiangyu Xie, Department of Urology, The People's Hospital of Tongliang District, 336 Yingchun East Street, Tongliang, Chongqing 402560, P.R. China
E-mail: xxy9116@126.com

Professor Qiang Xu, Department of Urology, The Second Affiliated Hospital of Zunyi Medical University, Intersection of Xinpu Avenue and Xinlong Avenue, Zunyi, Guizhou 563000, P.R. China
E-mail: 297145855@qq.com

*Contributed equally

Key words: misdiagnosis, rare disease, laparoscopic post-surgery, hydronephrosis, ectopic bronchogenic cyst

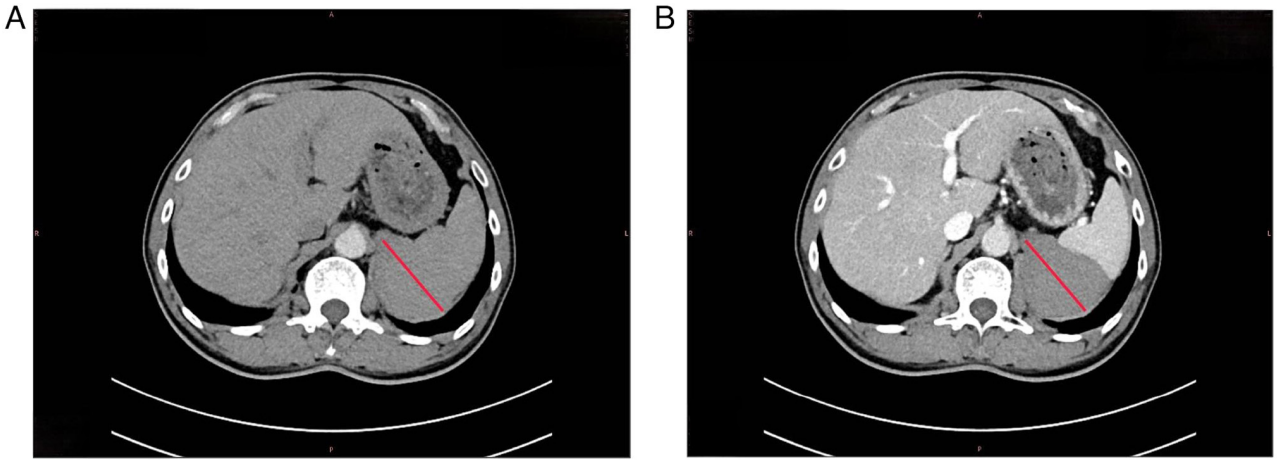

Figure 1. CT scan showing a thin-walled, sheet-like, soft tissue-like-density shadow in the left retroperitoneal region, with no enhancement on contrast scan (red lines indicate the diameter of the cyst). (A) Non-contrast CT scan. (B) Contrast-enhanced transverse CT scan. CT, computed tomography.

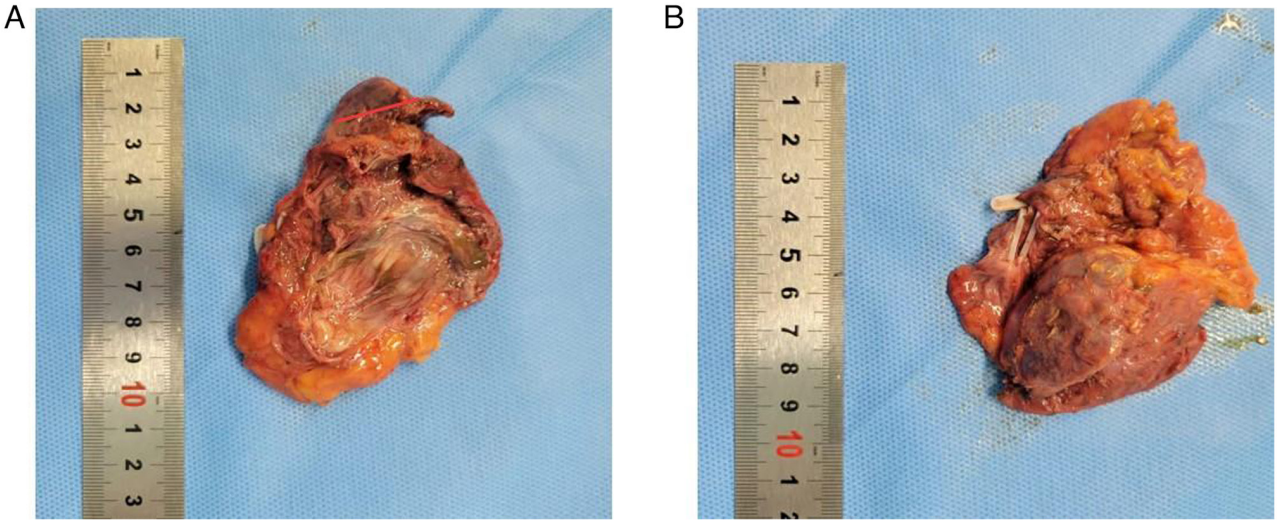

Figure 2. Gross appearance of the surgically resected ectopic bronchogenic cyst. (A) Inner wall of the cyst, which contains a brownish fluid. (B) The cyst is connected to the adrenal gland (as indicated by the red lines).

cells (+) and white blood cells (++), and a bacterial smear revealed white blood cells (+), Gram-positive cocci (+) and Gram-negative rods (-). Although bacterial cultures showed no growth after 48 h, likely due to prior antibiotic treatment, the puncture drainage was ineffective, prompting laparoscopic resection of the retroperitoneal cyst after 1 week of antibiotic treatment, and exclusion of any surgical contraindications.

Intraoperatively, the left adrenal gland was located above the psoas major muscle, with a cystic mass ~10 cm in diameter and a smooth surface (Fig. 2). The excised mass measured 7.4x5.1x5.5 cm and had a multi-segmented cystic structure, with localized solid areas (~1.5x0.7 cm) from which 80 ml of grayish-brown viscous fluid was discharged. Pathological examination (H&E staining; Data S1) of the resected mass revealed that the cyst wall was lined with ciliated columnar epithelium, with fibrous connective tissue beneath. Irregular cartilage fragments were observed within the cyst wall and mucus was present inside the cyst (Fig. 3). Based on surgical and pathological findings (Fig. 4) the final diagnosis was a left adrenal BC. The patient has been followed up regularly postoperatively, with ultrasound examinations performed at 3 and 12 months after surgery, and no medications or other treatments were administered postoperatively. As of 12 months post-surgery, no recurrence has been observed. At the time of manuscript submission, the patient reported a satisfactory recovery with no signs of recurrence.

Discussion

BCs are developmental anomalies originating from the early embryonic foregut, predominantly found in the lungs and mediastinum, with RBCs occurring rarely (2). In recent years, only a few cases have been reported in the literature, most of them in case reports. ERBC can occur at any age, with similar incidence rates in men and women. The cysts are generally <5 cm in diameter and are mostly unilateral and unilocular (3). These cysts are characterized by pseudostratified columnar epithelium, resembling bronchioles, and may be accompanied by cartilage, smooth muscle or glandular tissue (4). Due to their unusual location, variable cystic content and non-specific

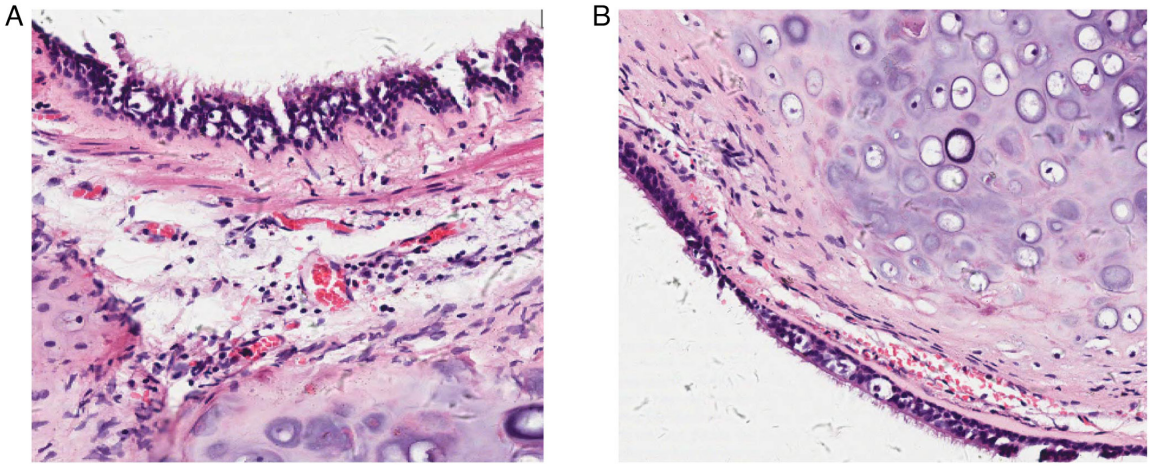

Figure 3. Pathological images of the bronchogenic cyst (H&E staining). (A) Cyst wall lined with pseudostratified ciliated columnar epithelium, with fibrous connective tissue visible in the stroma. (B) Presence of hyaline cartilage was observed in the inner epithelial lining (H&E stain; magnification, x100).

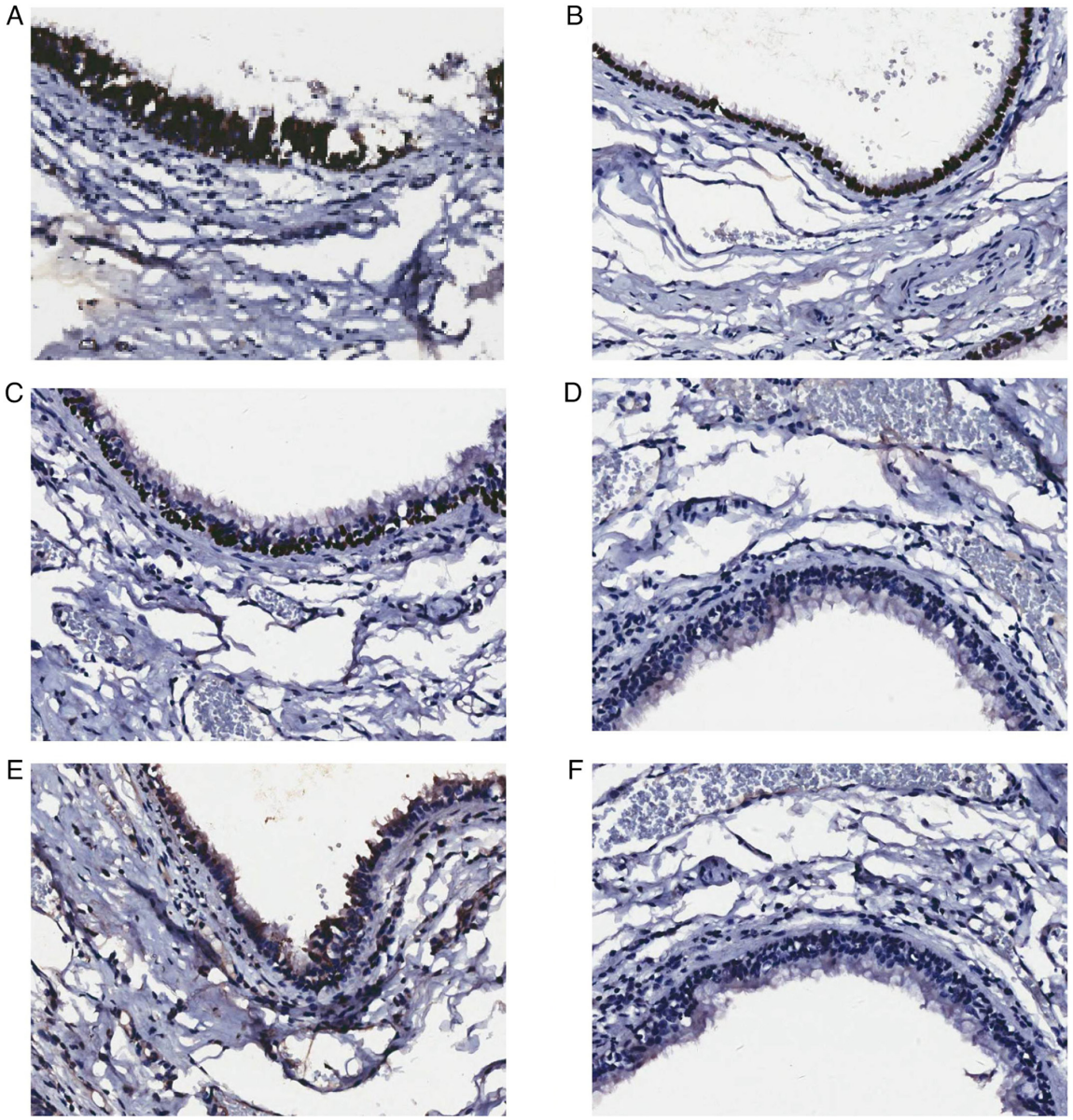

Figure 4. Postoperative immunohistochemical analysis of the bronchogenic cyst revealed positive expression of (A) CK7, (B) TTF-1 and (C) p63 in the epithelial cells, while (D) Napsin A, (E) Pax8 and (F) ER were negative. CK7 and Napsin A showed cytoplasmic localization, whereas TTF-1, P63, Pax8 and ER were localized in the nucleus (magnification, x400). CK, cytokeratin; TTF-1, thyroid transcription factor 1; ER, estrogen receptor; Pax8, paired box 8.

imaging features, RBCs are frequently misdiagnosed as cystic teratomas, adrenal tumors or other benign or malignant retroperitoneal masses (5).

The exact pathogenesis of RBCs remains elusive. Currently, the most widely accepted hypothesis is the germ bud detachment and displacement theory (6). Based on embryological evidence, it is proposed that during the 4-6th week of embryonic development, the ventral wall of the foregut forms the laryngotracheal diverticulum, which gradually develops into the bronchial tree. During cellular migration, some primitive bronchial bud cells abnormally detach and remain in the posterior mediastinum or more distant locations such as the retroperitoneum. From a molecular biology perspective, the formation of RBCs may be associated with abnormalities in embryonic developmental signaling pathways and imbalances in the cellular microenvironment (7). This mainly involves abnormal activation of the Wnt/β-catenin pathway, which promotes the survival of ectopic epithelial cells and cystic expansion, aberrant expression of homeobox (HOX) genes (such as the HOXA/B clusters), potentially causing mislocalization of foregut epithelial cells to the retroperitoneum, and extracellular matrix remodeling along with TGF-β signaling regulation, which facilitates cartilage and smooth muscle differentiation, forming the characteristic cyst wall structure (8). As this study is a case report, there are inherent limitations in exploring detailed mechanisms or molecular aspects.

Clinically, ~60% of RBCs are located near the adrenal glands. This may be attributed to the overlapping timing of adrenal embryogenesis, derived from the neural crest and mesoderm, and foregut differentiation, as well as the presence of loose connective tissue in the region, which provides space for cyst growth. Among these, the left adrenal region is most commonly affected (6). This may be due to the counterclockwise rotation of the caudal primitive foregut and midgut from left to right during embryonic development. It is hypothesized that the detached germ bud fails to follow this rotation and remains on the left side. In the present case, the RBC was located above the left adrenal gland, consistent with most cases reported in the literature (9,10).

RBCs are often incidentally discovered during imaging examinations such as upper abdominal CT or MRI. On CT, abdominal EBCs typically appear as round or oval cystic masses with well-defined borders and homogeneous densities, often presenting as unilocular lesions of varying sizes (11). When these cysts are located within tissue planes, their long axis usually aligns with surrounding tissues, displacing adjacent structures. The cyst wall may be thin and difficult to discern on imaging, although occasional punctate calcifications may be visible. The CT density of BCs varies depending on their contents, ranging from low-density, water-like appearances to mildly hyperdense regions, with minimal enhancement of the cyst wall on contrast-enhanced scans (12,13). On unenhanced MRI, the cyst contents typically appear isointense to hypointense on T1-weighted images, slightly higher than the signal of simple fluid. On T2-weighted images, they usually show high signal intensity, which may be attributed to the presence of methemoglobin, mucin and other proteinaceous components (12,14). Contrast-enhanced scans may reveal enhancement of the cyst wall, while the cyst contents generally show no obvious enhancement.

RBCs are often asymptomatic, with clinical symptoms emerging only when the cyst enlarges, ruptures, compresses surrounding structures or becomes secondarily infected (15). Symptoms can include lower back pain, abdominal discomfort, nausea, vomiting or fever, as observed in the present case. Certain studies (15-17) have found that when RBCs are located in the adrenal region, patients may exhibit pheochromocytoma-like clinical symptoms such as palpitations, insomnia and hypertension. Mild elevations in adrenal hormone levels may also be observed. The underlying pathogenesis is hypothesized to involve compression of the surrounding adrenal gland by a relatively large cyst. These symptoms typically show notable improvement after surgical resection and relief of the compression (18). In the present case, the BC was located in the left adrenal region. Although it was relatively large, the patient did not exhibit any pheochromocytoma-like clinical manifestations. In addition, the serological examinations revealed no elevation in adrenal hormone levels. This may be because the cyst had already ruptured and was no longer exerting considerable compressive effects on the adrenal gland. The majority of patients with BC typically do not exhibit any notable abnormalities in tumor markers such as CA19-9, CA12-5 and CEA (19). However, in clinical practice, routine assessment of tumor markers, such as CA19-9, CEA and CA24-2, are still recommended, as they can aid in the differential diagnosis from retroperitoneal tumors such as pancreatic and adrenal tumors, thereby helping to avoid misdiagnosis.

As the BC described in the present report was located in the left adrenal region, distinguishing it from other cystic adrenal lesions, such as adrenal hemorrhage or pseudocysts, was crucial. The combination of clinical history, blood tests and imaging studies, including CT, facilitated this differentiation. However, a definitive diagnosis still ultimately relies on pathological examination. The pathological features of RBC often include a cyst wall lined with pseudostratified ciliated columnar epithelium (20). Additionally, the cyst wall contains cartilage, mucous glands and bronchial smooth muscle. The presence of cartilage in the cyst wall is considered a characteristic feature of RBC. However, further comprehensive immunohistochemical staining for thyroid transcription factor (TTF)-1, cytokeratin (CK)7 and p63 is also currently recommended. These immunohistochemical stainings are designed to form a comprehensive panel for determining the tissue of origin, thereby elucidating the histogenesis and nature of the cyst, aiding in differential diagnosis, and ultimately improving the accuracy of pathological evaluation. The immunohistochemical experiments shown in Fig. 4 were performed for diagnostic purposes. With regard to the tumor of the present patient, immunohistochemical analysis performed at a later stage revealed CK7 and Napsin A with cytoplasmic positive staining (brown coloration), whereas TTF-1, p63, paired box 8 and estrogen receptor exhibited nuclear positive staining. In view of the benign histological features and lack of atypia, KRAS/BRAF mutation analysis was deemed unnecessary in the present case. Nonetheless, in scenarios suggestive of malignant transformation, molecular testing may provide valuable insights into tumor biology and inform clinical management strategies.

Adrenal hemorrhagic cysts can be classified into two types: i) Those associated with hematomas or hemorrhage within adrenal cortical or medullary tumors; and ii) those arising from trauma, inflammation or other causes (21). Hemorrhagic cysts often appear as acute or subacute hemorrhages on imaging, presenting as masses with varying densities, occasionally accompanied by calcifications but without surrounding tissue infiltration (22). By contrast, traumatic adrenal hemorrhage may appear on ultrasound as heterogeneous, echogenic masses that become more mixed or hypoechoic as liquefaction progresses (23). In the present case, the EBC exhibited symptoms similar to those of a peri-adrenal abscess due to infection and rupture. The pseudo complex columnar epithelium of the cyst has secretory functions, and as intracapsular pressure increases, the risk of rupture rises, releasing mucus and secretions into surrounding tissues, creating a favorable environment for bacterial colonization (2). This explains why Gram-positive cocci were identified in the cyst fluid culture described in the present report. However, subsequent bacterial cultures did not detect any positive bacteria, possibly because sensitive antibiotic therapy had already been administered prior to the aspiration procedure.

The tissue surrounding the adrenal glands is loose and rich in fat and lymphatic vessels, making it easy for inflammation to spread. When a cyst ruptures, the infection may spread through the bloodstream. Abdominal EBCs typically present as fluid-filled lesions on CT or MRI, with no notable enhancement on contrast imaging (24). They can often be misdiagnosed as adrenal hematomas or other retroperitoneal masses. This was also the reason why a prompt diagnosis was not established for the patient described in the present case report and laparoscopic surgery was performed. RBCs are challenging to diagnose preoperatively. However, if an RBC is located around the adrenal gland, it is still recommended that serum potassium, catecholamines, 24-h urinary cortisol and serum adrenocorticotropic hormone tests are performed to exclude adrenal pheochromocytoma and adrenal cortical tumors. If the RBC is located around the pancreas, it is recommended that serum amylase, lipase and CA-19-9 levels are measured to differentiate it from pancreatic pseudocysts, pancreatic cancer and other diseases. Current literature suggests that retroperitoneal cysts <6 cm can be managed conservatively, but surgical resection is required when they exhibit mass effect, cause hydronephrosis or when malignancy cannot be excluded. Due to their deep location and proximity to critical structures such as the adrenal glands and spleen, complete excision may be difficult in certain cases (25). However, laparoscopic resection is the preferred treatment due to its minimal invasiveness, high success rate and low complication rate. In the present case, complete laparoscopic resection was safe and effective, with no recurrence observed during follow-up.

Although bronchogenic cysts have been reported previously, the present case is unique in presenting a rare retroperitoneal location combined with hemorrhagic and infectious complications, which is exceptionally uncommon (26-28). Furthermore, based on this case, we propose a diagnostic approach to aid in differentiating retroperitoneal cystic lesions, including consideration of bronchogenic cysts when the adrenal origin is uncertain. In the patient of the present study, the diagnostic confusion primarily resulted in a prolonged diagnostic and therapeutic process. The main reason for the misdiagnosis was insufficient awareness of this rare condition, leading to its exclusion from the initial preoperative differential diagnosis. Although this delay did not cause any evident deterioration in the patient's health condition at the time of treatment or in the postoperative period, it underscores the importance of considering this entity in similar clinical scenarios to avoid unnecessary delays in management. While this is not a mechanistic study, the rare presentation and clinical insights may offer meaningful value to clinicians and radiologists (20,29).

In conclusion, in the present study, a case of a retroperitoneal EBC with hemorrhage and infection on the left side was reported. Although this type of cyst is rare and typically benign, it poses potential risks of complications, such as opportunistic infection and hemorrhage, as it enlarges. Therefore, in clinical practice, for patients presenting with symptoms and imaging features suggestive of adrenal cysts with hemorrhage and infection, clinicians should be vigilant and consider EBCs as part of the differential diagnosis for retroperitoneal tumors. Timely identification and diagnosis of such cysts can help avoid delays and misjudgments in treatment. The long-term prognosis of this condition is favorable, with no reported recurrence in patients who have undergone laparoscopic surgery.

Acknowledgements

Not applicable.

Funding

This study was supported by The Guizhou Provincial Department of Education (grant no. SJJG-2023177).

Availability of data and materials

The data generated in the present study may be requested from the corresponding author.

Authors' contributions

BY and QX were the patient's urologists and suggested a writing strategy for the manuscript. MM and YN analyzed the patient's information and wrote the manuscript. YH, NF, CY, DW, HL, XX and LL obtained and analyzed the patient's information and reviewed the discussion part on the clinical diagnosis and treatment. BY and XX were responsible for the revision of the manuscript for important intellectual content. QX and XX confirm the authenticity of all the raw data. All authors have read and approved the final version of the manuscript.

Ethics approval and consent to participate

The specimens used in Fig. 4 were derived from the same postoperative paraffin-embedded tissue of the patient described in this case report. Additional sectioning and immunohistochemical staining were performed on the original paraffin block at the Department of Pathology, The

Second Affiliated Hospital of Zunyi Medical University (Zunyi, China) as part of the supplementary diagnostic evaluation. As these procedures were conducted for the same patient and not for a separate research project, no additional ethics approval was required.

Patient consent for publication

Written informed consent to publish this case report and the accompanying images was obtained from the patient.

Competing interests

The authors declare that they have no competing interests.

References

1. Pederiva F, Rothenberg SS, Hall N, Ijsselstijn H, Wong KKY, von der Thüsen J, Ciet P, Achiron R, Pio d'Adamo A and Schnater JM: Congenital lung malformations. Nat Rev Dis Primers 9: 60, 2023.
2. Xie W, Huang Z, Huang Z, Chen Z, Zhang B, Xie L, Zhu L, Lian K and Lin D: Retroperitoneal bronchogenic cyst with fluid-fluid level: A case report and literature review. Exp Ther Med 25: 5, 2022.
3. Miller RF, Graub M and Pashuck ET: Bronchogenic cysts; anomalies resulting from maldevelopment of the primitive foregut and midgut. Am J Roentgenol Radium Ther Nucl Med 70: 771-785, 1953.
4. Weissferdt A: Non-neoplastic thoracic cysts: A clinicopathologic study of 136 cases. Am J Surg Pathol 47: 1349-1363, 2023.
5. Matsumoto H, Hasegawa S, Maezawa Y, Okauchi S, Ohara G, Iguchi K, Kawai H, Takayashiki N and Satoh H: An atypical presentation of bronchogenic cyst. Klin Onkol 39: 463-466, 2024.
6. Sumiyoshi K, Shimizu S, Enjoji M, Iwashita A and Kawakami K: Bronchogenic cyst in the abdomen. Virchows Arch A Pathol Anat Histopathol 408: 93-98, 1985.
7. Hernandorena González M, Joudanin Seijo JR, Sanchís García JM and Pina Pallín M: Unusual location of a bronchogenic cyst simulating a pancreatic tumor. Radiologia 52: 465-468, 2010 (In Spanish).
8. Obando J, Merkle E and Bean SM: A retroperitoneal bronchogenic cyst. Clin Gastroenterol Hepatol 7: A24-e21, 2009.
9. Govaerts K, Van Eyken P, Verswijvel G and Van der Speeten K: A bronchogenic cyst, presenting as a retroperitoneal cystic mass. Rare Tumors 4: e13, 2012.
10. Jiang B, Xie T, Hu J, Xu Y and Zhang H: Retroperitoneal bronchogenic cyst: A case report and literature review. Front Oncol 14: 1406270, 2024.
11. Fu GS, Wang SF, Wang YN, Han FG, Xu Y, Wei YY, Zhang F, Duan QC and Zhang J: Clinical analysis of 21 cases of children with ectopic bronchogenic cyst. Zhonghua Er Bi Yan Hou Tou Jing Wai Ke Za Zhi 59: 941-946, 2024 (In Chinese).
12. Gu X, Zhu L, Li Y, Yin B and Wang Z: Imaging findings and misdiagnosis of bronchogenic cysts: A study of 83 cases. J Belg Soc Radiol 107: 81, 2023.
13. Topal U: Bronchogenic cysts: Radiologic findings. Tani Girisim Radyol 9: 333-338, 2003 (In Turkish).
14. Park JW, Jeong WG, Lee JE, Lee HJ, Ki SY, Lee BC, Kim HO, Kim SK, Heo SH, Lim HS, *et al*: Pictorial review of mediastinal masses with an emphasis on magnetic resonance imaging. Korean J Radiol 22: 139-154, 2021.
15. Gostomczyk K, Borowczak J, Zdrenka M and Szylberg Ł: Atypical presentation of bronchogenic cyst in the retroperitoneal space. Cureus 16: e55029, 2024.
16. Moez R, Ouanes Y, Sahnoun W, Mokhtar B, Dali KM, Sellami A, Ben Rhouma S and Nouira Y: Retroperitoneal cystic mass: A rare form of adrenal pheochromocytoma. J Surg Case Rep 2021: rjab169, 2021.
17. Mokhtari M and ZeraatianNejadDavani S: Primary adrenal hydatid cyst presenting with arterial hypertension. Arch Iran Med 15: 328-330, 2012.
18. Cao DH, Zheng S, Lv X, Yin R, Liu LR, Yang L, Huang Y and Wei Q: Multilocular bronchogenic cyst of the bilateral adrenal: Report of a rare case and review of literature. Int J Clin Exp Pathol 7: 3418-3422, 2014.
19. Wang M, He X, Qiu X, Tian C, Li J and Lv M: Retroperitoneal bronchogenic cyst resembling an adrenal tumor with high levels of serum carbohydrate antigen 19-9: A case report. Medicine (Baltimore) 96: e7678, 2017.
20. Wen Y, Chen W, Chen J and He X: Retroperitoneal bronchogenic cyst resembling an adrenal tumor: Two case reports and literature review. J Int Med Res 48: 300060520925673, 2020.
21. Elhassan YS, Ronchi CL, Wijewickrama P and Baldeweg SE: Approach to the patient with adrenal hemorrhage. J Clin Endocrinol Metab 108: 995-1006, 2023.
22. Arslan S, Sarıkaya Y, Akata D, Özmen MN, Karçaaltıncaba M and Karaosmanoğlu AD: Imaging findings of spontaneous intraabdominal hemorrhage: Neoplastic and non-neoplastic causes. Abdom Radiol (NY) 47: 1473-1502, 2022.
23. Piskunowicz M, Stefanowicz J, Batko T, Hwang M, Świętoń D, Szarmach A, Back S and Kosiak W: Contrast-enhanced ultrasound of adrenal hemorrhage: A helpful problem solving tool. Med Ultrason 24: 284-289, 2022.
24. Singh AK, Neyaz Z, Verma R, Gupta A, Mishra R and Mishra P: Diagnostic yield and safety of percutaneous CT-guided biopsy of retroperitoneal lesions and analysis of imaging features. Acta Radiol 63: 149-158, 2022.
25. Al-Jawad M, Yehya B, Katbi E, Abousaadah M and Danial AK: Right-sided retroperitoneal bronchogenic cyst: A case report. Int J Surg Case Rep 126: 110671, 2025.
26. Yuan K, Shu M, Ma Y, Feng W, Ye J and Yuan Y: Ectopic bronchogenic cyst in the retroperitoneal region: A case report and literature review of adult patients. BMC Surg 21: 347, 2021.
27. Murakami R, Machida M, Kobayashi Y, Ogura J, Ichikawa T and Kumazaki T: Retroperitoneal bronchogenic cyst: CT and MR imaging. Abdom Imaging 25: 444-447, 2000.
28. Qureshi M, Wawryk S and Yap Z: Retroperitoneal bronchogenic cyst: A rare diagnosis of a retroperitoneal mass. Cureus 17: e76922, 2025.
29. Runge T, Blank A, Schäfer SC, Candinas D, Gloor B and Angst E: A retroperitoneal bronchogenic cyst mimicking a pancreatic or adrenal mass. Case Rep Gastroenterol 7: 428-432, 2013.