MAR Clinical Case Reports (2025) 6:10

Case Report

Hepatic Benign Ciliated Foregut Cyst: A Rare Case Video Presentation

Adil Koyuncu* [1], Mohamed Somalioğlu [1], Mikail Çakır [1], Sıla Uykusever [2]

1. *University of Health Sciences, Haseki Training and Research Hospital, Istanbul, Türkiye.*
2. *Campus Bio-Medico University of Rome, İtaly.*

***Correspondence to**: Adil Koyuncu. University of Health Sciences, Haseki Training and Research Hospital, Istanbul, Türkiye.

Received: 27 November 2025

Published: 10 December 2025

DOI: https://doi.org/10.5281/zenodo.17964505

Abstract

Objective: *Hepatic ciliated foregut cyst (HCFC) is a rare congenital hepatic cyst arising from foregut-derived epithelial remnants. Although typically asymptomatic, distinguishing HCFC from simple cysts, hydatid cysts, biliary cystadenomas or metastatic cystic tumors is challenging because imaging findings may overlap significantly [1–5]. Surgical excision is crucial for both definitive diagnosis and preventing malignant transformation, which has been documented in rare cases [6].*

Case*: We describe a 63-year-old woman with a 4 cm × 5 cm hepatic cyst situated posterior to the gallbladder, who underwent laparoscopic cholecystectomy and cyst excision; histopathological examination confirmed HCFC. The patient presented with abdominal pain, dyspepsia, back pain, dizziness, tremor, and abdominal distension. Percutaneously aspirated cyst fluid revealed markedly elevated amylase, CA 19-9, and CEA levels, while routine serum laboratory values remained within normal limits. Computed tomography (CT) and magnetic resonance (MR) imaging, including magnetic resonance cholangiopancreatography (MRCP), identified a well-defined cyst in hepatic segments V and VIII without biliary communication. Following multidisciplinary review, including discussion at the National Advisory Meetings on HPB Surgery of the Turkish Hepato-Pancreato-Biliary Surgery Association, laparoscopic excision was performed. The postoperative course was uneventful.*

Conclusion: *This case demonstrates that minimally invasive resection is both safe and effective for HCFC, aligning with modern surgical practice.*

Keywords: *Hepatic ciliated foregut cyst, liver cyst, laparoscopic liver surgery.*

Introduction

Hepatic ciliated foregut cyst (HCFC) is an uncommon congenital cystic lesion arising from embryonic foregut remnants [1,2]. Since first described by Friedrich in 1857, fewer than 150 cases have been reported globally [1–3]. HCFCs are usually less than 5 cm in diameter, unilocular, and asymptomatic, although rare malignant transformation most often to squamous cell carcinoma has been documented [6,12].

Case Presentation

A 63-year-old woman with hypertension, goiter, and asthma presented with abdominal pain, dyspepsia, back pain, dizziness, tremor, and abdominal distension. Physical examination and vital signs were unremarkable. Laboratory evaluation demonstrated a normal complete blood count and serum biochemical profile. Cyst fluid analysis revealed markedly elevated amylase (18,851.96 U/L), CA 19-9 (157,344.9 kU/L), and CEA (2,597 kU/L), consistent with previously reported cases [5].

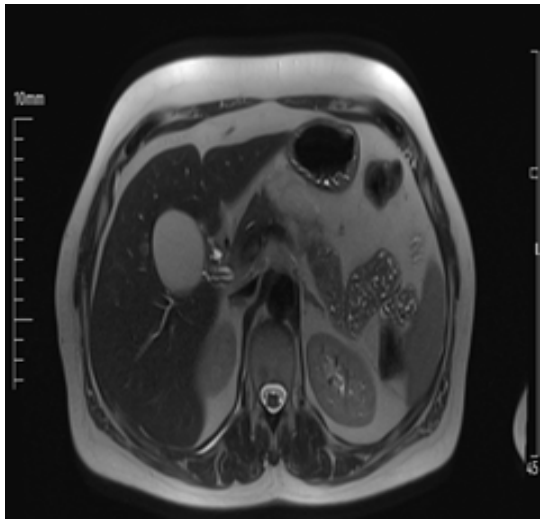

Figure: 1 Preoperative MR imaging of the cystic lesion (axial Section)

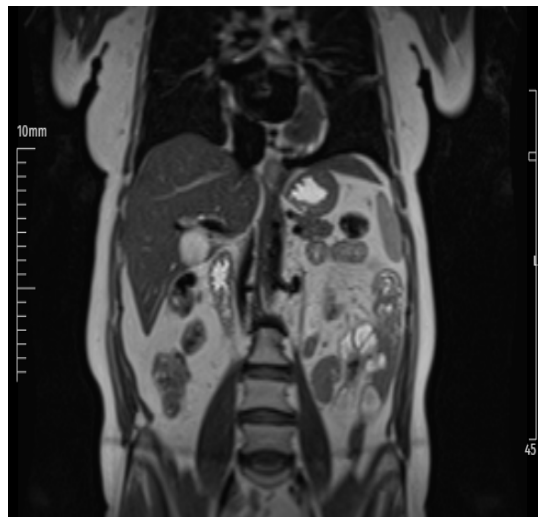

Figure: 2 Preoperative MR imaging of the cystic lesion (coronal section)

CT and MR/MRCP revealed a 4 cm × 5 cm cystic lesion in segments V/VIII without biliary communication [7,11]. Percutaneous aspiration with a Chiba needle failed because of thick cystic contents, a challenge previously described in the literature [4,5]. Laparoscopic cholecystectomy and complete cyst excision were subsequently performed. She recovered uneventfully and was discharged on postoperative day five. HCFC was confirmed histopathologically as a cyst lined by ciliated pseudostratified columnar epithelium with an underlying smooth muscle layer [1,2,17].

Discussion

HCFC is a rare hepatic cyst believed to originate from displaced foregut epithelium [1,2]. Although asymptomatic in many cases, symptoms may arise due to cyst enlargement or mass effect, presenting as abdominal pain, dyspepsia, distension, or nonspecific discomfort [7–11]. Radiologic features often mimic simple cysts, biliary cystadenomas, hydatid cysts, or cystic metastases, complicating preoperative diagnosis [4,5,23–25].

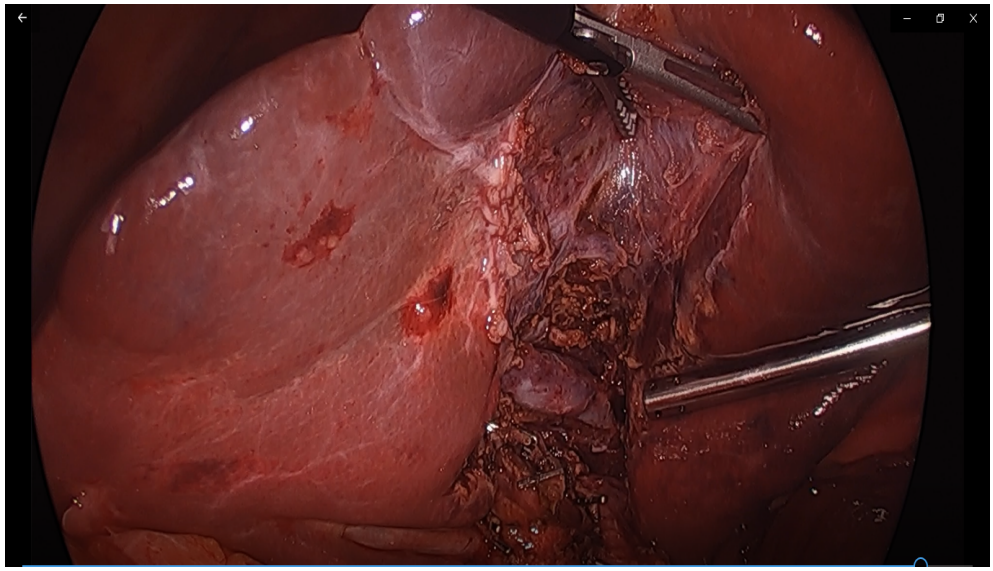

Figure:3 Intraoperative view after cholecystectomy and cystectomy, demonstrating the right anterior sectoral portal vein branch.

Elevations in tumor markers such as CA 19-9 and CEA have been documented in both serum and cyst fluid, but they do not reliably indicate malignancy [5]. Rare cases of malignant transformation, particularly to squamous cell carcinoma, have been reported [6,12,14,15]. Complications include infection, intracystic hemorrhage, rupture, biliary compression, and malignant transformation [6,12,16,18–22].

Laparoscopic excision is considered safe and effective, offering reduced postoperative pain, shorter hospitalization, and faster rehabilitation [20,21,27–30]. Technical challenges may arise in large, subcapsular, or biliary-adjacent cysts due to the risk of rupture or bile leakage [18,19,31,32]. In this case, the absence of biliary communication and the moderate cyst size enabled safe laparoscopic resection. Complete obliteration of the cyst cavity reduced the risk of postoperative complications [16,17].

Figure:4 Postoperative axial CT scan (axial section)

Conclusion

HCFC is a rare but clinically relevant hepatic cystic lesion. Imaging may be insufficient to distinguish it from other cyst types, making surgical excision the diagnostic and therapeutic gold standard. Laparoscopic resection offers excellent outcomes with minimal morbidity when performed in appropriately selected patients. Awareness of HCFC and multidisciplinary collaboration are essential for optimal management.

Highlights

- HCFC is a rare congenital hepatic cyst arising from foregut remnants.
- Rare malignant transformation underscores the importance of excision.
- Imaging alone may not reliably distinguish HCFC from other hepatic cysts.
- Laparoscopic excision provides safe and effective treatment in appropriate cases.

A shortened version of the surgical procedure video is available at the following YouTube link:

https://youtube.com/watch?v=H4qINLI_r9E&si=2LZNGx-02wJ-7bI1

References

1. Wheeler DA, Edmondson HA. Ciliated hepatic foregut cyst. Am J Surg Pathol. 1984;8(7):467-470.
2. Vick DJ, Goodman ZD, Ishak KG. Ciliated hepatic foregut cyst. Hum Pathol. 1999;30(12):1464-1468.
3. Ben Mena N, et al. Ciliated hepatic foregut cyst: an underdiagnosed lesion. Clin Res Hepatol Gastroenterol. 2014;38(4):491-497.
4. Sharma S, et al. Ciliated hepatic foregut cyst: report of a case diagnosed by fine-needle aspiration cytology and review of the literature. Diagn Cytopathol. 2008;36(2):123-126.
5. Oshima H, et al. Elevated serum CA19-9 in ciliated hepatic foregut cyst: report of a case and review of literature. World J Surg Oncol. 2012;10:159.
6. Sumiyoshi T, et al. Squamous cell carcinoma arising from a ciliated hepatic foregut cyst: report of a case. Surg Today. 2013;43(2):197-202.
7. Choi JY, et al. Ciliated hepatic foregut cyst: MR imaging findings with emphasis on T2 signal intensity. Abdom Imaging. 2005;30(4):502-506.
8. Yoon GS, et al. Ciliated hepatic foregut cyst: report of three cases. Korean J Radiol. 2000;1(3):163-166.
9. Kim YW, et al. Ciliated hepatic foregut cyst: a report of two cases. J Korean Med Sci. 1996;11(2):179-183.
10. Tsui WM, et al. Ciliated hepatic foregut cyst: report of two cases. J Clin Pathol. 1992;45(11):993-995.
11. Tanimoto A, et al. Ciliated hepatic foregut cyst: radiologic-pathologic correlation. Abdom Imaging. 2002;27(2):184-187.
12. Matsubara K, et al. Squamous cell carcinoma arising in a ciliated hepatic foregut cyst. J Gastroenterol. 2000;35(9):731-734.
13. Yamasaki S, et al. Ciliated hepatic foregut cyst: report of a case and review of the literature. J Hepatobiliary Pancreat Surg. 2003;10(5):399-402.

14. Chang J, et al. Ciliated hepatic foregut cyst: report of two cases and literature review. Medicine (Baltimore). 2017;96(48):e9001.

15. Meziane M, et al. Ciliated hepatic foregut cyst: a case report and review. Int J Surg Case Rep. 2019;64:103-106.

16. Li X, et al. Ciliated hepatic foregut cyst: a clinicopathological study of five cases. Diagn Pathol. 2015;10:198.

17. Fujii T, et al. Ciliated hepatic foregut cyst: a study of 7 cases. Mod Pathol. 2007;20(8):849-856.

18. Nonomura A, et al. Ciliated hepatic foregut cyst: a report of three cases. Acta Pathol Jpn. 1985;35(5):1229-1237.

19. Kajiwara M, et al. Ciliated hepatic foregut cyst: a case report. Hepatol Res. 2002;23(4):305-311.

20. Dionigi G, et al. Ciliated hepatic foregut cyst: report of two cases. Surg Today. 2003;33(7):546-549.

21. Kojima M, et al. Ciliated hepatic foregut cyst: a report of three cases. Pathol Int. 1998;48(12):964-968.

22. Takahashi Y, et al. Ciliated hepatic foregut cyst: case report and literature review. J Gastroenterol. 1996;31(4):617-621.

23. McManus DP, et al. Echinococcosis. Lancet. 2012;379(9824):819–827.

24. Piccoli L, et al. WHO-IWGE ultrasound classification of echinococcal cysts. 2015.

25. Di Martino G, et al. Radical vs conservative surgery for hepatic hydatid cysts. Langenbecks Arch Surg. 2020;405(5):671–679.

26. Huang L, et al. Radical surgery vs conservative in hepatic hydatid cysts. BMC Surg. 2023.

27. Videochir Other Miniinvasive Tech. Laparoscopic vs conventional open treatment of hepatic cystic hydatidosis: systematic review. 2022.

28. Bayrak M, et al. Current approaches in surgical treatment of liver hydatid disease. BMC Surg. 2019;19:95.

29. Omar SMSM, et al. Laparoscopic vs open management of liver hydatid cyst. EJS Surg. 2021.

30. Large world review: Laparoscopic treatment of liver hydatid cyst—914 patients. Int J Infect Dis. 2014–2018.

31. Akhan O, et al.; Botezatu C, et al. Rates of intrabiliary rupture in hydatid cysts. 2016–2018.

32. Kapan M, et al. Intraperitoneal rupture and anaphylaxis risks in hydatid disease. 2015.

Medtronic