OPEN ACCESS

Saudi Journal of Medicine
Abbreviated Key Title: Saudi J Med
ISSN 2518-3389 (Print) | ISSN 2518-3397 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Case Report

Cholecystocolonic Fistula (CCF) Case Report

Mufleh Taleb Obaidat (MD)[1], Khaled Ahmad Helael (MD)[1*], Ra'ad Ahmad Al-Omari (MD)[1], Mansour Mohammad Abushqair (MD)[1], Mohammad Ahmad Abu-Aloush (MD)[1], Yazan Mohammad Ahmad Al Momani (MD)[1], Mohammad Hamdi Ahmad Alhyari (MD)[1]

[1]General Surgery Department at Prince Rashed Military Hospital, Royal Medical Services Amman, Jordan

DOI: https://doi.org/10.36348/sjm.2024.v09i08.004 | **Received:** 28.06.2024 | **Accepted:** 05.08.2024 | **Published:** 09.08.2024

***Corresponding Author:** Khaled Ahmad Helael
General Surgery Department at Prince Rashed Military Hospital, Royal Medical Services Amman, Jordan

Abstract

Introduction: Gallbladder disease is one of the most common conditions affecting the digestive tract. Autopsy reports have shown a prevalence of gallstones ranging from 11-36%, with cholecystitis being one of the most prevalent complications. Although cholecystoenteric fistulas are rare, with an incidence of 0.15-0.5% among patients undergoing cholecystectomy, they can present significant diagnostic and therapeutic challenges. The transverse colon is the second most common site for these fistulas after the duodenum. A high degree of suspicion is required to diagnose it preoperatively. Here, we present a noteworthy case of a 65-year-old male patient with a fistula between the gallbladder and transverse colon, complicated by severe adhesions and a large stone, underscoring the complexities associated with this condition. ***Case Presentation***: The patient had a history of hypertension and gallbladder stones when he was admitted during the COVID-19 pandemic with acute cholecystitis. Two years later, he had an elective laparoscopic cholecystectomy and, during surgery, the surgical team noticed significant adhesions around the gallbladder. Further inspection during dissection of the gallbladder bed revealed a fistula between the transverse colon and the gallbladder, and a single large stone was identified. The patient's surgical procedure was successful, and his postoperative recovery was uncomplicated. ***Conclusion***: A fistula between the gallbladder and transverse colon is a rare complication of gallbladder disease, and the transverse colon is the second most common cholecystoenteric fistula after the duodenum. The presence of a fistula is usually a late sequence of chronic gallstone disease that requires appropriate diagnosis and correct treatment. In this case, the surgery was complicated by extensive adhesions around the gallbladder with an adjacent colon and a large stone with a fistula noted between the transverse colon and the gallbladder. However, through careful planning, correct surgical procedures, and skilled surgical expertise, the patient's condition after surgery lacked complications. This case focuses on the importance of addressing all possible complications of gallbladder disease and adjusting surgical procedures accordingly.

Keywords: Fistula, Laparoscopic Cholecystectomy, Cholecystitis.

Copyright © 2024 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Gallbladder disease is a prevalent medical condition that affects millions of individuals worldwide. While gallstones are a usual manifestation of the disease, acute cholecystitis, an inflammation of the gallbladder, is one of the most prevalent complications [1]. While surgical intervention, such as laparoscopic cholecystectomy [2], is a standard treatment for cholecystitis, some cases may result in unusual complications, such as fistulae between the gallbladder and surrounding organs [2-7].

Fistulae between the gallbladder and transverse colon are a rare consequence of gallbladder disease, with only a few cases documented in the literature [3-7]. Such a fistula is hypothesised to occur due to chronic gallbladder inflammation and irritation, forming a tract between the two organs. The illness presents symptoms comparable to cholecystitis, such as abdominal discomfort, nausea, vomiting, and fever. However, the presence of a fistula may result in additional symptoms, such as gastrointestinal bleeding and infection.

Diagnosing a fistula between the gallbladder and transverse colon can be challenging [3-7], as symptoms may mimic those of other conditions. A thorough physical examination, laboratory tests, and imaging studies, including computed tomography (CT) scans, magnetic resonance imaging (MRI), and ultrasound, are crucial in establishing an accurate diagnosis.

Managing a fistula between the gallbladder and transverse colon requires a multidisciplinary approach [5-7]. Surgery is typically the preferred treatment, and laparoscopic cholecystectomy is a standard procedure. However, in cases where the fistula is large, additional interventions, such as partial colon resection or open surgery, may be necessary. Postoperative care involves close monitoring for potential complications, including infection, bleeding, and bile leakage.

This case study highlights the potential complications and challenges of gallbladder disease and surgery [8], especially in the presence of comorbidities such as hypertension and a history of acute cholecystitis. By understanding the clinical presentation, diagnostic methods, and management strategies of fistulas between the gallbladder and transverse colon, healthcare professionals can provide optimal care to patients with this rare condition.

CASE PRESENTATION

The patient, in this case, is a 65-year-old male with a history of hypertension and gallbladder stones. During the COVID-19 pandemic, he was admitted to the hospital with acute cholecystitis. Two years later, he underwent elective laparoscopic cholecystectomy due to recurrent symptoms of colicky abdominal pain and diarrhoea. During the procedure, severe adhesions were encountered, and the surgical team discovered a fistula between the gallbladder and transverse colon (Figure 2), with a single large stone present (Figure 1). The successful management of these complications underscores the importance of surgical skill and careful preoperative planning.

To manage the condition, the surgical team precisely dissected the adhesions and performed a partial colon resection (Figure 3). The gallbladder was also removed, and the fistula was repaired. The patient was closely monitored postoperatively and received appropriate pain management, antibiotics, and nutritional support.

The case's postoperative course was uneventful, and he was discharged on the fifth postoperative day. Follow-up arrangements were listed to monitor his recovery. The patient did not report any complications at the 3-month follow-up. Medications for hypertension controlled the patient's hypertension, and he was instructed to maintain a healthy diet and exercise regularly to avoid further complications.

In summary, this case highlights the challenges of managing a rare complication of gallbladder disease, such as a fistula between the gallbladder and transverse colon [5-7]. The patient's condition was successfully managed through careful diagnosis, surgical intervention, and postoperative management, and he made an uneventful recovery.

Figure 1: Gallbladder with large stone

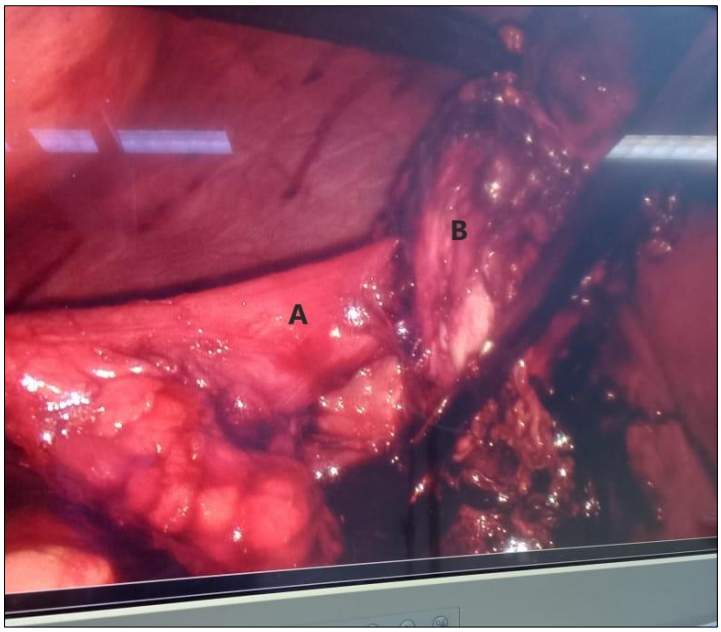

Figure 2: A-Transverse colon, B-Gallbladder

Figure 3: A-Transverse colon stapler line, B-Gallbladder fistula site

DISCUSSION

The case presented highlights a rare complication of gallbladder disorder, a fistula between the gallbladder and transverse colon, which can present a diagnostic and therapeutic challenge to the treating surgeon. The case's history of hypertension and acute cholecystitis during the COVID-19 epidemic, followed by a laparoscopic cholecystectomy, underscores the consequence of careful evaluation of cases with gallbladder disease and the need for optimal postoperative care.

Risk of Gallbladder Fistula Formation

Fistulas between the gallbladder and other organs are uncommon, with an incidence of less than 0.5% of all patients undergoing cholecystectomy [7], and 6-10% of patients with acute cholecystitis. The gallbladder is a common source of origin for biliary fistula and chronic inflammation from obstruction. The pressure within the gallbladder increases rapidly, and irritation changes in the gallbladder may lead to ulceration, perforation, and development of a track with the adjacent organs, with the duodenum being the most common site. The transverse colon is considered the second most common, eventually leading to a fistula's development. The presentation is usually asymptomatic

or similar to cholecystitis with the symptoms of abdominal pain, nausea, vomiting, diarrhoea and fever, but the fistula can also present with significant gastrointestinal bleeding and sepsis, among other symptoms.

The successful surgical management of the present patient underscores the significance of a multidisciplinary approach to diagnosing and treating rare complications of gallbladder disease. The surgical team precisely and carefully divided extensive adhesions, performed partial colon resection and gallbladder dissection followed by excision, and repaired the fistula, resulting in a favourable outcome.

Follow-up appointments were scheduled to evaluate the patient's recovery, and appropriate postoperative care, such as analgesics, antibiotics, and nutritional support, was administered.

CONCLUSION

In conclusion, the case discussed highlights the potential complications and difficulties in managing a fistula between the gallbladder and the transverse colon. Through careful diagnosis, surgical procedures, and effective postoperative care, the patient's condition was successfully managed, leading to a favourable outcome. This case emphasises the importance of a multidisciplinary approach in diagnosing and treating rare complications of gallbladder disease, focusing on providing optimal postoperative care to prevent potential complications and secure the patient's optimal outcome.

REFERENCES

1. American College of Gastroenterology. Gallstones and Gallbladder Disease. https://gi.org/topics/gallstones-and-gallbladder-disease/. Accessed March 30, 2023.
2. Gurusamy, K. S., Davidson, C., Gluud, C., & Davidson, B. R. (2013). Early versus delayed laparoscopic cholecystectomy for people with acute cholecystitis. *Cochrane Database of Systematic Reviews*, (6).
3. Seow-En, I., Kuan-Jin, L. (2022). Gallbladder Colonic Fistula. StatPearls Publishing; https://www.ncbi.nlm.nih.gov/books/NBK537174/. Accessed March 30, 2023.
4. Wang, H. H., Liu, M., & Cui, Y. L. (2020). Risk factors for acute cholecystitis in patients with gallstones. *Medicine (Baltimore)*, *99*(39), e22561. doi:10.1097/MD.0000000000022561
5. Costi, R., Gnocchi, A., & Di Mario, F. (2003). Laparoscopic cholecystectomy in acute cholecystitis: a prospective comparative study in elderly and young patients. *Surg Endosc*, *17*(1), 108-114. doi:10.1007/s00464-002-8763-4
6. Katkhouda, N., Mavor, E., & Mason, R. J. (2005). Laparoscopic repair of ventral hernias: nine years experience with 850 consecutive hernias. *Ann Surg*, *241*(3), 482-491. doi: 10.1097/01.sla.0000154157.77757.af
7. Elshaer, M., Gravante, G., & Thomas, K. (2013). Fistula between the gallbladder and transverse colon: case series and review of the literature. *Int J Surg*, *11*(10), 1146-1149. doi: 10.1016/j.ijsu.2013.08.017
8. Shabanzadeh, D. M., & Sørensen, L. T. (2016). *Gallstones and inflammation*. Surgery.