

CASE REPORT

Suspected large gall bladder mucocele extending from right hypochondrium up to right iliac region turned out to be gall bladder perforation in a patient with schizophrenia: A rare case report and literature review

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Key Clinical Message

This is a challenging case where the surgeon has initially thought it is a gallbladder (GB) mucocele. The surprise finding of a mucocele during an emergency laparotomy highlights the deceptive nature of certain clinical manifestations within the hepatobiliary domain. The intraoperative discovery of a 1×1 cm GB hole on the right lateral wall of the GB fundus revealed an unexpected and significant deviation from the hypothesized pathogenesis.

Abstract

This case report provides a complicated diagnosis scenario for a hepatobiliary illness aggravated by schizophrenia. Arriving with frequent nausea and vomiting, a 70-year-old female patient with schizophrenia missed typical symptoms of gallbladder (GB) disease, including fever and stomach discomfort. This odd look and corroborative imaging showing a cystic lesion in the right belly led to a diagnostic suspicion of a sizable GB mucocele. But a surprising result from an emergency laparotomy revealed a significant GB perforation, different from the previous diagnosis. This case highlights the difficulties in identifying atypical GB diseases, particularly in individuals with mental comorbidities that could conceal or alter the expression of physical symptoms. To confirm or rule out differential diagnosis and allow early and tailored treatments, it emphasizes the need for thorough diagnostic tests, including a complete clinical history, physical examinations, laboratory analysis, imaging modalities, and surgical procedures. This case emphasizes the importance of careful examination in complex medical contexts by stressing the requirement of thorough assessments and comprehensive diagnostic frameworks in navigating challenging clinical situations.

KEYWORDS

atypical presentations, diagnostic challenges, gall bladder mucocele, gall bladder perforation, hepatobiliary disorders, schizophrenia comorbidity

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1 | INTRODUCTION

Gall bladder (GB) pathology has a wide range of symptoms, from benign distentions to catastrophic perforations, making it difficult for clinicians to diagnose. Gall bladder perforation is a rare medical condition that may be readily misinterpreted, as seen by this instance, which was first thought to be a massive GB mucocele. The presence of schizophrenia emphasizes the challenges of detecting hepatobiliary illnesses, making this case even more complicated.

The gall bladder is an essential component of the biliary system, storing, and concentrating bile, making it susceptible to a variety of pathological alterations.¹ GB mucoceles are uncommon and can present with a variety of clinical signs. Their distinguishing characteristic is an unusual deposition of viscous mucoid debris inside the gallbladder lumen.^{1,2} Finding a GB perforation in the middle of a suspected mucocele emphasizes the rarity and diagnostic complexities of such cases. Schizophrenia, a persistent mental disorder characterized by cognitive, perceptual, and emotional abnormalities, complicates the diagnosis.³ People suffering from mental illnesses may exhibit unusual or disguised physical symptoms, making it difficult for the medical professionals to establish an accurate diagnosis.^{2,4} The link between mental and physical diseases necessitates a careful and sensitive diagnostic approach.

The patient's persistent nausea and vomiting following oral consumption raised the possibility of a large GB mucocele, despite the absence of classic GB clinical signs such as fever and stomach pain. Ultrasound and contrast-enhanced computer tomography, among other imaging modalities, corroborated the initial diagnosis by revealing a considerable cystic development from the right hypochondrium to the right iliac fossa. The patient's medical history of treated filariasis and persistent schizophrenia hampered the diagnosis procedure. Together with the lack of unambiguous clinical indications, these many medical disorders posed a diagnostic riddle that required cautious and detailed investigation. The surprising intraoperative finding of a mucocele during an emergency laparotomy highlights the misleading nature of many clinical presentations in the hepatobiliary system.

Intraoperatively, we discovered a one-centimeter hole in the right lateral wall of the GB fundus, suggesting a considerable and unexpected divergence from the original diagnosis. This example exemplifies the complicated interaction of clinical judgment, distinct symptoms, and the inherent diagnostic challenges in hepatobiliary illness. It emphasizes the importance of caution, rigorous examinations, and the assessment of unusual etiologies in achieving a correct diagnosis of difficult medical problems.

2 | CASE PRESENTATION

2.1 | Case history/examination

A 70-year-old female, referred to our institution from a district hospital, presented with a month-long history of nausea and vomiting immediately following ingestion of oral liquids and semi-solids. Absent were complaints of abdominal pain or fever. Known for schizophrenia under regular treatment for 5 years and with a past medical history of treated filariasis in the left lower limb four decades ago (Figure 1), she had no record of diabetes mellitus, tuberculosis, or asthma, and no prior abdominal surgeries. A physical examination revealed a soft, non-tender, non-distended abdomen with a palpable, firm lump spanning from the right hypochondrium to the right iliac fossa (RIF) (Figure 2).

2.2 | Methods

Imaging studies, including ultrasound and contrast-enhanced computer tomography (CECT) of the abdomen,



FIGURE 1 Previously treated filariasis in left lower limb.

indicated a significant, lobulated, multiloculated cystic lesion measuring (19 × 5.8 × 3) cm and approximately 120 mL in volume (Figures 3 and 4).



FIGURE 2 Abdomen overview of the patient.

This lesion was observed abutting the inferior and medial surfaces of the liver, extending to the RIF region, with minimal fat stranding on its anteromedial aspect, leading to a provisional diagnosis of a large GB mucocele (Figures 3 and 4). Laboratory investigations were largely unremarkable, with a total leukocyte count (TLC) of 15,000 cells/mm³ and hemoglobin (Hb) levels at 10.9 g/dL. Initially scheduled for USG-guided percutaneous pigtail drainage (cholecystostomy), deteriorating hemodynamics necessitated an emergency laparotomy under general anesthesia. Intraoperatively, a GB perforation approximately 11 cm in size was discovered on the right lateral wall of the fundus, accompanied by an organized intraperitoneal collection tracking inferiorly from the GB along the right-sided greater omentum up to the RIF region (Figures 5 and 6). Surgical intervention included peritoneal lavage (Figure 7) with adhesiolysis and a left-sided abdominal drain placement.

2.3 | Conclusion and result

Subsequently, the patient was transferred to the ICU in an intubated state and remained on ventilatory support until succumbing on post-operative day 3 (POD 3).

3 | DISCUSSION

Identifying and treating gallbladder (GB) mucocele and perforation early is crucial to preventing potentially catastrophic consequences.^{1,2} This complicated case shows the challenges of diagnosing hepatobiliary disorders, especially when mental comorbidities are present. Typical clinical indicators, such as chronic nausea and vomiting in the absence of conventional GB symptoms, complicate

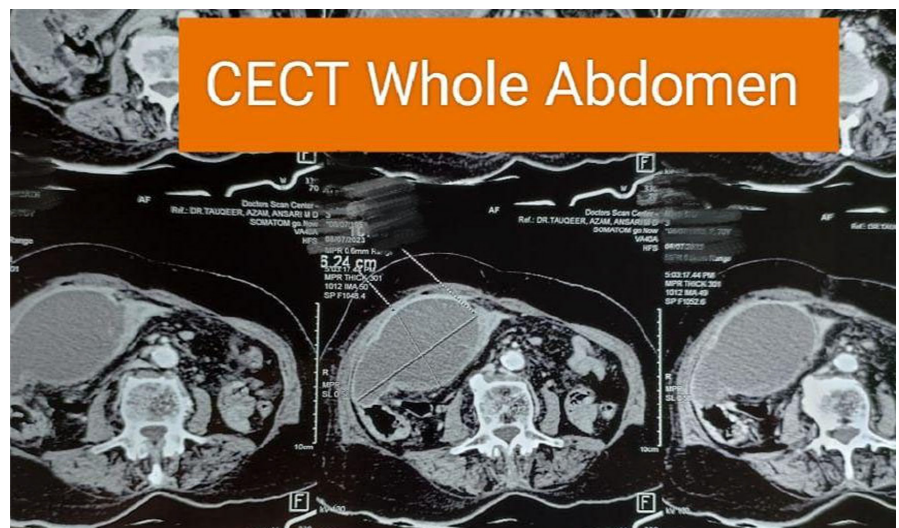


FIGURE 3 CECT whole abdomen showing organized collection in continuity with GB.

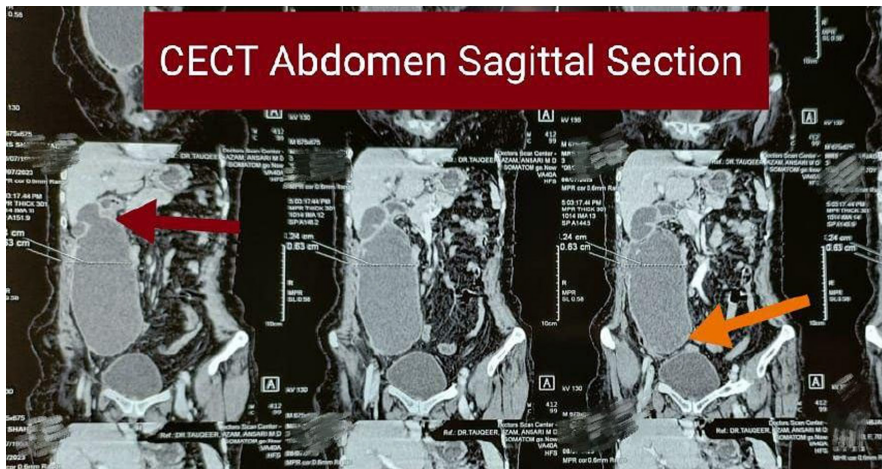


FIGURE 4 CECT abdomen showing organized intraperitoneal collection in continuity with GB, extending from right hypochondrium to right iliac fossa.



FIGURE 5 Dense adhesions and distorted hepatobiliary anatomy.

the diagnosis procedure. Early theories in this instance centered on a massive GB mucocele caused by imaging data that revealed a substantial cystic lesion from the right hypochondrium to the right iliac fossa.

GB mucocele and perforation present a variety of clinical manifestations and complications depending on the extent, location, and type of peritonitis.³ Mucocele often manifests as chronic right upper quadrant pain, jaundice, fever, and palpable masses, while perforation usually presents acutely or subacutely with abdominal pain, peritonitis, shock, and sepsis.^{1,4} These complications encompass bile peritonitis, abscess formation, fistulae, bowel obstruction, liver damage, and mortality, differentiating mucocele and perforation from other GB disorders in severity, prognosis, and management.^{2,5}

Moreover, imaging methods like ultrasonography and contrast-enhanced computed tomography (CT) cannot identify complicated GB diseases.^{1,5} Although these modalities provided data confirming the original mucocele

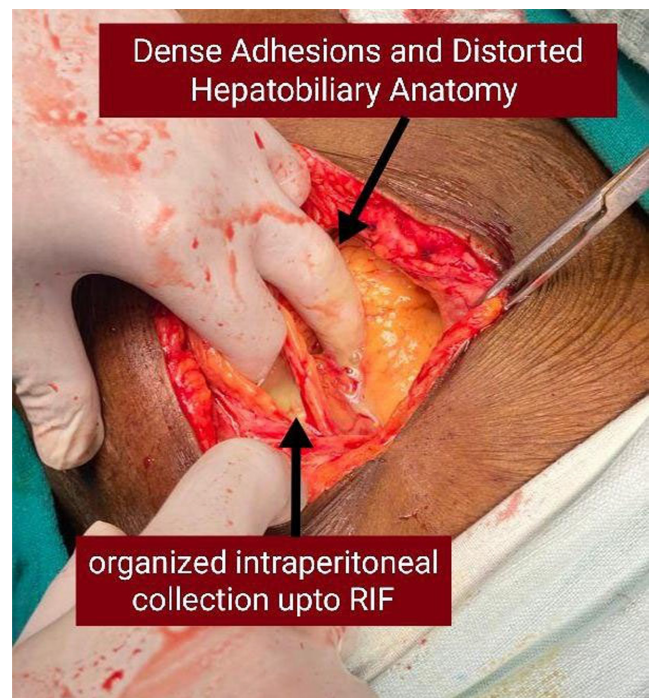


FIGURE 6 Intra-op findings.

idea, they could not clearly describe the perforation, which was revealed following a surgical investigation. This stresses the need to use current imaging technologies or other diagnostic modalities to increase accuracy in detecting such complicated people.

Cohabitation with schizophrenia complicates matters further. Psychiatric comorbidities may conceal or alter the manifestation of physical symptoms, complicating the diagnostic procedure. The lack of conventional GB symptoms in a patient with schizophrenia highlights the difficulty of diagnosis. Schizophrenia, characterized by persistent and severe cognitive, emotional, and behavioral disruptions, may impair an individual's awareness and communication of somatic symptoms due to cognitive



FIGURE 7 Organized pus flakes.

deficits, negative symptoms, or psychotic manifestations such as delusions, hallucinations, or paranoia.^{6–8}

Managing somatic difficulties in schizophrenia requires a thorough, interdisciplinary approach. Obtaining a thorough somatic symptom history is mostly dependent on developing trust and maintaining excellent patient contact.^{6,7} A comprehensive physical examination, as well as appropriate laboratory and imaging examinations, are necessary to confirm or deny somatic disorders and rule out alternative explanations of symptoms, such as medication side effects or misperceptions.^{9,10}

A GB perforation established after surgery deviates from the typical mucocele diagnosis, necessitating further inquiry into alternate causes. Predisposing variables for GB perforation include advanced age, female gender, diabetes, obesity, fasting, complete peripheral nutrition, trauma, surgery, infection, and immunosuppression.^{1,2} These conditions cause increased intraluminal pressure, ischemia, necrosis, and, ultimately, GB wall rupture.

Atypical GB pathology, difficulties from mental comorbidities, and diagnostic ambiguity all highlight the need for a multidisciplinary approach. Collaboration among psychiatrists, doctors, surgeons, nurses, and social workers results in a comprehensive approach to patient treatment, treating both the psychological and physical components of the patient's condition.^{1,8,11} This collaborative effort helps to eliminate diagnostic mistakes and promotes prompt treatment.

Surgical and pharmaceutical treatments are used to treat GB mucocele and perforation, with the goal of managing infection, emptying bile, and eradicating the GB.^{2–6} Surgical treatment options include open or laparoscopic cholecystectomy with or without peritoneal cavity drainage, depending on the kind and severity of the perforation.⁷ Medical therapy includes supportive care, fluid resuscitation, and antibiotics. The patient's prognosis is affected by age, comorbidities, as well as the timing and quality of therapy. The morbidity rate for GB mucocele with perforation ranges from 20% to 50%,^{1,2,5} with a death rate of 10%–30%.⁵

Schizophrenia has a significant impact on somatic issues' treatment and prognosis. Antipsychotic medications,

lifestyle choices, and mental health issues may all impact the progression of somatic disorders.⁹ To address these challenges, it is important to educate patients and families about both physical and mental illnesses, fostering awareness and understanding.^{11,12} Furthermore, patient education serves as a conduit for explaining the complex factors of GB disorder diagnosis and treatment options, providing clarity on anticipated outcomes and prognostic implications for each intervention.^{8,9} It also reveals a probable link between GB difficulties and mental health illnesses, emphasizing the significance of a comprehensive therapy that addresses both conditions concurrently. Stimulating adherence and compliance to treatment regimens and frequent follow-ups seems to be critical, shedding light on the advantages of adherence while outlining the costs of noncompliance, such as potential relapse, recurrence, or therapeutic issues. Furthermore, patient education and counseling provide an opportunity for patients to express their concerns, ambiguities, or questions concerning treatment methods and future follow-ups. Encouraging patients and their families to consult healthcare practitioners for clarification or confirmation fosters a sense of confidence and reliance on their suggested treatment plan.

Finally, these sessions provide a platform for building coping skills and approaches that are essential in navigating the physical and emotional challenges associated with GB disorders and their consequences. Strengthening the patient's self-efficacy and resilience is a key component of these educational initiatives, allowing patients to better handle the issues presented by GB illness.

This all-encompassing strategy aims to provide comprehensive therapy that improves both psychological and biological components, resulting in better results and overall health. Improving the quality of life, functional skills, and overall recovery path of patients with complex comorbidities requires continuous monitoring, patient education, and adherence to treatment protocols.

4 | CONCLUSION

This fascinating example highlights the significant diagnostic difficulties of hepatobiliary illnesses, particularly those with mental comorbidities like schizophrenia. Early testing revealed a significant gallbladder mucocele, but the clinical presentation was not consistent with usual gallbladder pathology, and further surgical investigation revealed a perforation, which was not the anticipated diagnosis. This case highlights the limits of current imaging tools in accurately detecting complex gallbladder issues, emphasizing the need for extensive investigation and evaluation of diverse etiologies in demanding medical situations. The significant influence of psychiatric disorders on

somatic symptom manifestation highlights the need for a multidisciplinary approach including psychiatrists, doctors, surgeons, and other healthcare specialists to allow for a comprehensive examination that addresses both physical and mental health issues. Improved imaging technology, new diagnostic tools, and education of healthcare workers on the interaction between mental and physical disorders are all key efforts for improving diagnosis accuracy and patient outcomes. Furthermore, more research is required to investigate how psychological difficulties influence the development of somatic illnesses, allowing for more effective diagnostic and treatment methods for people with complex comorbidities. To increase diagnosis accuracy and patient outcomes in such cases, rigorous investigation, consideration of mental comorbidities, and a multidisciplinary approach are eventually required.

AUTHOR CONTRIBUTIONS

Ashok Kumar: Conceptualization; investigation; methodology; supervision; visualization; writing – review and editing. **Prashant Upadhyay:** Conceptualization; investigation; methodology; visualization; writing – original draft; writing – review and editing. **Harendra Kumar:** Writing – original draft; writing – review and editing. **Dattatreya Mukherjee:** Validation; writing – original draft; writing – review and editing. **Divyansh Tiwari:** Writing – original draft; writing – review and editing. **Aymar Akilimali:** Writing – original draft; writing – review and editing.

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CONFLICT OF INTEREST STATEMENT

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DATA AVAILABILITY STATEMENT





All the data are available in the manuscript.

CONSENT

Written Consent was obtained from the patient's family to publish this report in accordance with the journal's patient consent policy.

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