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# Follicular Lymphoma of the Gallbladder in an Octogenarian: A Case Report and Literature Review

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**Abstract**

Primary follicular lymphoma (PFL) is an indolent subtype of non-Hodgkin lymphoma that typically involves lymphoid tissues. Gallbladder involvement is exceedingly rare and poses significant diagnostic challenges. Few cases in the literature describe gallbladder follicular lymphoma, particularly in elderly male patients, leaving notable gaps in clinical understanding and management. Herein, we present the case of an 82-year-old male who presented with acute abdominal pain and unintentional weight loss. Initial imaging, including contrast-enhanced computed tomography, ultrasound, and magnetic resonance imaging, revealed a suspicious gallbladder mass with wall thickening and regional lymphadenopathy, raising concern for malignancy. Endoscopic ultrasound-guided fine needle aspiration and subsequent immunophenotyping confirmed a diagnosis of PFL. The patient underwent radical cholecystectomy with lymphadenectomy, and histopathological examination corroborated the diagnosis of gallbladder follicular lymphoma. During follow-up, the patient developed complications, yet no evidence of lymphoma recurrence was observed. A literature review identified 8 similar cases, further emphasizing the rarity of this presentation. Future research should focus on optimizing diagnostic techniques, refining therapeutic strategies, and conducting longer-term follow-up studies to better assess patient outcomes in such a rare disease. This case highlights the need for heightened clinical suspicion and comprehensive evaluation in atypical presentations of extranodal lymphoma.

**Keywords**

gallbladder, non-Hodgkin lymphoma, follicular lymphoma, extra nodal lymphoma, gastroenterology

## Introduction

Primary follicular lymphoma (PFL) is one of the most common subtypes of indolent non-Hodgkin lymphoma (NHL), accounting for about 20% to 30% of NHL cases in Western populations. It arises from B-cell transformations within lymphoid follicles, progressing slowly and typically involving lymph nodes, bone marrow, and spleen. Extranodal presentations of follicular lymphoma are much less common, with the gallbladder being an especially rare site of primary involvement. Reports of follicular lymphoma in the gallbladder are limited to a few case studies, making it a diagnostic and therapeutic challenge.[1-3]

Most cases of gallbladder lymphoma involve diffuse large B-cell lymphoma (DLBCL), a more aggressive subtype of NHL. PFL of the gallbladder is so rare that it often mimics more common gallbladder pathologies such as cholecystitis, gallstones, or even adenocarcinoma, leading to delayed or missed diagnoses.[4-6] Symptoms are nonspecific, such as abdominal pain and unintentional weight loss, further complicating early detection. High clinical suspicion and advanced diagnostic tools, such as endoscopic ultrasound (EUS)-guided biopsy and immunohistochemistry, are essential for accurate identification.[7]

In this report, we detail a rare case of PFL of the gallbladder in an elderly male. We explore the diagnostic process,

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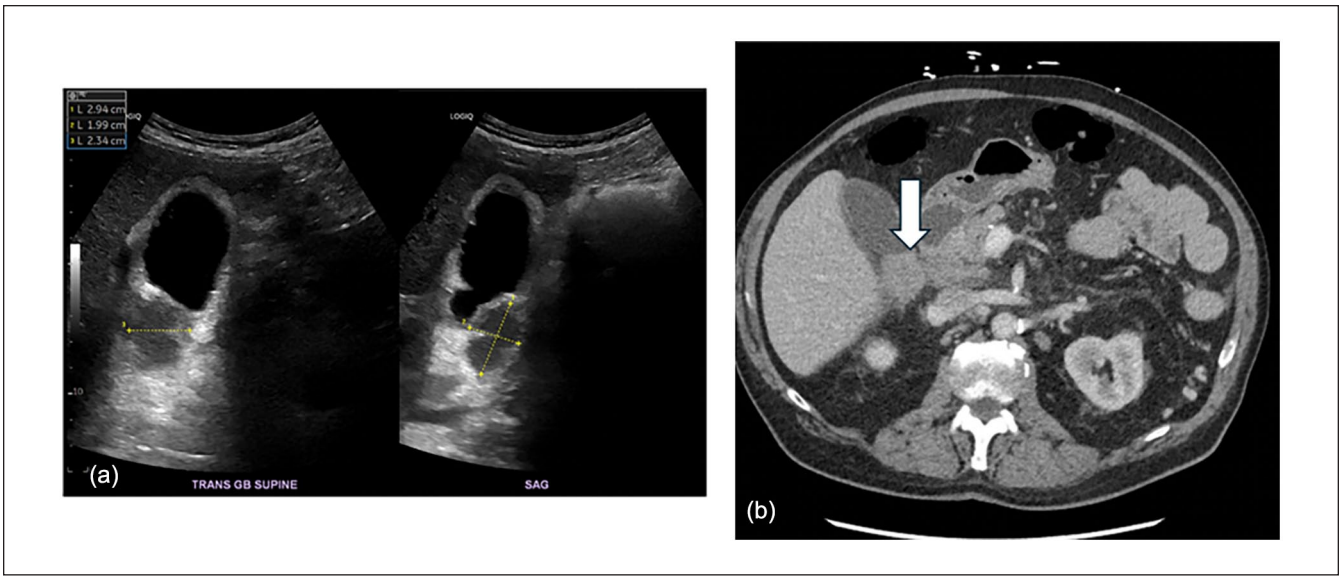


**Figure 1.** (a) Abdominal ultrasound reveals thickening of the gallbladder wall and 2.9 cm ill-defined heterogenous mass in the neck of the gallbladder. (b) Computerized tomography abdomen and pelvis with IV contrast showing 3.5 cm × 3.1 cm mass in the gallbladder neck.

treatment, and follow-up while discussing how this case compares to previously reported instances. We aim to provide insight into managing this uncommon condition and contribute to the growing knowledge on extranodal lymphomas.

## Case Presentation

An 82-year-old male presented to the emergency department with acute, progressively worsening abdominal pain that began a few hours prior. His past medical history was notable for type 2 diabetes, hypertension, hyperlipidemia, benign prostatic hyperplasia, history of previous cerebrovascular accident, and bladder carcinoma status posttransurethral resection of bladder tumor.

Initial evaluation with abdominal ultrasound (Figure 1a) demonstrated gallbladder wall thickening and a 2.9 cm ill-defined, heterogeneous mass in the gallbladder neck concerning neoplasm. Computerized tomography of the abdomen and pelvis with intravenous contrast (Figure 1b) revealed a 3.5 cm × 3.1 cm mass in the gallbladder neck, described as potentially representing a pathological lymph node or gallbladder mass. A magnetic resonance image (Figure 2) showed a gallbladder mass with features concerning malignancy, along with multiple enlarged celiac, superior mesenteric, and lateral aortic lymph nodes.

An upper EUS showed a heterogeneous mass in the gallbladder body with irregular outer margins and a 26 mm × 33 mm lymph node in the porta hepatis region. Fine needle aspiration of the periportal mass revealed atypical lymphocytes confirmed on flow cytometry to be monotypic B-cells positive for CD10, CD19, CD20, and kappa light chain restriction (Figure 3), which is diagnostic for B-cell NHL, favoring follicular lymphoma.

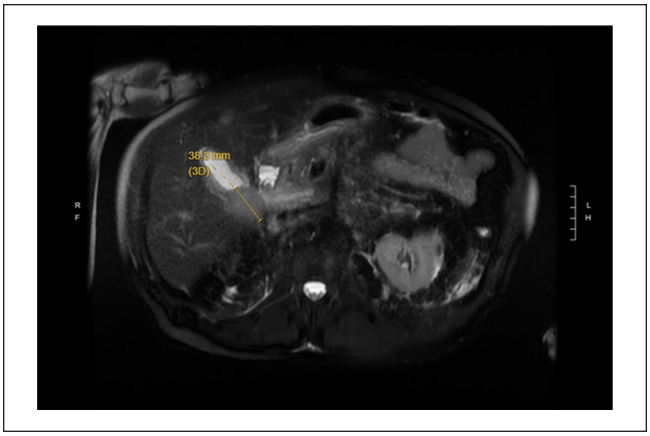

**Figure 2.** Magnetic resonance imaging the abdomen and pelvis with contrast showing an axial T-weighted image for a 3.8 cm mass that does not involve the cystic duct.

By the time of the patient's first oncology visit, he had lost 20 pounds, and his abdominal pain had subsided. A Positron Emission Tomography scan (PET) scan revealed a hypermetabolic mass in the gallbladder and multiple hypermetabolic osseous lesions. However, a bone marrow biopsy of the right posterior iliac crest showed no evidence of lymphoproliferative disorder or abnormal blasts. A surgical referral was then obtained for the removal of the gall bladder.

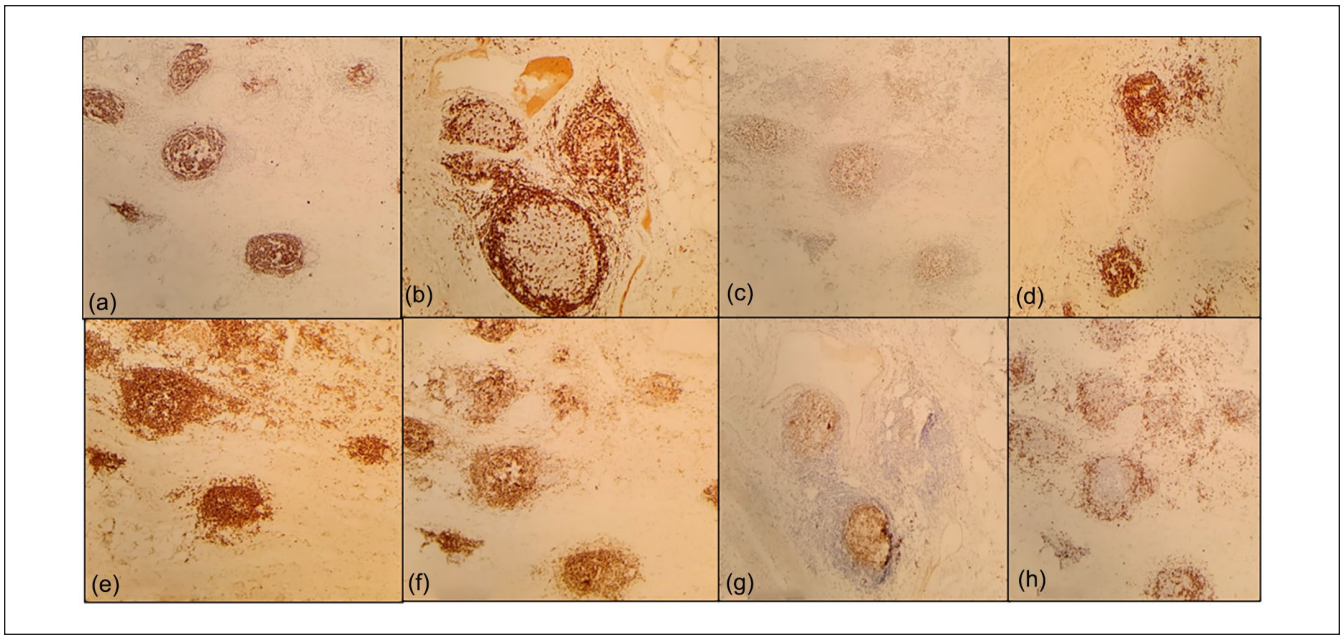


**Figure 3.** Histologic sections of the gallbladder with immunohistochemical stains. The atypical lymphoid follicles predominantly comprise CD20 and PAX5 positive B cells and fewer CD3 T-cells. The B-cells coexpress CD10, BCL6, and BCL-2 (strong). CD21 demonstrates follicular dendritic meshworks in the abnormal lymphoid infiltrate. The overall findings demonstrate involvement by follicular lymphoma, grade 1 to 2 (classic follicular lymphoma). Sheets of large cells diagnostic of transformation to diffuse large B-cell lymphoma are not identified. (a) CD21 100×; (b) CD3 100×; (c) BCL6 100×; (d) PAX5 100×; (e) BCL2100×; (f) CD10 100×; (h) CD5 100×.

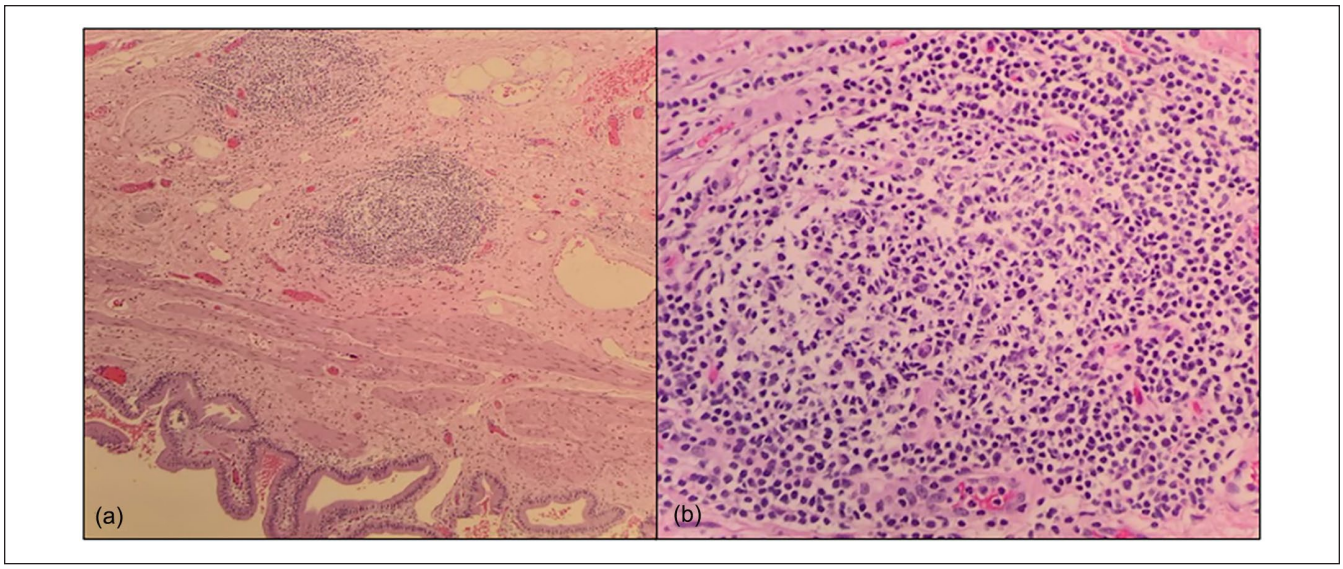


**Figure 4.** Histologic sections of the gallbladder demonstrate unremarkable biliary mucosa and muscular propria with multiple scattered small lymphoid follicles in the perimucosal connective tissue. The follicles predominately comprise small lymphocytes, often with small cleaved cells and a few scattered large cells. (a) H&E 100×; (b) H&E 400×.

Three months after the initial symptom presentation, the patient underwent an open radical cholecystectomy and lymphadenectomy. Surgical findings included severe chronic inflammation and adhesions. Histopathological analysis confirmed follicular lymphoma of the gallbladder (Figure 4).

A repeat PET scan continued to show hypermetabolic skeletal disease involving the hip and multiple vertebrae. A biopsy of a spinal lesion (T1 vertebra) revealed no evidence of lymphoma or malignancy. Given these findings, it was decided that chronic monitoring at this point would be best for the patient.

At follow-up, repeat PET scans have shown no new hypermetabolic disease. However, the patient has since started developing new abdominal distension with imaging diagnostic of new-onset abdominal ascites and liver nodularity concerning cirrhotic changes. He was started on frusemide and spironolactone and is currently undergoing frequent paracentesis.

## Discussion

PFL is a subtype of NHL characterized by the slow accumulation of malignant B-cells within lymphoid follicles. It is one of the most common forms of indolent lymphoma and accounts for approximately 2.5 new cases per 100 000 people annually.[8] However, PFL involving the gallbladder is an infrequent diagnosis mainly described in case reports. Its overall rarity, particularly in extranodal sites like the gallbladder, makes it a unique clinical challenge.

Per our literature review, there appears to be a slight female predominance among patients with follicular lymphoma of the gallbladder.[9-11] Our patient deviated from the typical demographic presentation, being male and outside the typical age range. Imaging findings in PFL are highly variable and nonspecific, which can lead to misdiagnosis. Several reports have documented initial imaging presentations ranging from gallbladder polyps to features resembling cholangitis or cholelithiasis.[9,12-15] Initial imaging of our patient was suggestive of a gallbladder malignancy due to the findings of a gallbladder mass with associated gallbladder wall thickening and locoregional lymphadenopathy, which emphasizes the challenge of distinguishing lymphoma from more common forms of malignancies solely based on imaging studies. Our patient's clinical presentation of vague abdominal pain and unintentional weight loss mirrors those described in other case reports of gallbladder follicular lymphoma but are not specific to the diagnosis.[7,13-15] This highlights the variability of presentation and the need for high clinical suspicion, regardless of gender and age, when diagnosing rare extranodal lymphomas.

Given the clinical and radiologic features, the patient and his oncologist decided to proceed with a cholecystectomy. The benefit of laparoscopic or open cholecystectomy is well-documented, with studies showing that it provides both diagnostic clarity and therapeutic efficacy.[7,9,12-17] Our patient's diagnosis of follicular lymphoma was not confirmed until after histopathologically examining the cholecystectomy specimen, supported by immunohistochemical staining and fluorescence in situ hybridization analysis.

Initially, a lymph node biopsy via EUS suggested a B-cell NHL with a phenotype favoring follicular lymphoma. However, other types such as Burkitt lymphoma and DLBCL, could not be excluded from the differential diagnosis. DLBCL is the most common subtype of lymphoma involving the gallbladder, making it an important consideration when evaluating suspicious masses in this organ.[18]

A follow-up PET scan 2 years after cholecystectomy, showed no evidence of recurrence, consistent with findings from previous case reports.[9,13-15,17]

The reviewed literature of 8 articles (Table 1) highlights that primary gallbladder lymphoma is a rare condition, particularly in older adults, typically between the ages of 63 and 78. Most cases present with nonspecific symptoms, such as abdominal pain, nausea, or jaundice, or are discovered incidentally during imaging or surgery for presumed gallbladder cancer or polyps. Imaging often reveals polypoid lesions or wall thickening, mimicking gallbladder carcinoma. Histopathologically, most cases are diagnosed as follicular lymphoma, confirmed through immunohistochemistry with markers such as CD20, CD10, and BCL-2 positivity. Treatment typically involves surgical resection, often followed by chemotherapy or observation, depending on staging and patient comorbidities. Outcomes are generally favorable, with most patients achieving remission or long-term survival, though prognosis varies based on disease extent and timely diagnosis.[7,9,12-17] This highlights the importance of integrating clinical, imaging, and histopathological findings for accurate diagnosis and effective management.

## Conclusion

Gallbladder involvement by PFL remains an exceedingly rare diagnosis, with only 8 case reports in the literature, typically documented through individual case reports. Its vague, nonspecific clinical presentation—often mimicking gallbladder cancer, cholangitis, or cholelithiasis—necessitates a high degree of clinical suspicion. A multidisciplinary approach combining imaging, histopathology, immunophenotyping, and molecular analysis is essential for accurate diagnosis. Despite its rarity, prompt and complete resection via cholecystectomy appears to offer a favorable prognosis. Future research should optimize diagnostic techniques, refine therapeutic strategies,

**Table 1.** Summary of Prior Case Reports Outlining Initial Presentation, Diagnosis, Histopathology, Treatment, and Outcomes in the Management of Patients With Extranodal Lymphoma of the Gallbladder.

| Published year (with citation) | Gender | Age in years | Initial presentation | Diagnosis | Immuno histopathology | Treatment | Outcome |
|---|---|---|---|---|---|---|---|
| 2024[12] | Male | 70 | Asymptomatic | Polypoid gallbladder lesion | Grade 1 follicular lymphoma | Laparoscopic total cholecystectomy | Not mentioned |
| 2020[13] | Male | 75 | Postprandial right upper-quadrant abdominal pain | Cholelithiasis and gallbladder polyp | Low-grade primary follicular lymphoma | Laparoscopic cholecystectomy | No recurrence after 3 months |
| 2014[14] | Female | 75 | Weight loss and change in bowel habit | Gallbladder polyp | Grades 2 follicular lymphoma | Laparoscopic cholecystectomy | No recurrence after 6 months |
| 2011[16] | Female | 69 | Asymptomatic | Recurrence of previous malignancy | Follicular lymphoma | Cholecystectomy with a limited hepatic wedge resection of the gallbladder fossa | Not mentioned |
| 2009[9] | Male | 74 | Asymptomatic | Primary sclerosing cholangitis | Follicular lymphoma | Open cholecystectomy | No recurrence after 18 months |
| 2009[7] | Female | 78 | Vomiting and right upper abdominal pain | Postoperative ileus | Follicular lymphoma | Open cholecystectomy, adjuvant chemotherapy | Not mentioned |
| 2004[15] | Female | 70 | Intermittent upper abdominal pain and bloating | Symptomatic cholelithiasis | Follicular lymphoma | Laparoscopic cholecystectomy | No recurrence after 9 months |
| 2003[17] | Female | 63 | Acute biliary tract obstruction with jaundice and pain | Hilar cholangiocarcinoma (Klatskin tumor) | Grades 2 follicular lymphoma | A resection of the gallbladder and cystic, choledochal ducts with lymphadenectomy followed by biliodigestive anastomosis | No recurrence after 36 months |

and establish long-term follow-up protocols to assess outcomes of uncommon disease better.

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## Ethics Approval

Our institution does not require ethical approval for reporting individual cases or case series.

## Informed Consent

Verbal informed consent was obtained from the patient for their anonymized information to be published in this article.

## Prior Submissions/Publications

This material has not been previously in any journal or presented at any meeting.

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