



## FOLLICULAR CHOLECYSTITIS: A RARE HISTOPATHOLOGICAL ENTITY – A THREE YEAR STUDY

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### ABSTRACT

Follicular cholecystitis (FC) is an uncommon variant of chronic cholecystitis characterized by prominent lymphoid follicle formation with germinal centers within the gallbladder wall. It accounts for approximately 2% of cholecystectomy specimens and may pose a diagnostic challenge due to its close resemblance to lymphoproliferative disorders. The exact etiopathogenesis remains unclear, although chronic inflammation, immune-mediated mechanisms, and infectious agents have been implicated. In this study, we present twenty-three cases of follicular cholecystitis diagnosed on histopathological examination. All patients presented with clinical features suggestive of chronic cholecystitis and underwent cholecystectomy. Microscopic examination revealed dense lymphoid infiltrates forming well-defined follicles with germinal centers involving the lamina propria and deeper layers. The importance of recognizing this entity lies in differentiating it from malignant lymphoma, which requires careful morphological assessment and, in selected cases, immunohistochemistry. Awareness of this rare entity is essential to avoid overdiagnosis and ensure appropriate patient management.

**KEYWORDS :** Follicular Cholecystitis, Gallbladder, Lymphoid Follicles, Pseudolymphoma, Chronic Cholecystitis

### INTRODUCTION

Gallbladder diseases are a major cause of morbidity worldwide and encompass a wide range of inflammatory and neoplastic conditions. Chronic cholecystitis is one of the most commonly encountered entities in routine histopathology practice. Among its variants, follicular cholecystitis (FC) is a rare and distinct subtype characterized by prominent lymphoid follicle formation with germinal centers within the gallbladder wall.<sup>1</sup>

FC constitutes approximately 2% of cholecystectomy specimens, although variability exists due to differences in diagnostic criteria.<sup>2</sup> It is defined by the presence of at least three lymphoid follicles per centimeter of gallbladder tissue along with dense lymphoid infiltration.<sup>3</sup>

The etiopathogenesis of FC remains unclear. Chronic inflammatory stimulation, immune-mediated mechanisms, and infectious agents such as *Salmonella typhi* and other gram-negative bacteria have been proposed as possible contributing factors.<sup>4,6</sup> It is frequently associated with cholelithiasis and chronic irritation of the gallbladder mucosa.<sup>2</sup>

Histologically, FC may mimic lymphoproliferative disorders, particularly mucosa-associated lymphoid tissue (MALT) lymphoma and other low-grade lymphomas, posing a diagnostic challenge.<sup>7</sup> Hence, awareness of this entity is essential for pathologists to avoid overdiagnosis.

In this study, we present a twenty three cases of follicular cholecystitis and discuss their clinicopathological features along with a brief review of the literature.

### RESULTS

**Table 1: Distribution of Cases According to Age of Patients**

| Age (years) | Number (n)  | Percentage (%) |
|-------------|-------------|----------------|
| 21–30       | 1           | 4.3            |
| 31–40       | 3           | 13.0           |
| 41–50       | 4           | 17.4           |
| 51–60       | 7           | 30.4           |
| 61–70       | 6           | 26.1           |
| 71–82       | 2           | 8.7            |
| TOTAL       | 23          | 100.0          |
| Mean±SD     | 53.8+ 13.45 | Range (24-82)  |

**Table 2: Distribution of Cases According to Gender of Patients**

| Gender | Number (n) | Percentage (%) |
|--------|------------|----------------|
| Female | 17         | 74             |
| Male   | 06         | 26             |
| Total  | 23         | 100            |

**Table 3: Distribution of Cases According to Gallbladder Wall Thickness**

| Wall thickness (cm) | Number (n) | Percentage (%) |
|---------------------|------------|----------------|
| 0.1-0.2             | 3          | 13             |
| 0.2-0.3             | 8          | 35             |
| 0.3-0.4             | 2          | 9              |
| 0.4-0.5             | 6          | 26             |
| 0.5-0.6             | 3          | 13             |
| 1                   | 1          | 4              |
| TOTAL               | 23         | 100.0          |

**Table 4. Distribution of Cases on the Basis of Histopathological Diagnosis**

| Diagnosis           | Number (n) | Percentage (%) |
|---------------------|------------|----------------|
| FC                  | 21         | 91%            |
| Acute on chronic FC | 2          | 9%             |
| Total               | 23         | 100            |

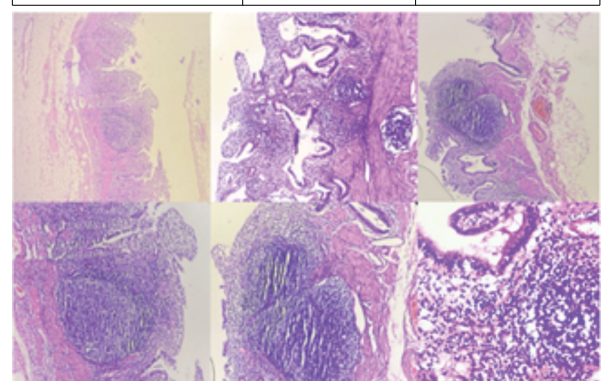


**Figure 1** Shows mucosa lined by simple columnar epithelium. Lamina propria show aggregates of lymphoid aggregates with germinal centre and dense inflammatory infiltrates in the wall of gallbladder. (4x) (10x) (40x).

### DISCUSSION

Follicular cholecystitis is an uncommon benign condition characterized by reactive lymphoid follicle formation within the gallbladder wall. The follicles are typically distributed throughout the lamina propria and may extend into deeper layers.<sup>1</sup>

The exact pathogenesis remains uncertain, but chronic inflammation appears to be a key contributing factor. Persistent irritation due to gallstones or biliary obstruction may stimulate lymphoid proliferation. Several studies have also suggested a possible association with bacterial infections, particularly gram-negative organisms such as *Salmonella*, *Escherichia coli*, and *Klebsiella pneumoniae*.<sup>4-6</sup>

Epidemiologically, FC is more frequently observed in females and is often associated with cholelithiasis, reflecting the pattern seen in chronic calculous cholecystitis.<sup>2</sup> However, cases without gallstones have also been reported, suggesting that immune-mediated mechanisms may also play a role.<sup>1</sup>

The most important aspect of FC is its differentiation from malignant lymphomas. Conditions such as MALT lymphoma, follicular lymphoma, mantle cell lymphoma, and chronic lymphocytic leukemia can involve the gallbladder and mimic FC.<sup>7</sup> Reactive follicles in FC are variable in size, show well-formed germinal centers, and contain a polymorphous lymphoid population, whereas lymphomas typically exhibit monomorphic cell populations and loss of normal architecture.

Immunohistochemistry plays a crucial role in difficult cases. Markers such as BCL-2, CD5, CD10, and cyclin D1 can help distinguish reactive from neoplastic lymphoid proliferations.<sup>7</sup>

Despite its alarming histological appearance, FC is a benign entity with no proven association with malignancy or systemic lymphoproliferative disorders.<sup>4</sup> Therefore, correct identification is essential to prevent unnecessary diagnostic workup and overtreatment.

## CONCLUSIONS

Follicular cholecystitis is a rare histopathological variant of chronic cholecystitis that can mimic lymphoid malignancy. Awareness of its characteristic morphological features is essential for accurate diagnosis. Careful histopathological examination remains the cornerstone of diagnosis, with immunohistochemistry reserved for equivocal cases. Recognition of this entity helps avoid misdiagnosis and ensures appropriate patient management.

## REFERENCES

- [1] Saputra LA. Follicular cholecystitis: A case report of uncommon morphological spectrum of gallbladder lesions. *Clin Med Rev Case Rep*. 2023;10:438.
- [2] Bhosale NM, Patil MA, Pol VJ, Pol JN. Follicular cholecystitis with cholelithiasis – A diagnostic pitfall. *IP J Diagn Pathol Oncol*. 2021;6(4):316–318.
- [3] Saka B, Memis B, Seven IE, Pehlivanoglu B, Balci S, Bagci P, et al. Follicular cholecystitis: Reappraisal of incidence, definition, and clinicopathologic associations. *Int J Surg Pathol*. 2020;28(8):826–834.
- [4] Singh M, Vishwakarma I, Kumar J, Omhare A, Mishra V, Verma YN. Follicular cholecystitis with cholelithiasis: A rare case report. *Int J Life Sci Sci Res*. 2017;3(5):1408–1410.
- [5] Salari B, Rezaee N, Toland A, Chatterjee D. Follicular cholecystitis: Clinicopathologic associations. *Hum Pathol*. 2019;88:1–6.
- [6] Jo IH, Kim YJ, Chung WC, Kim J, Kim S, et al. Microbiology and risk factors in biliary infections. *Hepatobiliary Pancreat Dis Int*. 2020;19:461–466.
- [7] Vats AD, Gupta V, Mehendiratta M, Anand N. Chronic cholecystitis with follicular lymphoid hyperplasia: Diagnostic dilemmas. *Int J Res Med Sci*. 2019;7:770–775.