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CASE REPORT

Follicular Cholecystitis with Cholelithiasis: A Rare Case Report with the Review of Literature

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Abstract

Follicular hyperplasia of the Gall bladder is very rare. It's a benign entity of the spectrum of chronic cholecystitis, it's characterized by hyperplastic lymphoid follicles along with prominent germinal center formation. This entity is very rare and comprises 2% of all cholecystectomies, it's often an incidental finding which is routinely encountered with the histopathological examination, most of the follicular cholecystitis may not show any features radiologically. Ultrasonography revealed calculi in the lumen. It's a histopathological finding which might be mistaken for lymphomas, so knowing this rare entity is useful.We report a case of a 68-year-old female presented with abdominal pain and managed by laparoscopic cholecystectomy and histopathology revealed lymphoid follicle formation in the lamina propria and muscle layer, so the diagnosis of follicular cholecystitis is made.Due to chronic cholecystitis patient presented with right upper abdominal pain and on histopathological examination diagnosed incidentally as follicular cholecystitis.

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Introduction

The gall bladder is one such organ with frequent increase in surgical specimens due to a dramatic increase in cholecystitis because of advent increase in laparoscopic surgery for cholelithiasis and acute and chronic cholecystitis and for other benign conditions like granulomatous cholecystitis, gall bladder polyp, carcinoma, pseudolymphoma and other hepatobiliary surgeries

Follicular cholecystitis is a rare entity of chronic cholecystitis earlier seen in patients of salmonella infection in early 1900.[1] it constitutes about 2% of all cholecystectomies.[1]

It is defined as 3 lymphoid follicles per cm of gall bladder tissue with inflammatory infiltrate predominantly scattered well-formed of lymphoid follicle along with germinal center formation seen in all layers creating a pseudolymphoma pattern.[1] Hence lymphoid hyperplasia, follicular cholecystitis, and pseudolymphoma are synonymous with this lesion.[2]

The exact parthenogenesis of this condition is not yet known however it's thought to be due to an autoimmune condition; continuous inflammation has been formulated.[3]

We describe a rare case of follicular cholecystitis diagnosed incidentally in a 68-year-old woman on routine histopathological examination of cholecystectomy.

Case Report

A 68 year old lady patient visited the department of surgery with a chief complaint of right-sided abdominal pain for 3months which was managed conservatively she had a similar complaint after 4 months. On palpation, there was tenderness in the right hypochondrium, and Murphy's sign is positive. Her other laboratory investigations like CBC revealed mild iron deficiency anemia, neutrophilic leukocytosis, and her sugar levels are increased rest other investigations are normal. Her ultrasonography revealed mild thickening of the gall

bladder wall with few calculi and biliary sludge. She was diagnosed with chronic calculi with cholecystitis.She underwent a laparoscopic cholecystectomy specimen was Sent for a routine histopathological examination.

Gross

Cholecystectomy specimen was measuring 6.9x2.4cm. The outer surface is smooth and shiny with multiple fibrofatty adhesions. On cut section of the inner surface shows Bile-stained velvety mucosa, wall thickness varies from 0.3-0.4cm i.e. Gall bladder wall was thickened and 3 small black gall stone was present in the lumen measuring 0.3x0.3cm (Figure 1).

Figure 1: Gross Examination

Microscopy

On the haematoxylin and eosin-stained section, the GB wall showed focal ulceration of mucosa and dense and diffuse infiltration by lymphoid cells with the formation of lymphoid follicles with prominent germinal centres. In the lamina propria and the muscle layer. At places, more than 3 lymphoid follicles with germinal centres per cm (in one area, even 4 follicles per cm) were found in the lamina propria and muscular layer. Figure 2, 3 depicts chronic inflammatory infiltrate comprising lymphocytes, macrophages, and plasma cells. There was no necrosis.

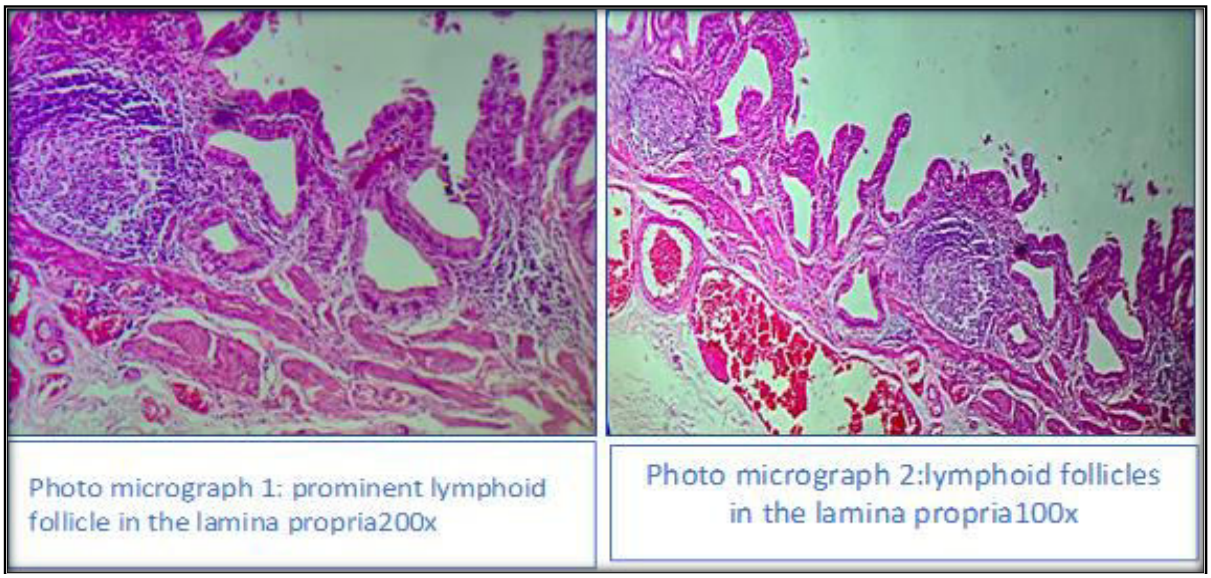

Figure 2: Microscopic features (1)

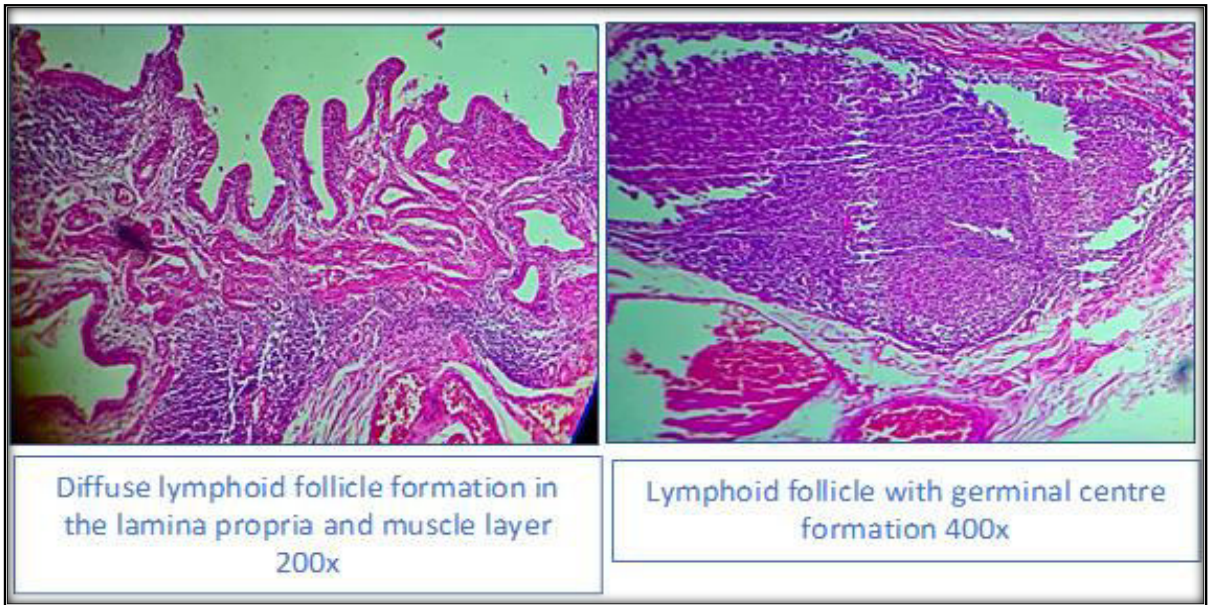

Figure 3: Microscopic features (2)

Therefore, a diagnosis of follicular cholecystitis with cholelithiasis was made. ZeihlNeelson stain for tuberculosis and periodic acid Schiff for fungal etiology was also done and both are found to be negative indicating it is not associated with a specific agent and that it does not show any specific etiology.

Discussion

Gall Bladder diseases are a significant cause of morbidity and mortality. Diseases affecting the GB comprise a wide spectrum of diseases including nonspecific inflammatory diseases, acute & chronic cholecystitis, granulomatous cholecystitis, follicular cholecystitis, gall bladder polyp, carcinoma &pseudolymphoma.[4]

Follicular cholecystitis is defined as 3 lymphoid follicles per cm of GB tissue with inflammatory infiltrate composed almost exclusively

of scattered well-formed LFs. Throughout the wall 1 This Lymphoid Hyperplasia also occurs in the lungs, orbit, skin and GIT.4 FC constitutes about 2% of routine cholecystectomies

Lymphoid tissue in normal mucosa of the gall bladder is very sparse and normally lymphoid follicles are not seen. However, some intraepithelial lymphocytes are evident among the surface columnar epithelial cells.[5] Reactive lymphoid hyperplasia of the gall bladder may arise after chronic cholecystitis as was noted in the present case.[6] Most commonly the middle-aged or elderly females are affected and they suffer from various chronic inflammatory conditions like chronic hepatitis, thyroiditis with primary biliary cirrhosis. However, the present case was a middle-aged female.[7]

Reactive lymphoid hyperplasia is considered to occur either as a result of long-standing inflammation or due to an autoimmune mechanism.[8]

FC has been associated with gram-negative bacterial infections, including Escherichia coli, Klebsiella pneumonia, and Salmonella typhi.[9] FC was initially identified in relation to typhoid fever about a century ago. However, due to the lack of uniform definitional histologic criteria, its reported incidence has been highly variable.

In the study done by Salari et al,[5] 43 cases of FC demonstrated that most cases had co-occurring histology of Chronic Cholecystitis. He also stated that FC associated with Chronic Cholecystitis was relatively more common in females and strongly associated with cholelithiasis. The demographic profile and etiologic association reflect calculous cholecystitis. It is likely that the development of FC in this background is related to

superimposed biliary tract obstruction by gallstones, either obstructing the cystic duct or bile duct.[5] Mahajan et al. has reported 4 cases of follicular cholecystitis and all cases were seen in females. The age of presentation was between 31-and 60 years. All cases were associated with gallstones. Three cases had pigmented stones and one had cholesterol stone.[6] Similarly, our case too showed FC in association with cholelithiasis in a 68years female patient.

Most common lymphoma masquerading as cholecystitis are mucosa associated lymphoid tissue (MALT) lymphoma, follicular lymphoma, mantle cell lymphoma, Chronic lymphocytic leukaemia/Small lymphocytic lymphoma (CLL/SLL). The primary MALT lymphoma of the gall bladder is characterized by diffuse infiltration of cells resembling the small cleared follicular cells and many plasma cells along with epithelial invasion by lymphoma cells thus differentiating it from reactive changes.[9]

In follicular lymphoma, the follicles are uniform in size without a well-formed mantle zone with a monomorphous cell population. However, in contrast to follicular cholecystitis, follicles are variable in size with distinct mantle zone and polymorph lymphoid populations as seen in our case.[10]

Immunohistochemistry detection (IHC) of BCL-2 oncoproteins was shown diffuse and intense positivity in FL, while the normal germinal centres look at BCL-2 positivity with less prominence in the mantle zone and interfollicular cells.[11]

Mantle cell lymphoma consists of small to medium-sized centrocyte cells exhibiting CD5 and cyclin D1 positivity, also BCL-2 expression. Chronic lymphocytic leukaemia (CLL) with gall bladder involvement is extremely rare on histology a monotonous population of small monoclonal lymphoid cells infiltrating the gall bladder wall is seen. Hence CLL is also a diagnostic possibility. IHC showed strong positivity for BCL-2, CD5, CD23, CD43, and PAX-5. However, our case was negative for CD5 and BCL-2 markers.[12]

On reviewing Indian literature on FC, we observed that there are very few case reports of Follicular cholecystitis. Mohan et al,[13] studied 1100 cholecystectomies in North India and reported a high incidence of 2.3% with 26 cases of FC. Mahajan et al,[14] studied 656 cases of cholecystectomies and reported a relatively low incidence of 0.61% (4 cases). Rana et al,[15] reported a case of Lymphoid Hyperplasia which was initially mistaken for lymphoma but subsequently diagnosed as FC on IHC.

Conclusion

Follicular cholecystitis is a very rare entity of the gall bladder; only a few cases published in the literature

It is a benign and extremely rare entity often masquerading as lymphoma on morphology. Malignant lymphoma must be excluded when a case of lymphoid hyperplasia is encountered. hence, the pathologist must be aware of this lesion. We emphasize that most cases of FC can be diagnosed on careful histopathological examination and in difficult cases, IHC can be very useful.

References

1. Saka B, Memis B, Seven IE, Pehlivanoglu B, Balci S, Bagci P, et al. Follicular Cholecystitis: Reappraisal of Incidence, Definition, and Clinicopathologic Associations in an Analysis of 2550 Cholecystectomies. Int J SurgPathol. 2020;28(8):826–34.
2. Singh M, Vishwakarma I, Kumar J, Omhare A, Mishra V, Verma YN, et al. Follicular Cholecystitis with Cholelithiasis: A Rare Case Report. Int J Life Sci Sci Res. 2017;3(5):1408–10.
3. Rana S, Jairajpuri ZS, Khan S, Hassan MJ, Jetley S. Gall bladder lymphoid hyperplasia: masquerading as lymphoma. J Cancer Res Ther. 2014;10(3):749–51.

4. Valecha B, Kamra H. A Case Report of Follicular Cholecystitis with Review of Literature. Saudi J PatholMicrobiol. 2019;4(11):829–31.
5. Albores SJ, Gould E, Manivel RC, Angeles AA, Henson DE, Chronic cholecystitis with lymphoid hyperplasia. Rev Invest Clin, 1989; 41(2):159-64.
6. Mosnier JF, Brousse N, Sevestre C, FlejouJf, Delteil C, Henin D et al., Primary low grade B-cell lymphoma of mucosa associated lymphoid tissue arising in gall bladder histopathology, 1992; 20:273-5.
7. Takahashi h, Sawai H, Matsuo Y, Funahashi H, Satoh M, Okada Y et. al. Reactive lymphoid hyperplasia of liver in a patient with colon cancer: report of two cases. BMC Gastroenterol, 2006; 6: 25-32.
8. Mitropoulos FA, Angelopoulou MK, Sikantaris MP, Rassidakis G, Vayipoulos GA, Papalampros E, et. al., Primary non-hodgkin's lymphoma of gall bladder, leuk Lymphoma: 2000; 40:123-31.
9. Salari B, Rezaee N, Toland A, Chatterjee D. Follicularcholecystitis: clinicopathologic associations. Hum Pathol. 2019;88:1–6. doi:10.1016/j.humpath.2019.03.003.
10. Ferry JA, Harris NL. In atlas of lymphoid hyperplasia and lymphoma. In: day l, editor. 1st ed. Philadelphia, PA: W.B. Saunders Company, 1997; pp. 130-2.
11. Veloso JD, Rezuke WN, Cartun RW, Abernathy EC, Pastuszak WT. Immunohistochemical distinction of follicular lymphoma from follicular hyperplasia in forming fix tissues using monoclonal antibodies MT 2 and BCL-2. Applimmunohistochem 1995; 3:153-9
12. Wang T, Lasota J, Hanau CA, Miettinen M. BCL-2 Oncoprotein is widespread in lymphoid tissue and lymphomas but its differential expression in benign versus malignant follicles and monocytoid B-cell proliferation is of diagnostic value. Ann Pak Inst Med Sci, 1995; 103: 655-62.
13. Doroshaw JH, Shears H, Myers CE, Anderson T. Biliary colic hearalding systemic relapse in non-hodgkin's lymphoma. J Surg Oncol, 1980; 14:255-9.
14. Mohan H, Punia R, Dhawan S, Ahal S, Sekhon M. Morphological spectrum of gallstone disease in 1100 cholecytectomies in north India. Indian J Surg. 2005;67(3):140–2.
15. Mahajan V, Jawarkar A, Hiwale B. Clinicopathological profile ofcholecystectomy specimens-a retrospective and prospective study. Trop J PatholMicrobiol. 2018;4(6):455–65.