Case Report

Xanthogranulomatous Cholecystitis: A Common Mimicker of Gallbladder Malignancy

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Abstract

Xanthogranulomatous cholecystitis is an uncommon form of chronic cholecystitis. This condition is confused clinically and radiologically with carcinoma. The major radiologic finding is the thickening of the gallbladder wall (>4mm). Pathologically, the areas involved by the xanthogranulomatous process may appear as firm, yellow masses that resemble carcinoma macroscopically. The final diagnosis is usually made in pathology during microscopic examination. Hereby we report a case of xanthogranulomatous cholecystitis which had been confused as gallbladder carcinoma clinically and radiologically.

Keywords: *Xanthogranulomatous cholecystitis, gallbladder carcinoma, foamy macrophages, chronic inflammation*

Introduction

Xanthogranulomatous cholecystitis (XGC) is an inflammatory disease of the gallbladder which is characterised by focal/diffuse destructive inflammatory process usually followed by marked proliferative fibrosis with infiltration of macrophages and foamy cells.[1] These are uncommon lesions forming tumor-like mass in inflamed gallbladders.[2] Preoperative diagnosis is difficult to make and is often mistaken for gall bladder cancer. [2] XGC starts from biliary obstruction due to acute or chronic cholelithiasis and increasing intra-gallbladder pressure. This pressure leads to rupture of the Rokitansky Aschoff sinuses or mucosal ulcer leading to extravasation of bile in the interstitial tissues. Then as a result xanthogranulomatous inflammatory reaction develops.[3] Diagnosis and management of this disease is suboptimal with an incidence of 1-3%. [2]The imaging and intraoperative features of XGC are similar to those of gallbladder cancer, leading to its frequent misdiagnosis. Although imaging has shed some light on this riddle preoperatively, still the diagnosis is often a postoperative histological surprise. These lesions are easily confused with gallbladder cancer, and so there needs to be an increased awareness about this tumour mimicker.[1]

Gall bladder carcinoma is the the most common biliary tract malignancy in the world and fifth most common gastro-intestinal neoplasm. Spread of gall bladder carcinoma (GBC) to the liver parenchyma and the adjacent internal organs usually occurs due to lack of serosa in gall bladder wall, proximity, cholecystic veins draining to the liver portal vein and lymphatics from GB draining into the liver.(4) Identifying preoperative differences between XGC and GBC would help prevent

unnecessary morbidity especially in the form of radical surgery. [1]

Case Report

A 60 year old male felt pain in abdomen for few days which lead him to seek for medical attention. Following clinical and radiological evaluations he was diagnosed with multiple cholelithiasis along with asymmetrical thickening of gall bladder wall. He then visited KISTMCTH for elective cholecystectomy. On further evaluation, CECT Abdomen and Pelvis showed gall bladder malignancy with suspicion of metastasis to lymph nodes around retropancreatic region and cardia of stomach. The patient subsequently underwent extended cholecystectomy with hepatic resection along with resection of regional lymph nodes.

The specimens were sent to pathology department. On gross examination of the gallbladder a firm whitish thickening was noted in the wall on cut surface.(Figure 1) Specimens were processed accordingly and examined under microscope. On microscopic examination sections from gall bladder showed extensive areas of ulceration. The wall of gall bladder showed dense inflammatory infiltrate comprising of lymphocytes, plasma cells and fair number of neutrophils. Foamy macrophages and multinucleated giant cells were present. (Figure. 2, 3, 4) Fibroblastic proliferation with subserosal fibrosis were observed. Atypical/ malignant cells were present.

Thus the diagnosis of Xanthogranulomatous cholecystitis was given in histopathological report.

This case which was previously diagnosed as gallbladder carcinoma and underwent extended cholecystectomy with hepatic resection for gall bladder malignancy.

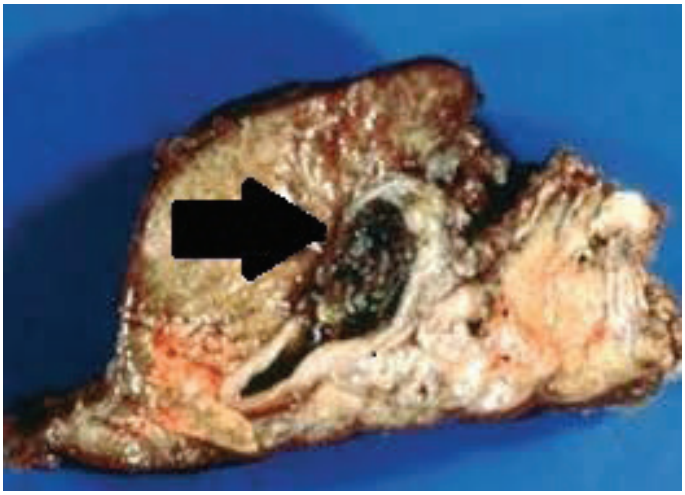

Figure 1. Picture showing uniform greyish white thickening of gallbladder wall.

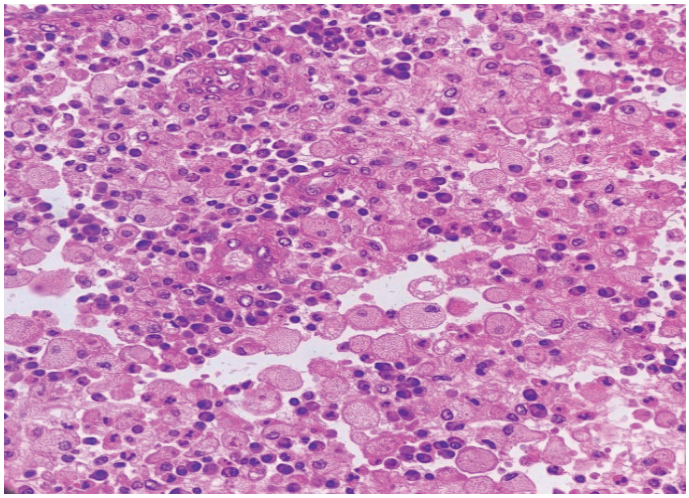

Figure 2. Photomicrograph showing presence of foamy macrophages within gallbladder wall, (Stain: hematoxylin and eosin; Magnification: 400x)

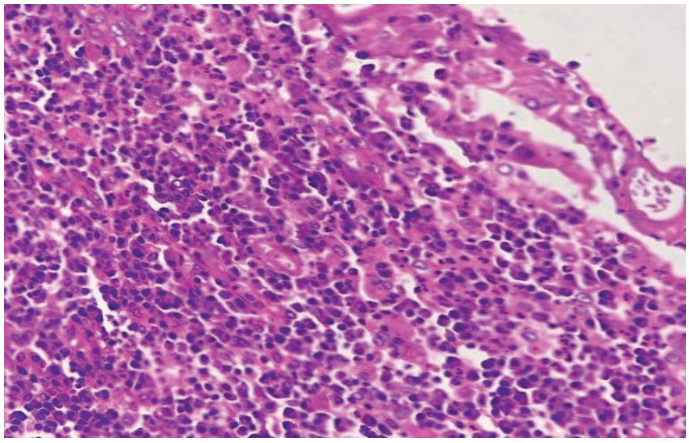

Figure3. Photomicrograph showing ulceration of gallbladder mucosa. (Stain: hematoxylin and eosin; Magnification: 400x)

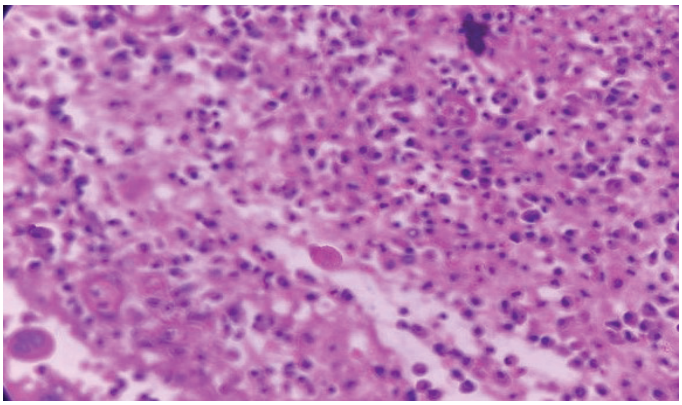

Figure 4. Photomicrograph showing presence of giant cells, foamy macrophages along with neutrophils and lymphocytes in the wall of gallbladder. (Stain: hematoxylin and eosin; Magnification: 400x)

Discussion

Xanthogranulomatous cholecystitis (XGC) is seen in 1.3% to 5.2% of resected GB specimens and it is a rare form of chronic cholecystitis. Abnormal thickening of the GB wall with poorly demarcated soft to-firm, yellow-brown intramural nodules of various sizes with cholecystitis is the characteristic macroscopic finding.[3] Similar imaging and intraoperative findings as those of GBC are seen in XGC and are easily misdiagnosed, often resulting in unnecessary radical surgery. A continuous mucosal lining is more often seen in XGC (66.7%) as it is mainly a pathology of the gall bladder wall. Homogeneous enhancement of lymph nodes are more commonly seen in XGC than gall bladder malignancy.[4]

Complications are GB perforation, abscess formation, fistulous tracts to the duodenum, and extension of the inflammatory process to the adjacent abdominal organs, like liver and transverse colon. It indicate that XGC develops aggressively similar to advanced GB cancer.[3] Hence, it is important to differentiate XGC from advanced GB malignancy preoperatively and avoid unnecessary surgical treatments.[3] In 1970 , Christensen and Ishak described XGC as benign and pseudotumor of the gallbladder and in 1981 it was first described as a distinct pathological condition by Goodman and Ishak .[5] The pathogenesis of XGC is thought to initiate from biliary obstruction with acute or chronic cholecystitis leading to increased intra-gallbladder pressure, followed by a granulomatous reaction. Extravasation of bile into the gallbladder wall occurs due to biliary obstruction, with involvement of the Rokitansky Aschoff sinuses, or extravasation occurs through a small ulceration in the mucosa. This results in granulation reactions forming intramural nodules.[3] This inflammatory process is often severe and extend to adjacent organs, liver, duodenum, and transverse colon. Dense adhesions are formed surrounding the gallbladder.[3]

In our case the patient was suspected to have gallbladder carcinoma based on radiological

findings which was later diagnosed as XGC based on histological findings.

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