Xanthogranulomatous Cholecystitis – Our Experience
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Citation

Abstract
Background. Xanthogranulomatous cholecystitis (XGC) is a rare inflammatory disease of the gall bladder and mimics gall bladder carcinoma both macroscopically and histologically. This retrospective study has been undertaken to analyse the clinical as well as the surgical profiles of all the histologically proven cases of Xanthogranulomatous cholecystitis in an effort to contribute towards better understanding of this histopathological entity. Methods. All the in-patient records of patients, who had undergone cholecystectomy and were proven to have Xathogranulomatous cholecystitis between May 2008 & May 2009, were analysed retrospectively. Results: The incidence of XGC was 11.1% with 2 males and 8 females and the mean age of presentation was 43.8 years. Biliary colic was present in all the 10 cases and 4 had acute illness. Ultrasonographically, all patients had gall bladder wall thickening with associated chiolithiasis. Operative difficulty was encountered in all cases because of dense adhesions and partial cholecystectomy had to be done in 2. Post operative period was uneventful in 9 cases. 1 patient developed jaundice on 7th postop day and was treated with endoscopic retrograde cholangiopancreatography.

INTRODUCTION
Xanthogranulomatous cholecystitis (XGC) is a rare inflammatory disease of the gall bladder characterized by a focal or diffuse destructive inflammatory process, with accumulation of lipid laden macrophages, fibrous tissue, and acute and chronic inflammatory cells. Christensen and Ishak first coined the pathologic diagnosis of XGC in 1970. Many pseudonyms such as ceroid granulomas, ceroid-like histiocytosis, and fibroxanthogranulomatous inflammation existed before the Armed Forces Institute of Pathology formally characterized XGC.

The importance of this condition lies in the fact that it may mimic a gallbladder carcinoma macroscopically and may be difficult to distinguish from malignancy even on histopathologic examination.

In this study, 10 cases of histopathologically proven Xanthogranulomatous Cholecystitis have been reviewed.

AIMS AND OBJECTIVES
All cases with histopathologically proven Xanthogranulomatous Cholecystitis have been reviewed in this study in an effort to contribute towards better understanding of this histopathological entity.

MATERIALS AND METHODS
All the in-patient records of patients, who had undergone cholecystectomy between May 2008 and May 2009 in the Department of General Surgery, Teerthankar Mahaveer Medical College, Moradabad (U.P.) were analysed retrospectively. Histopathological records of the excised gallbladder specimens of all these cases were then scrutinised. A total of 90 cholecystectomies were done during this time period and out of them, 10 cases (11.1%) were histopathologically proven to have Xanthogranulomatous Cholecystitis. All these 10 cases were studied in detail with respect to their clinical profile, pre-operative investigations, the surgical procedure and the post operative phase.

OBSERVATIONS
INCIDENCE
Total 90 cholecystectomies were done during the study time period and out of them, 10 cases were histopathologically proven to have Xanthogranulomatous Cholecystitis (XGC) so, the incidence of XGC was 11.1% in this study.
SEX

There were 2 male and 8 female patients with Xanthogranulomatous cholecystitis.

AGE DISTRIBUTION

5 patients (50%) were older than 50 years of age, 3 (30%) were between 35-45 years and 2 (20%) were < 35 years age. The mean age at presentation was 43.8 years. Individual ages were as mentioned in Table –1.

TOTAL DURATION OF ILLNESS

5 (50%) patients had clinical symptoms since 15 days, 2 had symptoms since more than a month and the remaining 3 patients had symptoms for >1 year.

Detailed duration of symptoms were as mentioned below (Table-2):

CLINICAL FEATURES

All the 10 patients presented with history of biliary colic. 5 of them had associated nausea and vomiting. 4 (40%) patients presented with clinical features of Acute Cholecystitis. Other features were as mentioned below: (Table-3)
Gall bladder wall thickening was seen in all the cases on ultrasound. The range of thickness varied from 3.6 to 6mm. 5 (50%) patients had multiple stones and 5 had a single stone in gallbladder lumen. 1 patient also had choledocholithiasis.

8 (80%) cases had at least 1 stone measuring more than 10mm in maximum diameter while the remaining 2 patients had smaller stones. (Table-4)

OPERATIVE PROCEDURE & FINDINGS
All patients had dense adhesions specially over the triangle of Calot’s. Additionally, 1 case had a gall bladder perforation at the fundus and 2 had pyocele. (Table-6)

Laparoscopic cholecystectomy was done successfully in 2 cases, however the duration of procedure was more. Laparoscopic procedure was converted to open in 4 cases because of difficult dissection. 4 patients opted for open cholecystectomy by choice.

Partial cholecystectomy had to be done in 2 cases because of dense adhesions over the Calot’s triangle. Choledocholithotomy could not be done in 1 patient with choledocholithiasis because of the same reason.

POST OPERATIVE COURSE
The postoperative course was uneventful in 9 cases. 1 patient with peritonitis and choledocholithiasis, who underwent partial cholecystectomy, developed icterus on the 7th post op day. He underwent ERCP after which his icterus resolved and was then discharged in a satisfactory clinical state.

DISCUSSION
Xanthogranulomatous cholecystitis is an uncommon variant of cholecystitis that is rarely diagnosed preoperatively. It is generally more virulent than ordinary cholecystitis. It appears to result from ruptured Rokitansky-Aschoff sinuses with intramural extravasation of bile and subsequent xanthogranulomatous reaction.

INCIDENCE
The incidence of Xanthogranulomatous Cholecystitis (XGC) in our study was 11.1% (10 out of 90 cases of cholecystectomy). This figure correlates with that of a study conducted in Varanasi, India by Dixit VK and colleagues, who reported the incidence to be 8.9% (41 out of 460 cholecystectomies) (Chart-1).

Similarly, Krishna RP et al, Lucknow, India reported a 10% incidence of XGC (620 out of 6,150 cholecystectomies)

However, the incidence reported by Guzman-Valdivia G in Regional General Hospital, Mexico, was 1.46% (182 out of 12,426 cases), similar to that reported by Karabulut Z 1.5% (12 out of 770 cases)

KM Roberts & MA Parsons, also found this incidence to be 1.8% (13 out of 724) in the University of Sheffield Medical School, Sheffield.

This difference in the incidence of XGC might be attributed to the different geographic, environmental or racial factors in studies conducted in India and in other countries.
SEX
There were 2 male and 8 female patients with XGC in our study. So, the male to female ratio was 1:4.

In other studies, the male to female ratio varies from 1:1 to 2:1. Therefore, XGC doesn’t seem to have a predilection to a particular sex. (Chart-2)

AGE
The mean age at presentation was 43.8 years in our study (Table-1). The mean age of presentation reported in various other studies ranges from 44 to 63 years. (Chart-3)

CLINICAL PRESENTATION
Clinically, 4 (40%) patients presented with acute illness (Table-2).

In the study conducted by Karabulut Z, 41.6% patients presented in acute form.

These figures are significantly higher than those reported by Guzman-Valdivia G & Dixit V et al, who reported this presentation in 17% & 0% cases respectively.

Gall bladder wall thickening was the most consistent finding on ultrasonography found in all the 10 cases with thickness ranging from 3.6 to 6mm (Table-4).

The same observation has been made in various other studies like those conducted by Kim PN et al, Guzman Valdivia G & Parra JA. (Chart 4)

So, finding a thickened gall bladder wall sonographically, may be helpful in the diagnosis of XGC.

Another important finding on USG was the presence of cholelithiasis in all the cases in this study. In the literature, the association of cholelithiasis with XGC varies among different studies from 54.5 to 100%.

Presence of Intramural nodules in the gall bladder on ultrasonography, has been reported as an important finding in patients with XGC by Kim PN and colleagues who reported these nodules in 72.7% cases (8out of 11), although, none of the cases in the present series had this finding.
INTRA-OPERATIVE FINDINGS

Intraoperatively, adhesions involving the gallbladder wall, liver and omentum were found in all the cases. (Table-6)

Perforated gall bladder was found in 1 (20%) case. PN Kim and Houston JP, and colleagues, in separate studies, have reported perforation in 13% of the cases.

Partial cholecystectomy was done in 2 cases (20%) primarily because of dense adhesions over the triangle of Callot’s.

In the case series reported by Srinivas GN, partial cholecystectomy was done in 38% cases and in those reported by Guzman Valdivia G, this procedure was done in 35% cases.

Therefore, patients with XGC have a high incidence of adhesions and hence a high rate of partial cholecystectomy.

Houston JP and Roberts KM have also reported the presence of biliary fistula in 12.9% and 23% cases respectively, in their case series. These fistulae were either communicating with the skin or with the duodenum.

POST- OPERATIVE PHASE

The postoperative course was uneventful in 9 cases but 1 patient developed icterus on the 7th post op day. He underwent ERCP after which his icterus resolved and was then discharged in a satisfactory clinical state.

In the literature, however, a much higher incidence of post-op complications have been reported.

Roberts KM and Parsons MA have reported post-op complications in 30.7% (4 out of 13 cases). These complications included subphrenic absceses in 1 case and wound infections in 3 cases.

Karabukut Z has also reported complications in 25% (3 out of 12) cases which include wound infection, pulmonary infection and biliary peritonitis.

CONCLUSIONS

1. Xanthogranulomatous cholecystitis is an uncommon variant of cholecystitis with incidence ranging from 1.4 to 11% (11.1% in this study).

2. The male to female ratio varies from 1:1 to 2:1 (1:4 in the present series) so, XGC doesn’t seem to have a predilection to a particular sex.

3. The mean age of presentation ranges from 44 to 63 years (43.8 years in this study).

4. Clinically, most patients present with chronic illness although up to 41.6% cases have been reported to present in the acute form.

5. Gall bladder wall thickening is the most consistent finding on ultrasonography.

6. Other sonographic features may include the coexistence of cholelithiasis in most of the cases (upto 100%) and presence of intramural nodules.

7. Operative difficulty due to extensive adhesions may be encountered in a large proportion of cases and so, partial cholecystectomy may have to be done.

8. There is a high rate of post-operative complications as reported in the literature although most of the cases in the present case series had a smooth postoperative phase.

References


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