

## “Idiopathic Eosinophilic Cholecystitis”- A Case Report

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### ABSTRACT

Eosinophilic cholecystitis is an infrequent form of cholecystitis, the dominant components of the inflammatory cells in gall bladder wall are eosinophils. Eosinophilic cholecystitis is usually acalculous shows a massive outpouring of mature eosinophils in all the layers of gall bladder wall [Dabbs DJ et al 1993, Fox H et al. 1972]. The etiology of EC is unknown and it occurs three times more commonly in patients with acalculous cholecystitis than in patients with cholelithiasis [Pay SW et al. 1998]. Cases of EC have been infrequently reported since its original description in 1949 [Albot G et al. 1949]. Therefore we present this case because of the rare occurrence of eosinophilic cholecystitis. A histopathological diagnosis was made as idiopathic eosinophilic cholecystitis as the infiltrate is composed almost exclusively of eosinophils and no etiologic agent identified.

**Key Words:** Eosinophilic Cholecystitis, Infiltration, Idiopathic, Cholelithiasis, Gall bladder.

### 1. INTRODUCTION

Eosinophilic cholecystitis is a rare form of cholecystitis in which eosinophils form the predominant components of the inflammatory cell infiltrate in the wall of the gall bladder. It is described as an acalculous cholecystitis but in rare cases it is associated with cholelithiasis. Eosinophilic cholecystitis may be idiopathic or it may be associated with other disease conditions [Sanchez-Pobrep P et al. 1997]. The suggested origins include allergies, local diathesis involving gall stones; parasites, acalculous cholecystitis and eosinophilic gastroenteritis are reported by some authors [Felman RH et al. 1994, Russel COH et al. 1979]. In the clinical practice, eosinophilic cholecystitis is usually unsuspected and is clinically indistinguishable from the predominant form of calculous cholecystitis [Rosengart TK et al 1990]. We report a case of eosinophilic cholecystitis in a woman who presented with right upper quadrant pain and diagnostic studies validated the diagnosis of acute cholecystitis. A

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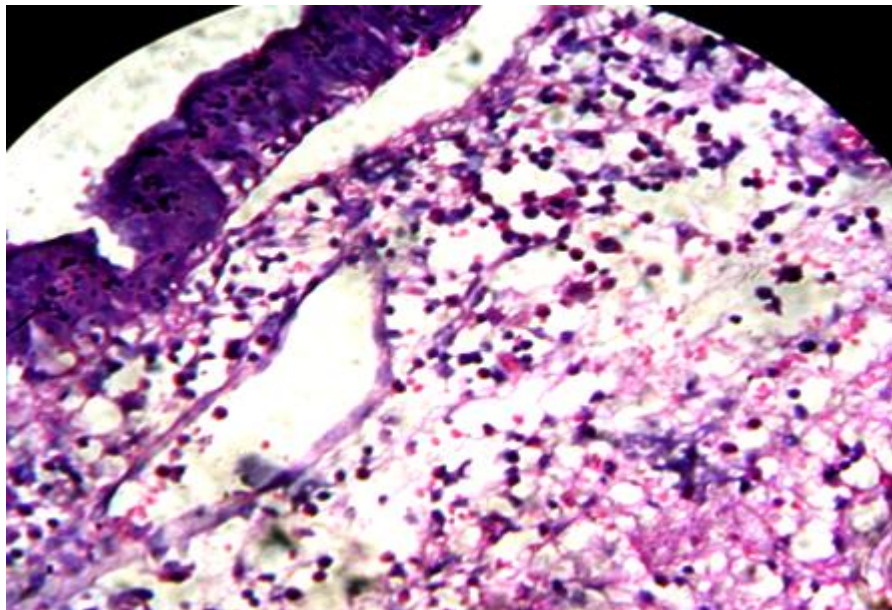
cholecystectomy specimen received in the department for histopathological study and microscopic examination revealed exclusively eosinophilic infiltration in all the layers of gall bladder with evidence of ulceration and denudation of mucosal layer. Underlying tissue showed edematous changes with focal hemorrhage and necrosis. As no significant etiology was identified in this case, therefore a histopathological diagnosis was made as idiopathic eosinophilic cholecystitis and presented for its rarity.

## 2. CASE REPORT

In the present case, a 45 years old woman presented to the Surgery Department of our institute with complaints of right upper quadrant pain and abdominal discomfort with radiation towards back since two weeks. Symptoms and signs in these cases were related to the inflammation of the involved organ or tissues. No significant past and family history found including allergic reactions. Under investigations total count was mildly raised and differential count revealed eosinophilia (14%) and ultra sound examination revealed distended gall bladder with increased thickening of the wall.

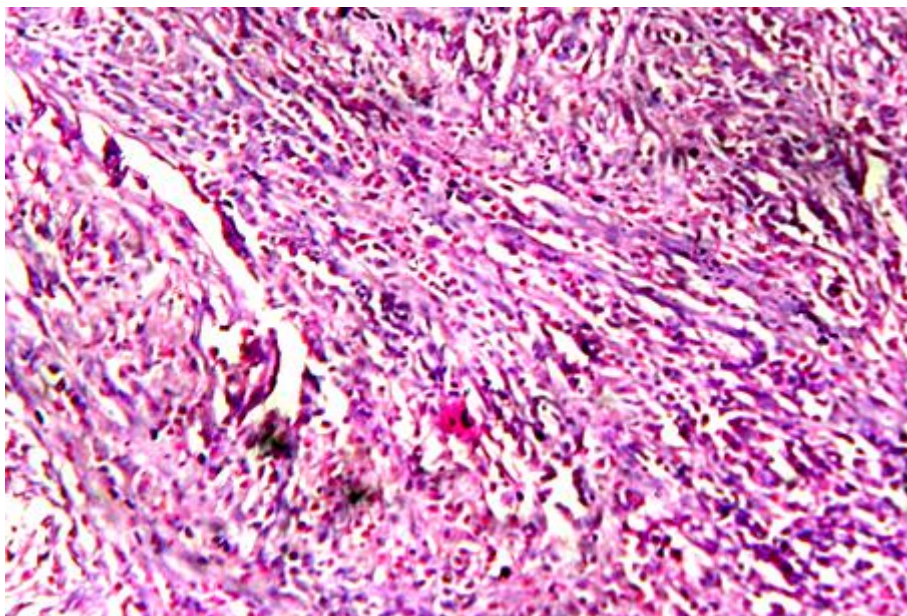
The patient underwent an open cholecystectomy and operative specimen received in our department for histopathological examination. Gross examination revealed increased gall bladder size measured 7.2 x 4.2 x 3.5 cm and found congestion on external surface. On cutting open, the gall bladder was filled with bile and mucosa was congested and ulcerated with increased wall thickness varied from 2.0 cm to 0.6 cm. Multiple strips from the body and neck of the gallbladder were taken, routinely processed and paraffin embedded. Sections were stained with haematoxylin and eosin.

Microscopic examination revealed congested mucosa having evidence of ulceration with thickening of the wall infiltrated with inflammatory cells predominantly eosinophils. Few lymphocytes occasional neutrophils and plasma cells were also seen. Past and present history including family history was obtained and found insignificant. Only significant history was recurrent pain in right upper quadrant and abdominal discomfort with radiation towards back since two weeks. Therefore a histopathological diagnosis of idiopathic eosinophilic cholecystitis was made.

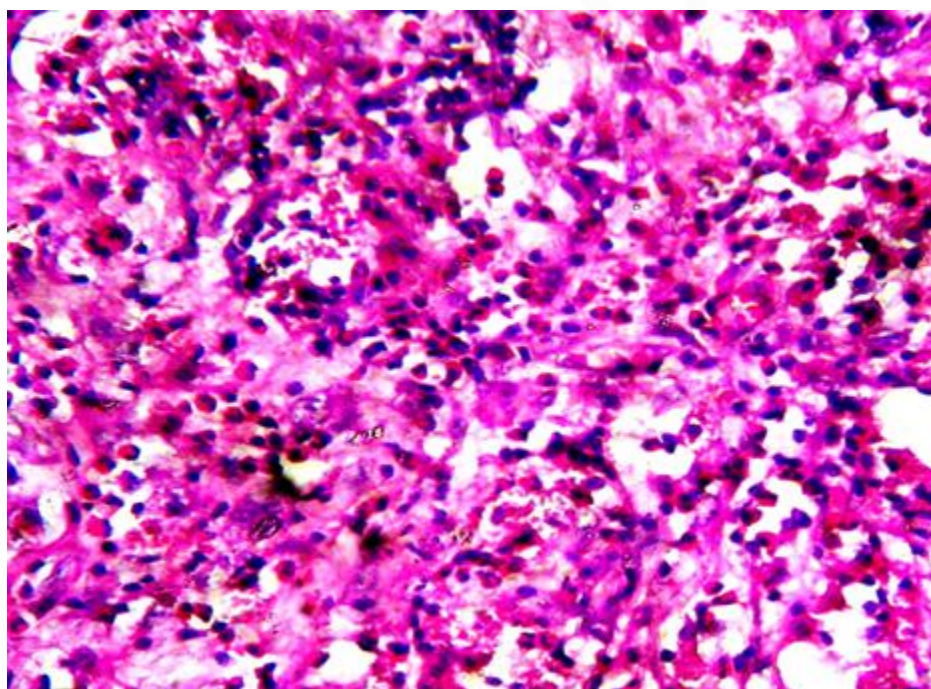


**Figure 1**

Destruction of mucosal layer with edematous changes and infiltration of Eosinophils within sub mucosal layer. (H&E 100X)



**Figure 2**  
Infiltration of Eosinophils within deeper layer. (H&E 100X)



**Figure 3**  
Eosinophils formed the predominant components of the inflammatory infiltrate. (H&E 200X)

### 3. DISCUSSION

Eosinophilic cholecystitis is an infrequent form of cholecystitis that was first described by Albot in 1949 [Albot G et al. 1949]. The physical and laboratory findings are not specific. Although the etiology of eosinophilic cholecystitis is still uncertain, the postulated causes include parasites, gallstones, and allergic hypersensitivity response to drugs such as phenytoin, erythromycin, cephalosporin, and herbal medications [Felman RH et al. 1994, Adusumilli PS 2002]. It has been also hypothesized that abnormal Biliary contents or certain hepatic metabolites may evoke a hypersensitivity reaction recruiting a large number of eosinophils that cause mucosal damage and gall bladder dysmotility [Dabbs DJ et al. 1993].

It has been reported that a marked peripheral eosinophilia usually correlates with eosinophilic infiltration in the gall bladder wall [Fox H et al. 1972, Felman RH et al. 1994, Kim YH et al 1999]. In our case also mild peripheral eosinophilia indicates the infiltration of eosinophils in the gall bladder. It was proposed that some of these lesions are possibly due to local allergic reaction to substances released at the foci of inflammation in the target organ or tissues [Pardo-Mindan FJ et al. 1980]. It has also been proposed that eosinophilic cholecystitis may result from a hypersensitivity type of inflammatory response to altered bile [Dabbs DJ et al. 1993].

Eosinophilic cholecystitis occurs in association with eosinophilic gastroenteritis, eosinophilia-myalgia syndrome, idiopathic hypereosinophilic syndrome, parasitic infestation like clonorchis sinensis and hydatid cyst disease and drugs like cephalosporins [Kim YH et al 1999]. Rare cases of idiopathic eosinophilic cholecystitis have been reported in which no associated etiology could be found [Albot G et al. 1949, Kim YH et al 1999]. In our patient, we could not find any possible etiology even after a detailed personal, past and family history along with laboratory investigations.

An increased number of eosinophils in the inflammatory infiltrate in the gall bladder occur three times more commonly in patients with acalculous cholecystitis than in patients with cholecystitis with cholelithiasis [Albot G et al. 1949]. In our patient, gallstones were present in a rare association with eosinophilic cholecystitis. Eosinophilic cholecystitis cannot be clinically distinguished from ordinary cholecystitis before surgery and it invariably leads to cholecystectomy [Rosengart TK et al. 1990]. A suspicion of this entity can be kept if peripheral eosinophilia is present [Adusumilli PS et al. 2002].

#### 4. CONCLUSION

The significance of eosinophilic cholecystitis lies in the fact that it may be associated with other more severe disease conditions and eosinophilic cholecystitis may be a presenting feature of these conditions. These may be missed if the patient is not subjected to a thorough clinical and laboratory investigation. The symptoms and signs of associated disease may be present along with symptoms of cholecystitis. However, if a patient presents only with symptoms of cholecystitis and a post-operative histopathological diagnosis of eosinophilic cholecystitis is made, the patient must be investigated to rule out other associated disease conditions, which may have a worse prognosis than cholecystitis itself.

#### REFERENCES

1. Adusumilli PS, Lee B, Parekh K, Farrelly PA. Acalculous eosinophilic cholecystitis from herbal medicine: a review of adverse effects of herbal medicine in surgical patients. *Surgery*, 2002; 131: 352-356.
2. Albot G, Poilleux, Olivier C, Libaude H, Cascarigny P. Les cholestites a eosinophiles. *Presse Med.* 1949; 39: 558-559.
3. Dabbs DJ. Eosinophilic and lymphoeosinophilic cholecystitis. *Am J Surg Pathol.* 1993; 17: 497-501.
4. Felman RH, Sutherland DB, Conklin JL, Mitros FA. Eosinophilic cholecystitis, appendiceal inflammation, pericarditis, and cephalosporin-associated eosinophilia. *Digest Dis Sci.* 1994; 39:418-422
5. Fox H, Mainwaring AR. Eosinophilic infiltration of the gallbladder. *Gastroenterology*, 1972; 63: 1049-1052.
6. Kim YH. Eosinophilic cholecystitis in association with clonorchis sinensis infestation in the common bile duct. *Clin Radiol.* 1999; 54: 552-554.
7. Pardo-Mindan FJ, Joly MA, Santamaria M, Munoz Navas M. Eosinophil inflammatory reaction in isolated organs. *Allergol Immunopathol (Madr.)* 1980; 8:23-30.
8. Pary SW, Pelias ME, Browder W. Acalculous hypersensitivity cholecystitis: hypothesis of a new clinicopathologic entity. *Surgery.* 1998; 104:911-916.
9. Rosengart TK, Rotterdam H, Ranson JH. Eosinophilic cholangitis: a self-limited cause of extrahepatic biliary obstruction. *Am J Gastroenterol* 1990; 85: 582-585.
10. Russel COH, Dowling JP, Marshall RD. Acute eosinophilic cholecystitis in association with hepatic echinococcosis. *Gastroenterology* 1979; 77:758-760.
11. Sanchez-Pobrep P, Lopez-Rios Moreno, Colina F, Yela C, Manzano M, Rodriguez S, Martin A, Casis B, Garfia C, Castellano G, Solis-Herruzo JA. Eosinophilic cholecystitis: an infrequent cause of cholecystectomy. *Gastroenterol Hepatol.* 1997; 20:21-22.