HIGHER FREQUENCY OF CHOLELITHIASIS IN EOSINOPHILIC CHOLECYSTITIS – AN UNUSUAL FINDING

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ABSTRACT

Objective: To determine the frequency of cholelithiasis in eosinophilic cholecystitis in our population.

Study Design: Prospective descriptive study.

Place and Duration of Study: Histopathology department, Combined Military Hospital (CMH), Peshawar (Pakistan) from Dec 2011 to Nov 2014.

Material and Methods: Eighteen hundred (1800) cholecystectomy specimens were included in the study. The specimens which were properly fixed in 10% formalin were included in the specimen, while poorly fixed and autolysed specimens were excluded. The specimens were examined grossly, measured and block selection was done. The slides made were examined under light microscope by one histopathologist and findings were analyzed.

Results: Out of 1800 cholecystectomy specimens, 25 cases (1.38%) were diagnosed as eosinophilic cholecystitis. Out of these 25 cases, 20 (80%) were females having an age range of 30-50 years, while 5 (20%) were males with an age range of 35-55 years. Out of these 25 cases of eosinophilic cholecystitis, 22 (88%) were having cholelithiasis, while 3 (12%) were acalculous eosiniophilic cholecystitis.

Conclusion: Eosinophilic cholecystitis in our population is mostly calculous which is very significant finding contrary to data given in western literature, where most of eosinophilic cholecystitis is aclculous. This needs further evaluation to determine any genetic, geographic, environmental, dietary, microbiological or any other factor responsible in etiopathogenesis of calculous eosinophilic cholecystitis in our population, which could be helpful in prevention and management of this disease.

Keywords: Cholelithiasis, Cholecystectomy, Eosinophilic cholecystitis.

INTRODUCTION

Eosinophilic cholecystitis is a rare type of cholecystitis with clinical presentation similar to acute cholecystitis, originally described in 1949[1]. The diagnosis is based on typical symptoms of acute cholecystitis and leukocytic infiltration comprising more than 90% eosinophils, infiltrating the gall bladder wall[2]. The exact etiopathogenesis remains unknown, however is described to be associated with eosinophilic gastroenteritis, parasitic infestations, allergic diathesis with involvement of other organs, treatment with certain drugs, reaction to abnormal elements of bile and cholelithiasis[3]. It is mostly an acalculous cholecystitis which in rare cases is with cholelithiasis[4].

Eosinophilic cholecystitis represents today its own histological entity, different from other types of cholecystitis which may require a different therapeutic approach for its management especially in aclculous cases.

The aim of this study was to see the frequency of cholelithiasis in cases of eosinophilic cholecystitis in our population.

MATERIAL AND METHODS

Histopathology department Combined Military Hospital, Peshawar (Pakistan) receives biopsy specimens including cholecystectomy specimens from all the Military Hospitals as well as civil hospitals of Khayber Pakhtunkhwa (KPK) province. All the cholecystectomy specimens, which were received properly fixed in 10% formalin, were included in the study. The autolysed and poorly fixed specimens were excluded from the study. A total number of 1800 cholecystectomy specimens were included in the study during a period of 3 years (Dec 2011 – Nov 2014). These cholecystectomy specimens were sent by different surgical units to histopathology department for

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histopathological analysis. On receipt of specimens in the department, they were kept for fixation in 10% formal saline for 24 hours. After fixation, the specimens were measured, examined macroscopically and sections were taken according to the guidelines of Royal College of Pathologist London (UK). Routinely three sections were taken from a gall bladder including the sections from neck, body and fundus. The sections were processed in an automatic tissue processer (Tissue Tek, Sakura, Japan) and paraffin blocks were prepared. The sections were cut with a rotary microtome (Accu cut, Sakura, Japan) and slides were made which were stained with Haematoxylin and Eosin (H&E) stains. The slides were studied by a consultant histopathologist and reporting was done according to the guidelines and datasets of Royal College of Pathologists, London (UK). The results were analyzed by using SPSS version 17.

RESULTS

A total number of 1800 cholecystectomy specimens were analyzed. Out of these 1800 cholecystectomies, 1500 (83.34%) were females having age range between 30-60 years with mean age of 45 years and 300 (16.66%) were males having age range of 35-70 years with mean age of 50 years. Out of all 1800 cholecystectomy specimens analyzed histologically, 25 cases (1.38%) were diagnosed as eosinophilic cholecystitis. Out of these 25 cases of eosinophilic cholecystitis, 20 (80%) were females having age range of 30-50 years with mean age of 40 years, while 5 (20%) were males having age range of 35-55 years with mean age 45 years. Out of 25 cases of eosinophilic cholecystitis, 22 (88%) were calculous and 3 (12%) were acalculous.

Summary of analysis of 1800 cholecystectomy specimens is given in table-1.

Table: Summary of analysis of 1800 cholecystectomy specimens.

Lesion	Total no of cases (n=1800)	Frequency (%)
Non Neoplastic		
Chronic cholecystitis with cholelithiasis	980	54.44%
Chronic cholecystitis	450	25.00%
Acute cholecystitis / Empyema gall bladder	250	13.88%
Xanthogranulomatous cholecystitis	30	1.66%
Eosinophilic cholecystitis	25	1.38%
Neoplastic		
Benign	35	1.94%
Malignant	30	1.66%
Total	1800	100%

DISCUSSION

Gall stone disease is a very common gastrointestinal disorder present throughout the world and is a major cause of morbidity and mortality[5]. It is a common problem in elderly women, the incidence ranging from 10-20%[6]. Eosinophilic cholecystitis is a rare type of cholecystitis, histologically characterized by dense transmural infiltration by leukocytes comprising more than 90% eosinophils. Most of the eosiniophilic cholecystitis is acalculous[7]. The frequency of calculous eosinophilic cholecystitis is very low as revealed in one study carried out at University Hospital Madrid (Spain), which showed only one case of eosinophilic cholecystitis associated with stone, out of 5537 cholecystectomies dealt in the hospital in one year[8]. Few other studies showed occasional cases of eosinophilic cholecystitis associated with gall stones as one published last year showing two cases of calculous cholecystitis[9]. Another study revealed one case of eosinophilic cholecystitis associated with gall stones[10]. Two studies carried out in Korea also showed only few cases of eosinophilic cholecystitis associated with gall stones[11,12].

In contrary to the findings mentioned in western literature, we observed a very high frequency of gall stones in eosinophilic cholecystitis which was about 88% in our study. Twenty two out of 25 cases diagnosed as eosinophilic cholecystitis which was made after following the strict criteria of >90% eosinophilic infiltrate in the gall bladder wall, 22 cases of eosinophilic cholecystitis showed gall stones. This percentage is significantly high as compared to the studies mentioned above. There may be some genetic, geographic, environmental, dietary or some other etiopathogenic factor like parasitic infestations, responsible for this unusual finding noted in our population, which needs further evaluation by more studies. The number of cases of eosinophilic cholecystitis diagnosed during the study period of 3 years was relatively less, which may be a bias factor and a bigger study with inclusion of larger number of cases may be more rewarding to further verify this finding noted in our study. One study showed a unique case of eosinophilic cholecystitis which was associated with Ascariasis[13]. As there is a very high incidence of parasitic infestations in this part of the world, so this factor needs to be evaluated in detail, which may be associated in these cases. One study showed increased number of eosinophils in the inflammatory infiltrate in gall bladder wall, three times more commonly in patients with acalculous cholecystitis than in patients having cholecystitis with cholelithiasis[14]. This shows when eosinophilic infiltrate is seen in gall bladder there is more likely possibility that cholecystitis will be aclculous, but this was not observed in our study. In another study in which 217 consecutive cholecystectomy specimens were analyzed, 8 cases had acalculous cholecystitis, out of which 6 had eosinophilic cholecystitis while 2 had no eosinophils[15]. So correlation of increased eosinophils and absence of cholelithiasis is a frequent finding noted in western population. Why this thing was not noted in our study, needs further evaluation. Most of the cases of eosinophilic cholecystitis which the author was seeing, were having gall stones, which was actually the motivating factor to do this study. In next study, we are planning to investigate the cause for this unusual finding which may give some useful information to be helpful in prevention and management of this disease.

CONCLUSION

Eosinophilic cholecystitis represents today its own histological entity, different from other types of cholecystitis, which may require a different therapeutic approach for its management. Higher frequency of gall stones in eosinophilic cholecystitis in our population is a significant finding, which is contrary to western population. The etiopathogenetic factors of calculus eosinophilic cholecystitis in our population need to be evaluated through further studies. This may bring out some useful information which could be helpful in prevention and management of this disease.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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