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Original Research Paper

Orthopaedics

A STUDY TO EVALUATE THE CAUSES OF OBSTRUCTION IN APPENDICITIS

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ABSTRACT

INTRODUCTION: Developmentally the appendix is an underdeveloped residuum of the otherwise voluminous caecum. Appendicitis is the commonest abdominal surgical emergency. It is supposed that acute appendicitis is predominantly a disease of the Western world. But cases of acute appendicitis, is gradually increasing in India. There are various reasons of appendicitis. It is now generally considered that, obstruction of the lumen of the appendix is the most important initiating factor of acute appendicitis. The best recognized cause of luminal obstruction of acute appendicitis is a faecolith. Other causes include fibrotic stricture, tumor, lymphoid hyperplasia, foreign body, carcinoid tumor.

METHOD: The study was a hospital based observational descriptive prospective study. The study was undertaken at Burdwan Medical College and Hospital. The purpose of the study was to evaluate the various causes of luminal obstruction of appendix in Appendicitis. Patients with clinical features of appendicitis fulfilling the inclusion criteria were chosen as a study subject. Their detailed history and clinical examination were done for confirmation of diagnosis. Then appendectomy was done and causes were observed and noted. A total number of 92 patients were included in this study.

RESULT: Among the 92 patients male are 47 and female are 45. Age distribution of this study shows majority of cases (about 70%) fall under age group of 11-30 years old. There are only 3 cases fall under 10 yrs of age.

After detailed study of the patients it was found that most common cause of appendicitis is due to appendicular luminal obstruction. Obstruction caused by fecolith, lymphoid hyperplasia, fibrotic stricture due to recurrent inflammation of appendix and carcinoma. Fecolith is most common cause (29.34%) of appendicular luminal obstruction and it commonly associated with perforation and appendicular abscess formation. 2nd most common causes of obstruction is fibrotic stricture (16.03%) of appendix and it suggests recurrent appendicular inflammation. Only 2 cases has been found due to carcinoma (2.17%).

KEYWORDS : Appendicitis, clinical diagnosis , Luminal Obstruction, Fecolith, Appendectomy.

INTRODUCTION

Developmentally the appendix is an underdeveloped residuum of the otherwise voluminous caecum. It is a narrow wormlike tubular diverticulum, which arises from the postero-medial wall of the caecum about 2cm below the ileo-caecal junction, and is suspended by a peritoneal fold known as the mesoappendix. Its inflammation i.e. appendicitis is the commonest abdominal surgical emergency.

It is supposed that acute appendicitis is predominantly a disease of the Western world. But cases of acute appendicitis, is gradually increasing in India. The difference according to geographical location has been explained on the basis of dietary variance, the highest risk occurring when the diet is reduced in bulk with diminished cellulose and a high protein intake. There are various reason of appendicitis. It is now generally considered that, obstruction of the lumen of the appendix is the most important initiating factor of acute appendicitis. The best recognized cause of luminal obstruction of acute appendicitis is a faecolith. Other causes include fibrotic stricture, tumor, lymphoid hyperplasia, foreign body, carcinoid tumor.

Aim of our study to (A)indentify various causes of luminal obstruction of appendix in appendicitis, (B)role of USG in diagnosis of appendicitis, (C) evaluate T.C and D.C of W.B.C in appendicitis, (D) Histopathological examination of appendix after appendectomy

MATERIALS AND METHOD

This study was carried out on 92 consecutive patients admitted to the surgical ward of Burdwan Medical College with clinical diagnosis of acute appendicitis during the period from March 2018 to August 2019. Patients of both sexes and all age group clinically diagnosed with acute appendicitis and operated with appendectomy are included in this study. The ambiguous and unwilling patients are excluded from this study. All patients with suspected appendicitis were admitted and thorough clinical examinations were done. Any confusion with differential diagnosis like UTI, renal colic, ectopic pregnancy, and cystitis was cleared with further investigations. The patients with appendectomy were carefully observed. During operation caecum, appendix was carefully observed for study of anatomy, the base of appendix was palpated to detect any mass or intra-luminal content. After operation the specimen was sent for histopathological examination. Data collected, recorded and tabulated.

RESULTS

Our study was conducted on 92 consecutive patients with clinical picture of acute appendicitis. Among these patients 47 were male (51.08%) and 45 were female (48.91%).

Age distribution of study population shows majority of cases (42.39%) fall under 21-30 years age group.

From the above study it is shown that most common causes of appendicitis is due to luminal obstructions due to various causes, nearly 61%. Appendicitis due to inflammatory causes about 39% (see table 1).

Table 1- Causes Of Acute Appendicitis

O.T. FINDINGS	NUMBER OF CAESES	PERCENTAGE OF CASES
LUMEN CLEAR	36	39.13%
LUMINAL OBSTRUCTIONS	56	60.86%

According to the above study the most common cause of luminal obstruction is fecolith (29.34%) followed by lymphoid hyperplasia followed (11.95%) by fibrotic stricture and followed by rarely found kinking of appendix and carcinoma of appendix (see table 2)

Table-2 Causes Of Luminal Obstruction In Appendicitis

CAUSES OF LUMINAL OBSTRUCTIONS	NUMBER OF CASES	% OF CAESES
FECOLITH	27	29.34
LYMPHPOID HYPER PLASIA	11	11.95
CARCINOMA	2	2.17
FOREIGN BODY	0	0
KINCKING	1	1.08
FIBROTIC STRICTURE	15	16.30

DISCUSSION

The present study is undertaken to study the different causes of appendicular luminal obstruction in appendicitis. The result and observation seen in this study was discussed and compared with various study.

The commonest age group presented was between 21-30 yrs (42.39%) and 2nd common group 11-20 yrs (21.7%).

In various study sex ratio of the patient undergo appendectomy shows male predominance.In the present study male are 51.08% and female are 48.91% also shows male predominance, and male-female ratio 1.05:1.

From the 92 cases of this study we found 39.13% lumen of the appendix is empty and 60.86% lumen of the appendix obstructed by feaces (29.34%), lymphoid hyperplasia(11.95%), fibrotic stricture(16.03%) and other causes.

From the study we found that most common causes of appendicitis is obstruction of appendicular lumen. Most common causes of appedicular luminal obstruction is fecolith(29.32%). Appendicolith are found in 29.34% of patients with appendicitis, but they are more frequently seen in perforated appendicitis and abscess formation. Patients who have fecolith usually develop appendicitis, often with perforation.

2nd most common cause is fibrotic stricture (16.30%), fibrotic stricture usually indicate recurrent infection of appendix.[28]

Obstruction of appendicular lumen due to lymphoid hyperplasia is 11.95%, appendicular luminal obstruction can occur due to carcinoma of caecum and appendix. In present study it is found that only 2.17% cases are due to carcinoma.

Appendicular luminal obstruction due to foreign body and parasite are very rare, it is about 0.0005%.

CONCLUSION

From the above study it observed that appendicitis occurs most commonly in young and middle age group with slightly male predominance. Most common causes of appendicitis was due to appendicular luminal obstruction. Fecolith is most common causes of appendicular luminal obstruction and 2nd most common cause is fibrotic stricture due to recurrent inflammation of appendix. Appendicular luminal obstruction due to foreign body parasite and carcinoma are rare.

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