Section: Medicine

Original Research Article

A STUDY OF PREVALENCE OF APPENDICOLITH AND ITS ASSOCIATION WITH SEVERITY OF APPENDICITIS

Manas Ranjan Pattnaik[1], Suveer Bhargava[2], Ravindra Singh[3]

[1]*Associate Professor, Department of Surgery, Military Hospital Jammu.*
[2-3]*Associate Professor, Department of Surgery, Saraswati Medical College, Unnao, Uttar Pradesh, India.*

Received *: 29/12/2023*
Received in revised form *: 14/03/2024*
Accepted *: 30/03/2024*

Corresponding Author:
Dr. Ravindra Singh
Associate Professor, Department of Surgery, Saraswati Medical College, Unnao, Uttar Pradesh, India.
Email: ravindrasingh.1965@rediffmail.com

DOI: 10.5530/ijmedph.2024.2.8

Source of Support: Nil,
Conflict of Interest: None declared

Int J Med Pub Health
2024; 14 (2); 40-42

ABSTRACT

Background: Acute appendicitis is one of the most frequent cause of pain abdomen. Acute Appendicitis can present as complicated or uncomplicated. Complication are abscess, gangrene, perforation. Most common cause of Appendicitis is luminal obstruction by appendicolith. Appendicolith is also known as faecolith/ stercolith/ coproliths is composed of faecal concretions or pellets, calcium phosphates, bacteria and epithelial debris and can lead to luminal obstruction followed by appendicitis. They are seen in 10% of patient with acute appendicitis. **Objective:** To study any association between appendicolith and its effect on recovery of patient with appendicitis.

Materials and Methods: This is prospective study carried out from January 2021 to December 2023 in Command Hospital and Military hospital Jammu in all patients of Acute Appendincitis. Data was collected in terms of age, sex, presentation, TLC score, USG/CT, Mantrls score, surgery done, intra op finding, appendicolith seen or not and histopathology.

Results: Out of 170 patients who underwent appendicectomy, 139 patients were more than 20 years of age (81%). Following appendicetomy, appendicolith was found 33patient (19.41%).11 patients were less than 20 years of age (33%).There were 36 female patients (21%) of appendicitis.139 patient presented in acute phase (82%) and operated upon. Rest were operated as cold cases as int appendicectomy. Lap appendicectomy was done in 143 cases (84.1%). Rest was open appendicectomy. Acute appendicitis was found in 9 cases with appendicolith (33%).Complicated appendicitis was found in 24 cases with appendicolth (72.7%).

Conclusion: Appendicolith is commonly present in more than 20-year age group. Mantrls score is higher in appendicitis with appendicolith. TLC is also more than 10000 in majority of patients with appendicolith. Majority patient presented in acute stage and were operated upon. Presence of appendicolith was associated with higher TLC, higher Mantrls score and complicated intraop and HPE finding.

Keywords: Acute appendicitis, Appendicolith, TLC, HPE finding, HPE finding.

INTRODUCTION

Acute appendicitis is one of the most frequent cause of pain abd. Acute Appendicitis can present as complicated or uncomplicated. Complication are abscess, gangrene, perforation. Most common cause of Appendicitis is luminal obstruction by appendicolith.[1] Appendicolith is also known as faecolith/ stercolith/ coproliths is composed of faecal concretions or pellets, calcium phosphates, bacteria and epithelial debris and can lead to luminal obstruction followed by appendicitis.[2] They are seen in 10% of patient with acute appendicitis. We also found prevalence of appendicolith and its association with severity of illness.[3]

Acute appendicitis is the commonest reported emergency to surgical department worldwide. It affects 7% of the general population in a lifetime. First successful removal of appendix was reported by Hancock in 1848.[4] However, Fitz in 1886 gave the

first description of acute appendicitis. Wangensteen and Dennis in 1939 proposed the obstructive phenomena in pathogenesis of acute appendicitis. As such appendicoliths and lymphoid hyperplasia are the commonly implicated aetiology in the pathogenesis of appendicitis.[5]

A main objective of this study is to study any association between appendicolith and its effect on recovery of patient with appendicitis.

MATERIAL AND METHODS

This is prospective study carried out from January 2021 to December 2023 in Command Hospital and Military Hospital Jammu in all patient of Acute Appendicitis. Data was collected in terms of age, sex, presentation, TLC score, USG/CT, Mantrls score, surgery done, intra op finding, appendicolith seen or not and histopathology.

RESULTS

Out of 170 patients who underwent appendicectomy, 139 patients were more than 20 years of age (81%).

Following appendicetomy, appendicolith was found 33 patient (19.41%).11 patient were less than 20 years of age (33%). [Table 1]

There were 36 female patients (21%) of appendicitis. [Table 2]

139 patient presented in acute phase (82%) and operated upon. Rest were operated as cold cases as int appendicectomy. [Table 3]

Lap appendicectomy was done in 143 cases (84.1%). Rest was open appendicectomy. [Table 4]

Acute appendicitis was found in 9 cases with appendicolith (33%).Complicated appendicitis was found in 24 cases with appendicolth (72.7%). [Table 5]

TLC was > 10000 in 26 cases with appendicolith (78.7%).

Mantrls score was more than 7 was found in 29 cases with appendicolith (87%). [Table 5]

Table 1: ?

Age	Appendicolith	No Appendicolith
0-20 years	11`(6%)	20(11.7%)
>20years	22(12%)	117(68%)

Table 2

Total patients	170
Appendicolith	33(19%)

Table 3

Gender	N (%)
Male	134(79%)
Female	36(21%)

Table 4

Phase	N	%
Acute	139	82%
Chronic	31	18%

Table 5

Appendicectomy	N	%
Lap Appendicectomy	143	84%
Open Appendicectomy	27	16%

Table 6

	Appendicolith	No Appendicolith
TLC>10,000	26	55
TLC< 10,000	7	72

Table 7

Mantrls Score	Appendicolith	No Appendicolith
>7	29	100
<7	4	37

HPE

Table 8

Normal Appendix	13
Acute Appendicitis with Appendicolith	9
Complicated Appendicitis with Appendicolith	24
Appendicitis with No Appendicolith	112
Complicated Appendicitis with no Appendicolith	11

DISCUSSION

Acute appendicitis is very commonly found in surgical wards. Most of the cases are uncomplicated. Early diagnosis and surgery is main stay of treatment.[6]

Association of appendicolith with appendicitis results in higher TLC, higher Montrels score and complicated appendicitis on intraop finding and HPE report.[7]

Currently, appendectomy is still the gold standard treatment for the management of acute appendicitis. On the other hand, there are many studies evaluating the therapeutic effectiveness of antibiotic therapy for the treatment of uncomplicated acute appendicitis, with conflicting results in terms of treatment success. While some studies state that antibiotic therapy is safe and effective and should be regarded as an initial therapeutic option in uncomplicated appendicitis, others suggest that nonoperative treatment may not be considered the first-line treatment for all cases of uncomplicated appendicitis.[8]

However, there are differences across these studies including variations in the definition of uncomplicated appendicitis, and study inclusion and exclusion criteria, which may be a source of potential bias. As an example, the diagnosis of complicated appendicitis was made based on clinical features alone in some studies, whereas others included CT-confirmed cases to reduce diagnostic uncertainty.[9] Similarly, while the presence of appendicoliths has been considered as complicated appendicitis in some studies, it was ignored in others. Thus, patient selection is a critical factor for evaluating the success of non-surgical management of appendicitis and this is still a widely debated topic in the absence of clear consensus on the selection of suitable candidates.[10]

CONCLUSION

Appendicolith is commonly present in more than 20-year age group. Mantrls score is higher in appendicitis with appendicolith. TLC is also more than 10000 in majority of patients with appendicolith.

Majority patient presented in acute stage and were operated upon.

Presence of appendicolith was associated with higher TLC, higher Mantrls score and complicated intraop and HPE finding.

REFERENCES

1. FERRIS M, Quan S, Kaplan BS, Molodecky et al. The Global Incidence of Appendicitis, Ann Surg.2017;266(2);237-241
2. Prystowsky JB, Pugh CM et al Appendicitis. CurrProbl Surg.2005;42(10);694-742
3. Mahida JB et al. High Failure rate of non-operative management of acute appendicitis with appendicolith in children. J paedSurg 2016;51(6):908-911
4. Shindoh et al. Predictive factors for negative out comes in initial non operative management of suspected appendicitis. JGastrointestsurg 2010;14(2) L:309-314.
5. Vons C, Barry C, Maitre S, Pautrat K, Leconte M, Costaglioli B, et al. Amoxicillin plus clavulanic acid versus appendicectomy for treatment of acute uncomplicated appendicitis: an open-label, non-inferiority, randomised controlled trial. Lancet. 2011; 377:1573–9.
6. Turhan AN, Kapan S, Kütükçü E, Yiğitbaş H, Hatipoğlu S, Aygün E. Comparison of operative and non-operative management of acute appendicitis. UlusTravmaAcilCerrahiDerg. 2009; 15:459–62.
7. Mahida JB, Lodwick DL, Nacion KM, Sulkowski JP, Leonhart KL, Cooper JN, et al. High failure rate of nonoperative management of acute appendicitis with an appendicolith in children. J Pediatr Surg. 2016; 51:908–11.
8. Shindoh J, Niwa H, Kawai K, Ohata K, Ishihara Y, Takabayashi N, et al. Predictive factors for negative outcomes in initial non-operative management of suspected appendicitis. J Gastrointest Surg. 2010; 14:309–14.
9. Aprahamian CJ, Barnhart DC, Bledsoe SE, Vaid Y, Harmon CM. Failure in the nonoperative management of pediatric ruptured appendicitis: predictors and consequences. J Pediatr Surg. 2007; 42:934–8.
10. Lowe LH, Penney MW, Scheker LE, Perez R, Jr, Stein SM, Heller RM, et al. Appendicolith revealed on CT in children with suspected appendicitis: how specific is it in the diagnosis of appendicitis? AJR Am J Roentgenol. 2000; 175:981–4