



General Surgery

A CLINICAL STUDY ON DIAGNOSTIC AND CLINICOPATHOLOGICAL CORRELATION OF ACUTE APPENDICITIS UNDERGOING EMERGENCY APPENDICECTOMY IN A RURAL TERTIARY CARE HOSPITAL.

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ABSTRACT

INTRODUCTION: Acute appendicitis remains a common surgical condition and the importance of specific elements in the clinical diagnosis remain controversial. A variety of neoplastic and inflammatory conditions mimic acute appendicitis. The purpose of this study was to determine the presenting pattern of acute appendicitis and to correlate with the pathological diagnosis.

OBJECTIVE: This study was performed to determine and correlate between the clinical and per-operative pathological findings of acute appendicitis.

MATERIALS AND METHODS: This is a retrospective analysis of 108 patients who had appendicectomy for acute appendicitis at Dhanalakshmi Srinivasan Medical College & Hospital, a tertiary care hospital in Rural area, Perambalur, Tamil Nadu during the period April 2017 to March 2018 (1 Year). Patient demographics, clinical features, operative findings and histology results were recorded on a special patient proforma.

Study Type: Retrospective Study. Duration of the study: April 2017 to March 2018 (1 Year)

RESULTS: Out of the total of 108 patients studied, 66 were males i.e. 61.1% while 42 were females i.e. 38.9%, with a male female ratio of 1.57:1. The majority of our patients were in the second decade (n=35 i.e. 32.4%). The most common presenting complaints were abdominal pain (n=108 i.e. 100%), Nausea (n=57 i.e. 52.8%), vomiting (n= 84 i.e. 77.8%) and diarrhoea (n=9 i.e. 8.3%). As for clinical signs 100% of the patients (n=108) in this study had some degree of right iliac fossa tenderness. At surgery, 67.6% (n=73) of appendices were apparently inflamed. 1.9% (n=2) were perforated and 4.6% (n=5) had appendicular abscess whereas in 25.9% (n=28) cases faecolith with inflammation was present. 67.6% (n=73) of the patients presented within 24 hours of the onset of symptoms. In 59.3% (n=64) of the patients Oral fluids were started on 1st post-operative day (POD). 56.5% (n=61) of the patients were discharged on the 5th day.

CONCLUSION: A diagnosis of acute appendicitis obvious based on strongly positive clinical signs. Present study shows that acute appendicitis in India is a disease of young males. On further sub-classification of acute appendicitis, uncomplicated acute appendicitis seems to be the most common. Delayed presentation is associated with greater morbidity

KEYWORDS : Appendicitis, Appendicectomy, Clinicopathological Evaluation.**INTRODUCTION:**

Acute appendicitis is one of the commonest surgical emergencies in all ages^[1] and the importance of specific elements in the clinical diagnosis remain controversial^[2]. Diagnosis is mainly clinical. Routine history and physical examination still remain the most practical diagnostic modalities. Absolute diagnosis is only possible at operation and histopathological examination of the specimen^[3]. A variety of neoplastic and inflammatory conditions mimic acute appendicitis^[3]. The purpose of this study was to determine the presenting pattern of acute appendicitis and to review the pathological diagnosis^[3].

OBJECTIVES:

To determine the correlation of clinical symptoms and intraoperative pathological findings in acute appendicitis.

MATERIAL AND METHODS:

Ethical Approval: After obtaining the ethical approval from the Institutional Ethics Committee, the study was initiated.

Study Location: Department of General Surgery, DSMCH.

Study Type: Retrospective Study.

Duration of the study: April 2017 to March 2018

INCLUSION CRITERIA:

1. All ages
2. Both sexes
3. Clinically diagnosed as acute Appendicitis

1. Exclusion criteria:

2. Appendicular mass
3. Right Ureteric/Renal colic

Data collection: In-Patient number, age, sex, Clinical diagnosis, Peroperative findings,

STATISTICAL METHODS:

The data was analyzed by using Microsoft excel and Statistical package of social science (SPSS)

OBSERVATION:**TABLE 1: Male Female Ratio**

SEX	FREQUENCY	PERCENTAGE
Male	66	61.1
Female	42	38.9

TABLE 2: Clinical Features

CLINICAL FEATURE	PRESENT	ABSENT	PRESENT PERCENTAGE	ABSENT PERCENTAGE
Abdominal pain	108	0	100	0
Nausea	57	51	52.8	47.2
Vomiting	84	24	77.8	22.2
Diarrhoea	9	99	8.3	91.7
Fever	76	32	70.4	29.6
RIF Tenderness	108	0	100	0
Rebound tenderness	88	20	81.5	18.5
Guarding	24	84	22.2	77.8
Rigidity	2	106	1.9	98.1

TABLE 3: Pathological Diagnosis

PATHOLOGICAL DIAGNOSIS	PRESENT	PERCENTAGE
Appendicular Abscess	5	4.6
Appendicular Perforation	2	1.9
Faecolith with Inflamed Appendix	28	25.9
Inflamed Appendix	73	67.6
Total	108	100

TABLE 4: Time Of Presentation

TIME OF PRESENTATION	FREQUENCY	PERCENTAGE
<24 hours	73	67.6
24-48 hours	28	25.9
>48 hours	7	6.5
TOTAL	108	100

TABLE 5: Time For Oral Intake

TIME FOR ORAL INTAKE	FREQUENCY	PERCENTAGE
1 day	64	59.3
2 days	37	34.2
3 days	6	5.6
>3 days	1	0.9
TOTAL	108	100

TABLE 6: Duration Of Hospital Stay

NO. OF DAYS	FREQUENCY	PERCENTAGE
5 days	61	56.5
6 days	7	6.5
7 days	5	4.6
8 days	29	26.9
9 days	1	0.9
>10 days	5	4.6
TOTAL	108	100

TABLE 7: PROCEDURE

PROCEDURE	FREQUENCY	PERCENTAGE
Open Appendicectomy	66	61.1
Laparoscopic Appendicectomy	42	38.9
Total	108	100

RESULTS:

Out of the total of 108 patients studied, 66 were males i.e. 61.1% while 42 were females i.e. 38.9%, with a male female ratio of 1.57:1 (table 1). The majority of our patients were in the second decade (n=35 i.e. 32.4%) followed by 3rd decade (n=29 i.e. 26.8%) and fourth decade (n=17 i.e. 15.8%) respectively with mean age being 28.04 years. The most common presenting complaints were abdominal pain (n=108 i.e. 100%), Nausea (n=57 i.e. 52.8%), vomiting (n= 84 i.e. 77.8%) and diarrhoea (n=9 i.e. 8.3%). As for clinical signs 100% of the patients (n=108) in this study had some degree of right iliac fossa tenderness. Rebound tenderness could be elicited in 81.5% of the patients (n=88) while 70.4% had elevated temperature (n=76). Guarding was elicited in 22.2% of the patients (n=24) while rigidity was elicited in 1.9% of the patients (n=2) (table 2). At surgery, 67.6% (n=73) of appendices were apparently inflamed. 1.9% (n=2) were perforated and 4.6% (n=5) had appendicular abscess whereas in 25.9% (n=28) cases faecolith with inflammation was present (table 3). In this study open Appendicectomy was performed in 61.1% (n=66) of the patients and Laparoscopic Appendicectomy in 38.9% (n=42) of the patients (table 7). 67.6% (n=73) of the patients presented within 24 hours of the onset of symptoms whereas 25.9% (n= 28) presented 24-48 hours after the onset of symptoms. 6.5% (n=7) of the patients presented with symptoms more than 48 hours (table 4). In 59.3% (n=64) of the patients Oral fluids were started on 1st post-operative day (POD). In 34.2% (n=37) Oral fluids were started on POD-2 and in 5.6% (n=6) Oral fluids were started on POD-3. In 0.9% (n=1) Oral fluids were started after POD-3 (table 5). 56.5% (n=61) of the patients were discharged on the 5th day, 6.5% (n=7) were discharged on 6th day, 4.6% (n=5) on 7th day, 26.9% (n=29) on 8th day and 0.9% (n=1) on 9th day. 4.6% (n=5) had a hospital stay of 10 or more days (table 6).

DISCUSSION:

Appendicitis is the most commonly performed emergency abdominal surgery and can also be the site of a variety of neoplasms and unusual inflammatory conditions.^[4] Very few data regarding epidemiology is available from India. We evaluated the epidemiology, clinical presentation, diagnosis, operative findings and histopathological findings in our hospital. In our study male female ratio was found to be 1.57:1 with male predominance which is similar to many of the studies in the West Africa with male predominance.^[2,5] Another study from New Delhi also shows also male predominance.^[6] In our study majority of the patients i.e. 32.4% were in the 2nd decade. Marudanayagam R et al in their study of 2660 appendicectomy also found similar result of 2nd decade predominance with 35.09%.^[4] In their audit of 250000 patients Addiss DG et al observed that highest incidence of primary positive

appendicectomy (appendicitis) was found in persons aged 10-19 years.^[5] In our study most common presenting complaints were abdominal pain (100%), Nausea (52.8%), vomiting (77.8%) and diarrhoea (8.3%). The perforation rate on histology was 1.9% which is slightly lower than the 5–26% reported in the literature.^[7] Colson et al^[7] proposed that a delay in presentation of more than 12 h after onset of symptoms increased the perforation rate and an in-hospital delay did not affect the perforation rate. In our study 67.6% of the patients presented within 24 hours. Most of the appendicectomy were emergency appendicectomy (86.1%). In the present study, simple acute appendicitis was confirmed intra-operatively in 73 (67.6%) patients and 2 (1.9%) had perforated appendix. These findings were comparable to those reported by Subhajeet Dey et al.^[8]

CONCLUSION:

A diagnosis of acute appendicitis obvious based on strongly positive clinical presentation. Present study shows that acute appendicitis in India is a disease of young males. On further sub-classification of acute appendicitis, uncomplicated acute appendicitis seems to be the most common. Delayed presentation is associated with greater morbidity

STUDY LIMITATION:

A major limitations of this study were its retrospective nature and short sample size.

CONFLICT OF INTEREST: There is no conflict of interest as such.

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