A STUDY ON CLINICAL PROFILE OF PATIENTS WITH ACUTE APPENDICITIS AT A TERTIARY CARE CENTRE- A SECONDARY DATA ANALYSIS

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ABSTRACT

BACKGROUND

Acute appendicitis is the leading cause of surgical acute abdomen worldwide with a prevalence of approximately 7% of population. There are very few studies conducted on the clinical profile of acute appendicitis in the North East region of India. Therefore, this research is conducted to know the clinical profile of acute appendicitis.

Aims and Objectives- To study the clinical profile of acute appendicitis treated at a tertiary care centre at the Department of Surgery, Tripura Medical College and Dr. BRAM Teaching Hospital, Tripura state.

One hundred and fifty cases (150) of acute appendicitis were studied in detail and were compared with previous data from literature. All the one hundred and fifty cases were brought to our hospital as a case of acute abdomen. All age group of patients were included in this study, since we have no separate paediatric surgery department. Anorexia nearly always accompanies appendicitis in these cases.

MATERIALS AND METHODS

150 cases with provisional diagnosis of acute appendicitis, which were posted for surgery were selected using randomisation. Patients were methodically enquired according to the proforma. Ultrasonography was the key investigation for the diagnosis of these cases. Leucocytosis was the commonest finding in complete blood count.

RESULTS

Pain was the most common symptom among all 150 cases. The entire 150 patients suffered from pain in the periumbilical region or in right lower quadrant area. Migration of pain were present in 78 (52%) nos. of patients and the mean duration of pain was 24 hours. Apart from pain nausea, vomiting, fever of low grade were the other commonest signs. Surgical appendectomy was the mode of treatment in maximum patients without having appendicular mass formation. All the patients recovered. There was no mortality.

CONCLUSION

Nausea was common. Pain occurred in right lower quadrant of abdomen in all the patients. Migration of pain was present in only 52% of cases. The sequence of appearance of symptoms are of great diagnostic value. These begin with pain followed by nausea or vomiting and later with low-grade fever.

KEYWORDS

Acute Appendicitis, Pain, Clinical Profile, Ultrasonography.

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BACKGROUND

Acute appendicitis can be defined as an acute inflammation of the appendix.¹ Acute appendicitis is the leading cause of surgical acute abdomen worldwide with a prevalence of approximately 7% of population.²⁻⁵ The appendix is situated at the base of the caecum and for many years it is viewed as a vestigial organ with no known function. It is now well recognised that the appendix is an immunologic organ that actively participates in secretion of immunoglobulins. The diagnosis of acute appendicitis is mainly clinical, and the presentation of acute appendicitis may be typical or atypical.

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Typical presentation starts with vague or crampy periumbilical abdominal pain for several hours which later migrates to the right iliac fossa associated with nausea, lack of appetite, vomiting. Atypical histories lack this typical progression and may include pain in the right lower quadrant as initial symptom.⁶

Central abdominal pain is associated with anorexia, nausea followed by vomiting. Patients may report with low-grade fever upto 101°F (38.3°C).

If left untreated acute appendicitis may lead to complications leading to inflammatory mass, appendicular abscess or rupture with generalised peritonitis. Diagnosis of complicated acute appendicitis is clinically supplemented by ultrasound or CT scan.⁷⁻⁸ However, it is common in practice to admit and observe the patients with an uncertain diagnosis and to delay their surgery until the diagnosis is more definite in order to reduce the negative appendectomy rate. Pre-admission delay on the part of the patient and post-admission delay by surgeon are responsible for combined delay in diagnosis and definite management.⁹⁻¹⁰

Very few studies are conducted on the clinical presentation of acute appendicitis in the North East region of

India. Therefore, this research is conducted to know the clinical profile of diagnosed case of acute appendicitis treated in Surgery Department of Tripura Medical College and Dr. BRAM Teaching Hospital, Agartala, Tripura.

MATERIALS AND METHODS

This study was done after approval by the Institutional Ethics and Research Committee. A retrospective observational study was carried out in TMC and Dr. BRAM Teaching Hospital Hapania, Agartala. During the study period (From January 2014 - December 2017), 150 (one hundred and fifty) cases with provisional diagnosis of acute appendicitis which were posted for surgery were selected using randomisation. A detailed history as to the method of presentation, thorough clinical examination including per rectal examination were done. Investigations with routine blood tests, DC, WBC count, USG abdomen and pelvis. X-ray of whole abdomen blood grouping and Rh typing and histopathological study of the appendix were performed and reported by the pathologist of the department.

Inclusion Criteria

All the cases with acute appendicitis diagnosed by clinical examination and supported by the ultrasonography and CT abdomen as and when required, who were managed at TMC and Dr. BRAM Teaching Hospital, Hapania, Agartala, Tripura. Patients with all age groups were included in this study, since we have no separate paediatric surgery department.

Exclusion Criteria

1. Acute abdomen of cause other than appendicitis.
2. Patients had history of symptoms for more than 5 days.
3. Patients with generalised peritonitis due to appendicular perforation.
4. Patients were admitted before January 2014 and after December 2017.
5. Patients with incomplete documentation.

RESULTS

A total number of 150 (one hundred and fifty) cases of acute appendicitis, out of them 86 (57.33%) were male and 64 (42.66%) were female.

Age (Years)	Male	Female	Total	Percentage
Upto 12 years	12	12	24	16
12-20	20	12	32	21.33
21-30	26	18	44	29.33
31-40	10	10	20	13.33
41-50	10	7	17	11.33
51-60	6	4	10	6.66
61-70	2	1	3	2
Total	86 (57.33%)	64 (42.66%)	150	100

Table 1. Age Distribution

In this study, all age groups were included because we have no separate paediatric surgery department. The age of presentation of acute appendicitis varied from children to 70 years old.

Among the males, the youngest patient was 6 years old and the oldest was 70 years old. Among the females, the youngest was 10 years old and the oldest was 68 years old.

In this study this disease was common in third decade (21-30 years, 29.33%) and second decade (12-20 years, 21.33%). Next common age group was upto 12 years (First decade, 16%). In the age group of 31 to 40 years and the 41 to 50 years, it was 13.33% and 11.33% respectively. Only 6.66% and 2% were found in the sixth and seventh decade respectively.

Symptoms	Number of Cases	Percentage
Pain	150	100
Anorexia	150	100
Nausea	100	66.67
Vomiting	85	56.67
Fever	110	73.33
Diarrhoea	10	6.67

Table 2. Clinical Symptoms of Acute Appendicitis

Pain was the common symptom in all 150 patients. All the patients suffered from the pain in the periumbilical region, migrating to right iliac fossa or right lower quadrant of abdomen. Migration was present in 78 patients (52%) and the mean duration was 24 hours. In this study, it was found anorexia was also present in 150 patients (100%). Nausea was present in 100 patients (66.67%). Vomiting was present in 85 patients (56.67%). Fever and diarrhoea were present in 110 patients (73.33%) and in 10 patients (6.67%) respectively.

Sign	Number of Cases	Percentage
Tenderness at McBurney's point	150	100
Blumberg's signs (Rebound tenderness)	110	73.33
Rovsing's sign	75	50
Cope's psoas test	60	40
Cope's obturator test	12	8
Baldwin's test	34	22.67
Hyperaesthesia at Sherren's triangle	10	6.67
Rigidity and guarding	80	53.33

Table 3. Clinical Signs in Acute Appendicitis

Tenderness at McBurney's point was present in all 150 patients (100%). Rebound tenderness and Rovsing's sign were present in 110 patients (73.33%) and in 75 patients (50%) respectively. Other tests for acute appendicitis were present as Cope's psoas test in 60 patients (40%), Cope's obturator test in 12 patients (8%), Baldwin's test in 34 patients (22.67%), Hyperaesthesia at Sherren's triangle in 10 patients (6.67%) and rigidity and guarding in 80 patients (53.33%).

Digital rectal examination was performed in all the 150 patients and pelvic tenderness was detected in only 18 patients (12%).

DISCUSSION

In this study, acute appendicitis was common in the age group of 21 - 30 (third decade) 29.33% followed by in the age group of 12 - 20 years (second decade) 21.33% and upto 12

years (first decade) 16% respectively. 66.66% of patients are of less than 30 years of age. 13.33% patients were present in the fourth decade (where the male: female ratio was 10: 10). 11.33%, 6.66% and 2% patients fall in the group of fifth, sixth and seventh decade respectively. This study is comparable with Addis DG et al¹¹ and Kazarian KK et al.¹²

In this present study of 150 number of patients, maximum number of cases were males. They were 86 in number and accounted for 57.33% cases. 64 cases were females and were contributing to 42.66% cases. Our study correlates with the study done by Lewis et al (1975),¹³ where the males were the commonest victim of acute appendicitis.

In our study, pain abdomen and anorexia were present in all 150 patients. Next common symptoms was nausea found in 100 patients (66.67%).

This was followed by vomiting, which was seen in 85 number of patients (56.67%). Fever was present in 110 number of cases (73.33%).

Diarrhoea was present in 10 number of cases (6.67%). Our study correlates with the study done by Earley AS et al, (2006)¹⁴ where pain abdomen, anorexia, nausea and vomiting were the commonest symptom.

All the patients had abdominal tenderness. In this study, 150 patients had tenderness at McBurney's point (100%). Rebound tenderness (Blumberg's sign) was present in 110 patients (73.33%). Rovsing's sign in 75 patients (50%). Rigidity and guarding in the right lower quadrant of the abdomen in 80 number of patients (53.33%), Baldwin's test in 34 patients (22.67%), Cope's psoas test in 60 patients (40%), Cope's obturator test in 12 patients (8%) and hyperaesthesia at Sherrren's triangle in 10 patients (6.67%) were present respectively.

Per rectal examination was performed in all 150 patients and right-sided pelvic tenderness was detected in 18 patients (12%).

"Right lower quadrant tenderness was the most consistent of all signs of acute appendicitis. Its presence should always raise the specter of appendicitis, even in the absence of other signs and symptoms."^{15,16}

CONCLUSION

Acute appendicitis is common in males. Maximum number of patients are seen in the third decade (29.33%) and second decade (21.33%). Young age group i.e. first decade is a risk factor, a considerable number of patients are seen in this age group (16%). 66.66% of patients with acute appendicitis are less than 30 years of age. Pain abdomen, anorexia, nausea and vomiting are the commonest symptoms. Tenderness over McBurney's point and rebound tenderness are the commonest signs. Leucocytosis was the commonest finding in complete blood count. Thickening of the wall of the appendix was the commonest ultrasonographic findings.

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