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A Study on Clinical Profile of Patients with Acute Appendicitis Attending Tertiary Care Hospital

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Abstract
Most commonly affected age group is second to fourth decades of life, with mean age of 31.3 years and median age of 22 years. Both sexes are affected, with a slight male to female predominance of about 1.2-1.3:1. Patients presenting with pain in the right lower quadrant of abdomen to the General Surgery department, who after clinical examination are provisionally diagnosed to have acute appendicitis, are taken up for the study. Out of total 100 patients, 80% of patients had RIF tenderness, but only 39% patients had rebound tenderness. 80% had raised TLC (Total leukocyte count), but only 42% patients had shift to left of WBCs. 70% patients had nausea and vomiting, but only 44% patients had anorexia. 71% patients had history of migratory pain., 67% patients had elevated temperature.

INTRODUCTION

Appendicitis is one of the commonest acute conditions manifesting as pain abdomen in the Emergency room. The lifetime rate for appendectomy is 12% for men and 25% for women, with approximately 7% of all people undergoing appendectomy in their lifetime. Most commonly affected age group is second to fourth decades of life, with mean age of 31.3 years and median age of 22 years. Both sexes are affected, with a slight male to female predominance of about 1.2-1.3:1[1,2].

There is no unifying hypothesis regarding the etiology of acute appendicitis. Obstruction of the lumen is believed to be the major cause of acute appendicitis. This may be caused by inspissated stool (faecolith or appendicolith), lymphoid hyperplasia, vegetable matter or seeds, parasites, or by a neoplasm[3].

Faecolith is the most common cause of appendiceal obstruction. A faecolith is composed of inspissated faecal material, calcium phosphates, bacteria and epithelial debris. Rarely, a foreign body is incorporated into the mass. The incidental finding of a faecolith is a relative indication for prophylactic appendectomy. Faecoliths are found in 40% of cases of simple acute appendicitis, in 65% of cases of gangrenous appendicitis with out rupture and in nearly 90% of cases of gangrenous appendicitis with rupture[4,5].

Less common causes are hypertrophy of lymphoid tissue, inspissated barium from previous x-ray studies, tumors, vegetable and fruit seeds and intestinal parasites, particularly Oxyuris vermicularis (pinworm), can proliferate in the appendix and occlude the lumen. Obstruction of the appendiceal orifice by tumor, particularly carcinoma of the caecum, is an occasional cause of acute appendicitis in middle-aged and elderly patients.

Decreased dietary fiber and increased consumption of refined carbohydrates may be important. As with colonic diverticulitis, the incidence of appendicitis is lowest in societies with a high dietary fiber intake[6].

There may be a possible association between seasonal respiratory infections and appendicitis, especially in children. An upper respiratory tract infection could lead to the simultaneous involvement of tonsils and the lymphoid in the appendix. Origin is postulated to be blood borne.

MATERIALS AND METHODS

Study Design: A prospective comparative study.

Study Population: Patients presenting with pain in the right lower quadrant of the abdomen to the General Surgery department, who after clinical examination are provisionally diagnosed to have acute appendicitis, are taken up for the study.

Inclusion Criteria: The patients admitted to the General Surgery department with suspicion of acute appendicitis during the study period. The population consisted of all patients who presented with complaints of sudden-onset, non-traumatic right lower quadrant (RLQ) pain.

Exclusion Criteria:

- Patients presented with non-right iliac fossa pain.
- Patients presented with traumatic abdominal pain.
- Patients admitted by other specialties for other complaints but subsequently developed right iliac fossa pain.
- Chronic abdominal pain.

RESULTS AND DISCUSSIONS

In the present study, patients belonged to the age ranging from 7-50 years. The maximum number of patients belonged to the 2nd and 3rd decades, while only 10% of patients belonged to the age group of above 40 years. The mean age of the patients was 25.26±9.84 years.

Both male and female were affected with a slight male preponderance. Out of 100 patients, 61% were male and 39% were female. The male to female ratio was 1.6:1.

Table 1: Distribution of study subjects according to the age group (N = 100)

Age (in Years)	No. of patients	Percentage (%)
1- 10	5	5.0
11-20	28	28.0
21-30	44	44.0
31-40	13	13.0
41-50	10	10.0
Mean age (SD)	25.26 years (9.84)	
Range (in years)	7-50	

Table 2: Distribution of Study Subjects according to the Gender (N = 100)

Gender	No. of patients	Percentage (%)
Male	61	61.0
Female	39	39.0

Table 3: Distribution of Study Subjects according to clinical variables (N = 100)

Component	Present (No. of patients)	Absent (No. of patients)
Migratory Pain	71	29
Anorexia	44	56
Nausea/Vomiting	70	30
RIF Tenderness	80	20
Rebound Tenderness	39	61
Elevated Temperature	67	33

Table 4: Distribution of study subjects according to the final diagnosis (N = 100)

Final Diagnosis	No. of patients	Percentage (%)
Acute Appendicitis	90	90.0
Normal appendix	10	10.0

Out of total 100 patients, 80% of patients had RIF tenderness, but only 39% of patients had rebound

tenderness. 80% had raised TLC (Total leukocyte count), but only 42% of patients had a shift to the left of WBCs. 70% of patients had nausea and vomiting, but only 44% of patients had anorexia. 71% of patients had a history of migratory pain; 67% of patients had elevated temperature.

Final diagnosis was confirmed with Histopathological Examination (HPE) report. Among the 100 cases in the study, 90% had a final diagnosis of acute appendicitis and the remaining 10% had a normal appendix.

In this study, the mean age was calculated as 25.26±9.84 years. The maximum number of patients belonged to the 2nd and 3rd decades, while only 10% of patients belonged to the age group of above 40 years. Most of the patients in this study belonged to the younger age group. The results show that there is a predominance of acute appendicitis in the younger age group and the incidence peaks around 15-25 years and decreases as age progresses. According to the American study on the epidemiology of appendicitis and appendectomy in the United States by Addiss D. G. *et al.,* the median age for both males and females with primary positive appendectomy was 21 years and 69 percent of persons with acute appendicitis were less than 30 years old[7].

The most common presenting symptom in our study was Right Iliac Fossa (RIF) pain which was present in almost all cases (100%). A Brazilian study by Von-Muehlen *et al.,* compared AIR score against the Alvarado score in 147 patients, found RIF pain in 140 patients (95.3%). They reported vomiting in 51.7% and body temperature >38.5 °C in 27.9%, while in our study, 70% of our patients had nausea and vomiting, 44% had anorexia and 67% had a body temperature >38.5 °C[8].

Shuaib *et al.,* in a Middle Eastern study, found the following incidences of clinical symptoms: pain in the Right Iliac Fossa (RIF) in 99.3%., anorexia in 58.1%, nausea and vomiting in 81% and fever in 39% of patients[9].

The total negative appendectomy rate in our study was 10%, which is less than the rates documented by Shuaib *et al.,* Chong *et al* and Rathod *et al.,* who documented negative appendectomy rates of 18.4%, 22.9% and 20.69% respectively[10].

CONCLUSION

The mean age was calculated as 25.26±9.84 years. In the present study, males accounted for 61% and females 39% of the total patients with the male to female ratio 1.6:1. The most common presenting symptom in our study was Right Iliac Fossa (RIF) pain which was present in almost all cases (100%) followed by nausea with vomiting which was present in 70% of patients.

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