

### ASSESSMENT OF SURGICAL PROFILE OF PATIENTS UNDERGOING FOR APPENDECTOMY AT TERTIARY CARE CENTER

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#### **ABSTRACT**

**Background:** Acute appendicitis is one of the leading causes of acute abdomen pain which require surgical intervention. The global prevalence of acute appendicitis is approximately 7% of the total population. The peak incidence of acute appendicitis is between 15-19 years among males and 10-14 years among females. The benefits of early and prompt diagnosis of acute appendicitis significantly eliminate the risk of anticipated complications such as sepsis, perforation and death. **Material & Methods:** The present cross-sectional observational study was conducted at department of surgery of our tertiary care hospital. The study duration was of one year from June 2017 to May 2018. A sample size of 100 was calculated at 95% confidence interval at 10% acceptable margin of error. **Results:** Abdominal pain was reported and presented by each and every study participant. Next most common symptom reported from the study participants was loss of appetite which found in 89% of subjects followed by nausea in 88% of study participants. Fever was reported from 73% of subjects and 59% of study participants suffered from vomiting. Right iliac fossa tenderness was also found in all subjects. Abdominal mass was not found in any patient on clinical local examination. **Conclusion:** Males have higher incidence of acute appendicitis than females. Acute appendicitis was more common in younger age groups. The most common presenting symptom in present study was abdominal pain.

**Key words:** Appendicitis, Abdominal mass, Right iliac fossa.

#### **INTRODUCTION:**

Acute appendicitis is one of the leading causes of acute abdomen pain which require surgical intervention. The global prevalence of acute appendicitis is approximately 7% of the total population. The peak incidence of acute appendicitis is between 15-19 years among males and 10-14 years among females (1). The treatment of choice for acute appendicitis is appendectomy. The benefits of early and prompt diagnosis of acute appendicitis significantly eliminate the risk of anticipated complications such as sepsis, perforation and death

(2). The most important etiological factor of acute appendicitis reported to be the development of luminal obstruction, which is etiologically associated with age. In younger patients (age group less than 20 years) lymphoid hyperplasia is the most common precipitating factor, while among elderly patients the obstruction of lumen by a fecalith is the most common precipitating factor (3).

Acute appendicitis is one of the surgical emergencies and require effective health care, early diagnosis and rapid intervention with effective decision-making.

Effective health care implies by careful consideration of all associated factors before the final decision (4). Important associated factors which should be considered are the safety of diagnostic procedures and treatment alternatives as well as their impact on the patient's safety, outcome, quality-of-life, long-term survival and health economics (5). The intervention related to surgical exploration in cases with suspected appendicitis involves high diagnostic accuracy, associated co-morbidities, patient's age, patient's consent, the surgeon's core medical values, priority considerations related to the use of limited resources and expected natural course of non-operative management. The decision for surgical intervention on a patient with suspected acute appendicitis can therefore be published as a research study that how various factors are associated in surgical decision-making (6).

A study by Fitz RH almost 110 years ago was able to elaborate us about the pathophysiology as well as the management of acute appendicitis. Presentation of appendicitis is very wide and variable and, in some cases, even the most experienced surgeons face difficulty to accurately comment on the condition (7). The previous researches on acute appendicitis are very useful and reference for new surgeons. Hence present study was conducted to evaluate the clinical and surgical profile of patients undergoing appendectomy.

## MATERIALS & METHODS

The present cross-sectional observational study was conducted at department of surgery of our tertiary care hospital. The study duration was of one year from June 2017 to May 2018. A sample size of 100 was calculated at 95% confidence interval at 10% acceptable margin of error by epi info software version 7.2. Clearance from Institutional Ethics Committee was taken before start of study. Initially Informed and written individual consent was taken from each and every patient included in the study. Detailed demographic history included age, sex etc. along with the presenting complaints have been noted. Past history of the patient included any history of previous episodes of pain, history of diabetes mellitus and heart disease were also recorded. Dietary history along with alcohol intake and smoking and diet was

recorded. Blood pressure, pulse and temperature was noted. Detailed clinical systemic examination was done for the detection for the presence of lymphadenopathy and any abnormality in cardiovascular system and respiratory system. Local examination included detection of any abdominal mass and presence of right inguinal tenderness. All patients were subjected for hemoglobin, complete blood cells examination, serum creatinine levels and abdominal ultrasonography. Data analysis was carried out using SPSS v22. All tests were done at alpha (level significance) of 5%; means a significant association present if p value was less than 0.05.

## RESULTS

In present study, A total of 100 patients were studied and the incidence of acute appendicitis was found much more in females i.e. 62% compared to only 38% in males. It was also reported in the present study that acute appendicitis was more common in younger age groups of below 30 years of age and similarly as the age advances the incidence of acute appendicitis was decreased. The incidence among patients 30 years or less was 82% and it was markedly dropped down to 17% in the age group of 30 years and above age group. Similarly, in the age group of more than 50 years of age the incidence of acute appendicitis was came down to less than one percentage i.e. only one case was reported above the age of 50 years. (Table 1)

**Table 1:** Distribution of study participants according to age.

Parameters		No. of patients (%)
Sex	Male	38
	Female	62
Age	< 30 years	82
	30-50 years	17
	>50years	1

Abdominal pain was reported and presented by each and every study participant. Next most common symptom reported from the study participants was loss of appetite which found in 89% of subjects

followed by nausea in 88% of study participants. Fever was reported from 73% of subjects and 59% of study participants suffered from vomiting. Thus, abdominal pain was the universal finding in the present study. Right iliac fossa tenderness was also found in all subjects. Abdominal mass was not found in any patient on clinical local examination. (Table 2)

In the present study 2% of patients were known case of diabetes and 5% of patients had experienced episodes of acute abdominal pain in the past. Previous history of heart disease was reported from only one case. There were 7% of the patients were taking alcohol and 12% of the cases were smokers. Out of the total only 76% of patients were having vegetarian diet. On systemic examination of the study participants, it was reported that only 48% of patients were in a state of good nutrition. No patient was found to have lymphadenitis. The cardiovascular and respiratory examination were normal in all the study participants. The ultrasound examination was performed for the patients and normal results were reported in 91% of patients. (Table 3)

**Table 2:** Distribution of patients as per the presenting complaints.

Presenting complaint	No. of patients (%)
Abdominal pain	100
Loss of appetite	89
Nausea	88
Fever	73
Vomiting	59
Right iliac fossa tenderness	100

**Table 3:** Distribution of patients on the basis of history.

Findings	No. of patients (%)
Diabetes mellitus	2
Heart disease	01
Episodes of pain	5
Alcohol use	7
Smoking	12
Vegetarian diet	76
Good nutrition	48

## DISCUSSION

In present study, A total of 100 patients were studied and the incidence of acute appendicitis was found much more in females i.e. 62% compared to only 38% in males. It was also reported in the present study that acute appendicitis was more common in younger age groups of below 30 years of age and similarly as the age advances the incidence of acute appendicitis was decreased. The incidence among patients 30 years or less was 82% and it was markedly dropped down to 17% in the age group of 30 years and above age group. Similarly, in the age group of more than 50 years of age the incidence of acute appendicitis was came down to less than one percentage i.e. only one case was reported above the age of 50 years. A study conducted by Mungadi IA et al reported that the burden of acute appendicitis among the patients of acute abdominal pain was 38.9%. The younger age group of 20-30 years was found to have high incidence. Males were affected more than females in their study. The morbidity and mortality rate reported was 13% and 1% respectively (8). A similar study conducted by Bakken IJ et al found that almost similar incidence of acute appendicitis for both the sexes. Younger patients were have high incidence than the older age groups. Perforation was found more among male patients 12-21% in compared to female patients 9-17%. They also reported that the duration of hospital stay less for the cases operated with laparoscopic method than the open method (9).

Abdominal pain was reported and presented by each and every study participant. Next most common symptom reported from the study participants was loss of appetite which found in 89% of subjects followed by nausea in 88% of study participants. Fever was reported from 73% of subjects and 59% of study participants suffered from vomiting. Thus, abdominal pain was the universal finding in the present study. Right iliac fossa tenderness was also found in all subjects. Abdominal mass was not found in any patient on clinical local examination. A study conducted by Luckmann R et al reported that there was higher incidence on acute appendicitis among males than females and higher incidence among age group less than 30 years of age than older age groups.

They reported higher rates of appendicitis during July to September in a calendar year and the month December showed lowest rates (10). Similar results were found in a study conducted by Okafor PI et al among the cases of acute appendicitis and found that the patients were belonged to 15-60 years of age with males in higher proportion. They found fever as the most common presenting symptom, which was followed by anorexia and pain. They reported palpable mass in the right iliac fossa. However, present study did not reported any patient with palpable mass in the right iliac fossa (11).

In the present study 2% of patients were known case of diabetes and 5% of patients had experienced episodes of acute abdominal pain in the past. Previous history of heart disease was reported from only one case. There were 7% of the patients were taking alcohol and 12% of the cases were smokers. Out of the total only 76% of patients were having vegetarian diet. On systemic examination of the study participants, it was reported that only 48% of patients were in a state of good nutrition. No patient was found to have lymphadenitis. The cardiovascular and respiratory examination were normal in all the study participants. The ultrasound examination was performed for the patients and normal results was reported in 91% of patients. A study conducted by Addiss DG et al among 250000 cases of appendicitis reported that age group of 10-19 years was common. They also reported that males were affected more than females. They reported that the incidence of appendicitis among females in the age group of 40-45 years was more than males for the same age group (12). Similar study conducted by Wolkomir A et al studied seasonal variation for the cases of acute appendicitis and found that the high incidence in spring and summer months (13).

## CONCLUSION

We concluded from the present study that male have higher incidence of acute appendicitis than females. Acute appendicitis was more common in younger age groups. The most common presenting symptom in present study was abdominal pain. Abdominal mass was absent in the all patients.

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