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# A study on clinical profile of patients with acute appendicitis in rural population.

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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. Objective of current study was to study the clinical profile of acute appendicitis in our society.*
*MATERIALS AND METHODS: One hundred patients who were treated in the department of surgery at TRIHMS, Naharlagun with acute appendicitis during the period from 1st January 2017 to 31st March 2018 were studied. Diagnosis of acute appendicitis were made by detailed history, thorough clinical examination including per rectal examination were done. Investigations with routine blood tests, DC, WBC count, USG of abdomen and Pelvis, X-ray of whole abdomen, blood group and Rh typing and histopathological study of the appendix were performed and reported by the pathologist of the department.*
***Results:*** *The commonest presentation of acute appendicitis was the periumbilical pain and shifting to the right iliac fossa followed by anorexia and nausea. The commonest age group of acute appendicitis from 21 years to 30 years and the commonest sign was tenderness at McBurney's point in right iliac fossa. Open appendectomy was the mode of treatment in all cases of acute appendicitis. All the patients recovered. There is no morality.*
***Conclusion:*** *Acute appendicitis is the most common cause of 'acute abdomen' in young adults in our society and emergency appendectomy is the treatment of choice of acute appendicitis.*
***Keywords:*** *Acute abdomen, Acute appendicitis, Clinical profile.*

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## I. Introduction

Acute appendicitis can be defined as an acute inflammation of the appendix (1). Acute appendicitis is the most common cause of an ' acute abdomen ' in young adults and, as such, the associated symptoms and signs have become a paradigm for clinical teaching. Appendicitis is sufficiently common that appendicectomy (termed 'appendectomy 'North America ) is the most frequently performed urgent abdominal operation and is often the first major procedure performed by a surgeon in training.

## II. Materials And Methods

A retrospective observation study was carried out in the department of surgery at Tomo Riba Institute of Health and Medical Sciences (TRIHMS), Naharlagun from 1st January 2017 to 31st March 2018. 100 (One hundred) cases with provisional diagnosis of acute appendicitis which were posted for open appendectomy were included in this study. A detailed history, thorough clinical examination including per rectal examination were done. Investigations with routine blood tests, DC, WBC count, USG of abdomen and Pelvis, X-ray of whole abdomen, blood group and Rh typing and histopathological study of appendix were performed and reported by the pathologist of the department.

## III. Inclusion criteria

All the cases with acute appendicitis diagnosis by clinical examination and supported by the ultrasonography of abdomen and CT abdomen as and when required were included in this study.

Exclusion criteria

(1) Acute abdomen of cause other then appendicitis.

(2) Patients had history of symptoms of acute appendicitis for more than 3 days
(3) Patients with generalized peritonitis due to appendicular perforation.
(4) Patients presented with mass in the right iliac fossa with acute appendicitis.

## IV. Results

A total number of 100 (one hundred) cases of acute appendicitis, out of then 60 (60%) were made and 40 (40%) were females.

**Table 1**: Age- wise distribution of acute appendicitis.

| Age(years) | Male | Female | Total | Percentage |
|---|---|---|---|---|
| 10 | 7 | 6 | 13 | 13% |
| 11-20 | 15 | 13 | 28 | 28% |
| 21-30 | 18 | 13 | 31 | 31% |
| 31-40 | 9 | 2 | 11 | 11% |
| 41-50 | 6 | 3 | 9 | 9% |
| 51-60 | 4 | 2 | 6 | 6% |
| 61-70 | 1 | 1 | 2 | 2% |
| Total | 60 | 40 | 100 | 100% |

Among the male patients, the youngest patient was 9 years and the oldest patient was 68 years old. Among the females, the youngest patient was 10 years old and the oldest was 65 years old.

In this study, the disease was common in the third decade (21-30 years, 31%) and second decade ( 11-20 years, 28% ). Next common age group use up to 10 years (first decade, 13%).

**Table 2 :** Symptoms of Acute appendicitis.

| Symptoms | No. of patients | Percentage |
|---|---|---|
| 1. Pain | 100 | 100% |
| 2. Anorexia | 100 | 100% |
| 3. Nausea | 100 | 100% |
| 4. Fever | 90 | 90% |
| 5. Vomiting | 85 | 85% |
| 6. Diarrhea | 10 | 10% |

Pain in the RIF, anorexia and nausea were present all of the cases. Fever was present in 90% of cases and vomiting and diarrhea were present in 85% and 10% cases respectively.

(3) Clinical signs in acute appendicitis.

| Signs | No. of patients | Percentage |
|---|---|---|
| 1. McBurney's sign (Tenderness at McBurney's point) | 100 | 100% |
| 2. Pyrexia | 90 | 90% |
| 3. Pain with coughing (Dunphy's sign) | 85 | 85% |
| 4. Blumber's sign (Rebound tenderness sign) | 75 | 75% |
| 5. Pointing sign | 80 | 80% |
| 6. Rozdolsky's sign (Pain in R.I.F during percussion) | 75 | 75% |
| 7. Rovsing's sign | 75 | 75% |
| 8. Regidity and guarding in RIF | 60 | 60% |
| 9. Cope's psoas test | 40 | 40% |
| 10. Cope's obturator test | 10 | 10% |

McBurney's sign was present in all cases (100%). Pyrexia was present in 90% of cases.

Digital rectal examination was performed in all the patients and pelvic tenderness was detected in only 10% of cases.

## V. Discussion

Acute appendicitis can be defined as an acute inflammation of the appendix (1). Acute appendicitis is the most common cause of an 'acute abdomen' in young adults and, as such, the associated symptoms and signs have become a paradigm for clinical teaching. Appendicectomy is the most frequently performed urgent abdominal operation and is often the first major procedure performed by a surgeon in training. The diagnosis of acute appendicitis is essentially clinical. The classical features of acute appendicitis begin with abdominal pain is associated with anorexia, nausea and usually one or more episodes of vomiting that follow the onset of pain (Murphy). Anorexia is a useful and constant clinical feature, particularly in children. A number of clinical and

laboratory based scoring systems have been devised to assist diagnosis. The most widely used is the Alvarado score. A score of 7 or more is strongly predictive of acute appendicitis.

The Alvarado score (MANTRELS) score(2)

| | Score | | |
|---|---|---|---|
| SYMPTOMS | Migratory RIF pain | | 1 |
| | Anorexia | 1 | |
| | Nausea and vomiting | 1 | |
| SIGNS | Tenderness (RIF) | | 2 |
| | Rebound Tenderness | 1 | |
| Elevated temperature | | 1 | LABOROTORY |
| Leucocytosis | | | 2 |
| Shift to left of Neutrophils(>75% Neutrophils) | | 1 | |
| Total | | | 10 |

**Mantrels:** Migration of pain; Anorexia; Nausea or vomiting
; Tenderness; Rebound pain; Elevation of temperature; Leucocytosis; Shift to left (segmental neutrophils)

In patients with an equivocal score (5-6), abdominal ultrasonography or contrast enhanced CT examination further reduces the negative appendectomy (3). Abdominal ultrasound examination is more useful in children and thin adults, particularly if gynecological pathology is suspected, with a diagnostic accuracy in excess of 90% (Fig.1).Contrast-enhanced CT scan (Fig.2) is most useful in patients in whom there is diagnostic uncertainty, particular older patients, in whom acute diverticulitis, intestinal obstruction or neoplasm are likely differential diagnosis(4). Intravenous contrast helps to highlight inflammation surrounding the appendix.

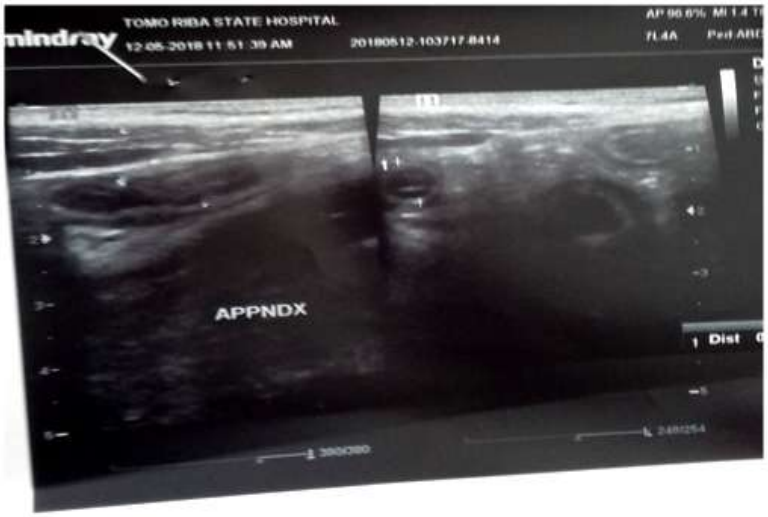


**Fig.1** Abdominal ultrasound examination showing features of acute appendicitis.

**Fig. 2** Abdominal contrast-enhanced showing features of acute appendicitis.

In this study, acute appendicitis was common in the age group of 21-30 years 31% followed by the age group of 11-20 years (2nd decade, 28%). This study is compared to the study conducted by Addis DG et al (5).

In our study, maximum numbers of cases were males (60%) and females were contributing to 40% of cases. Our study correlates with the study done by Lewis et al, where the males were the common victim of acute appendicitis (6).

In this study, pain on the abdomen, Anorexia and Nausea were the common symptoms. Our study correlates with the study done by Earley AS et al, where pain abdomen, anorexia, nausea and vomiting were the commonest symptoms (7).

In this study, tenderness at McBurney's point was present in 100% cases.

"Right lower quadrant tenderness was the most consistent of all signs of acute appendicitis. Its presence should always raise the spector of appendicitis, even in the absence of the other signs and symptoms" (8).

## VI. Conclusion

Acute appendicitis is the leading cause of surgical acute abdomen worldwide. Emergency appendectomy is the treatment of choice for acute appendicitis. Appendicetomy is the most frequently urgent abdominal major operation performed by a surgeon in training. Advances in modern radiographic imaging have improved diagnostic accuracy, however the diagnosis of acute appendicitis remains essentially clinical, requiring a mixture of observation , clinical acumen and surgical science and as such it remains an enigmatic challenge and remainder of the art of surgical diagnosis.

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