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Research Article

CLINICAL PROFILE OF ACUTE APPENDICITIS IN ADULTS

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ABSTRACT
Aim of the Study was to study the clinical profile of patients admitted with acute appendicitis. Thirty cases of acute appendicitis were studied in detail and were compared with the previous data from literature. All the thirty cases were brought to our hospital as a case of acute abdomen. Cases of the age more than 14 years were included in the study. Ultrasonography was the key diagnostic investigation in these cases. Acute appendicitis is more common in males. Maximum number of cases is seen in third and second decade. Females of fourth and fifth decade are vulnerable for acute appendicitis. Pain abdomen, nausea, vomiting are the commonest symptoms. Tenderness over McBurney's point and rebound tenderness were the commonest sign. Leukocytosis was commonest finding in complete blood count. Thickening of the wall of the appendix was commonest ultrasonography finding. Appendicular mass formation was the commonest complication. Surgical appendectomy was the mode of treatment in maximum patients. All the patients' recovered. There was no mortality.

Keywords: *Acute Appendicitis*

INTRODUCTION
Acute appendicitis can be defined as acute inflammation of the appendix. For many years, the appendix was erroneously viewed as a vestigial organ with no known function. It is now well recognized that the appendix is an immunologic organ that actively participates in the secretion of immunoglobulin, particularly immunoglobulin A. Although, there is no clear role for the appendix in the development of human disease, recent studies demonstrate a potential correlation between appendectomy and the development of inflammatory bowel disease. There appears to be a negative age-related association between prior appendectomy and subsequent development of ulcerative colitis. The association between Crohn's disease and appendectomy is less clear. Although, earlier studies suggested that appendectomy increases the risk of developing Crohn's disease, more recent studies that carefully assessed the timing of appendectomy in relation to the onset of Crohn's disease demonstrated a negative correlation. These data suggest that appendectomy may protect against the subsequent development of inflammatory bowel disease; however, the mechanism is unclear (McBurney, 1889). The vermiform appendix is located at the base of the cecum, near the ileocecal valve where the taenia coli converge on the cecum (William, 1983).

Aims of the Study
To study the clinical profile of patients admitted with acute appendicitis.

MATERIALS AND METHODS
'Clinical profile of acute appendicitis in adults' a descriptive observational study was conducted in ESIC government medical college, Gulbarga, Karnataka from January 2016 to January 2017. In this study, 30 cases of acute appendicitis were included. Cases were analyzed as per age, sex, symptoms, signs, ultrasound findings, complications, duration of hospital, stay and outcome. Complete blood count and other routine blood tests were done. Ultrasonography was the imaging modality used for diagnosis.

Inclusion Criteria's:
1. Age more than 14 years
2. Patients with confirmed acute appendicitis on ultrasonography as well as intra-operatively.
3. Patients admitted during January 2016 to January 2017

Exclusion Criteria's:
1. Age less than 14 years
2. Acute abdomen of cause other than appendicitis

3. Patients admitted before January 2016 and after January 2017.

RESULTS AND DISCUSSION

Results

Table 1: Sex Wise Distribution of Cases

	Male	Female	Total
Number of patients	18	12	30
Percentage	60%	40%	100%

Maximum number of cases [60%] in the present study were male patients [n=18].
Minimum number of cases [40%] in the present study were female patients [n=12].

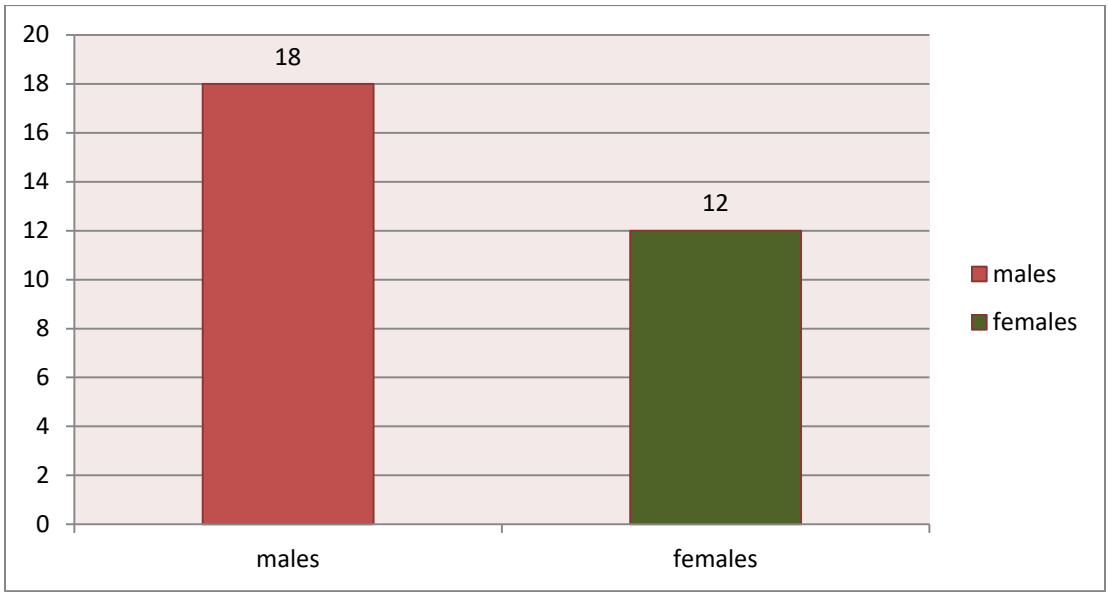

Figure 1: Sex Wise Distribution of Cases

Table 2: Age Wise Distribution of Cases

Age Group in Years	Number of Cases	Percentage
14-20	09	30.00%
21-30	16	53.33%
31-40	04	13.33%
41-50	01	03.33%
51-60	00	00.00%
More than 60	00	00.00%
Total	30	100%

Maximum number of cases [n=16] in present in the age group of 21-30 years. 53.33% incidence was seen in third decade.
Minimum number of cases [n=1] was seen in age group of 41-50 years. The incidence was 03.33%.

Table 3: Symptom Wise Distribution of Cases

	Pain Abdomen	Nausea	Vomiting	Fever
Number of cases	30	30	26	22
percentage	100%	100%	86.67%	73.33%

Maximum number of cases [n=30] had pain abdomen and nausea. Incidence was 100%.
Minimum number of cases [n=22] had fever. Incidence was 73.33%.

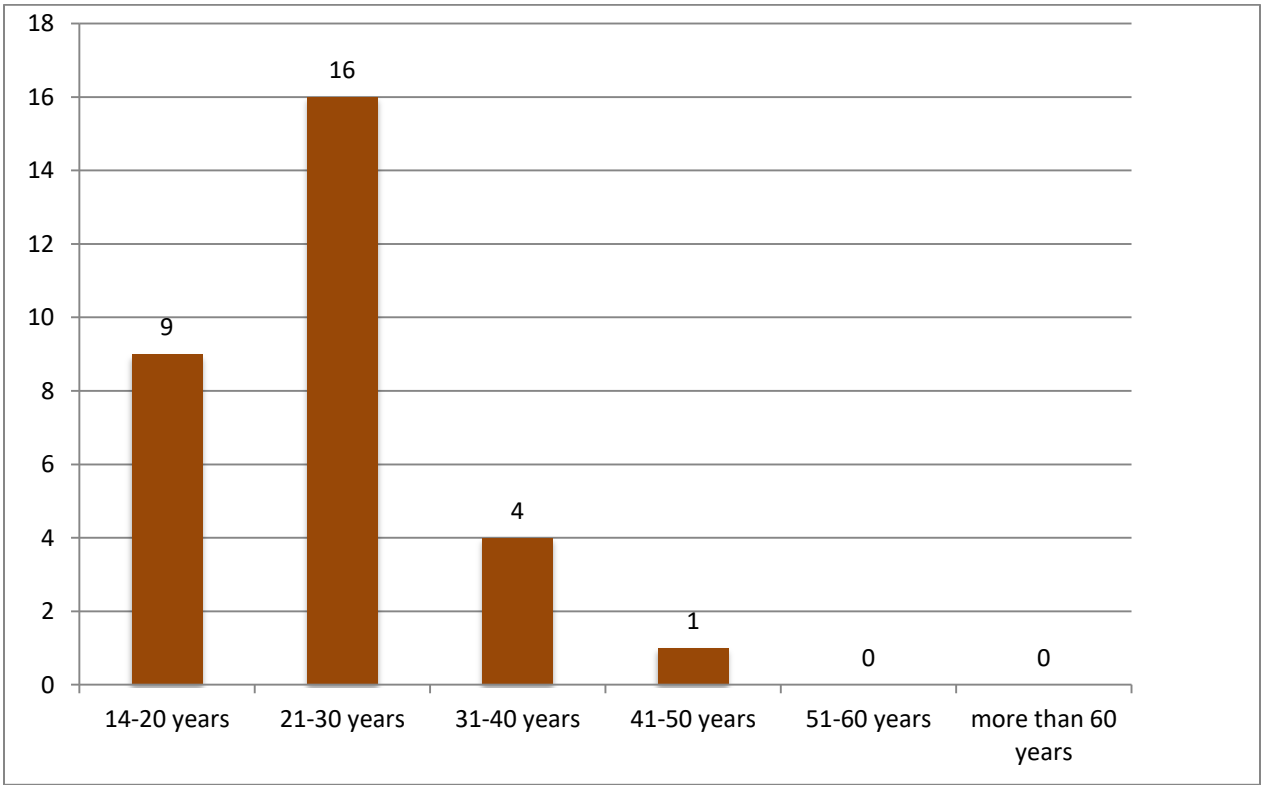

Figure 2: Age Wise Distribution of Cases

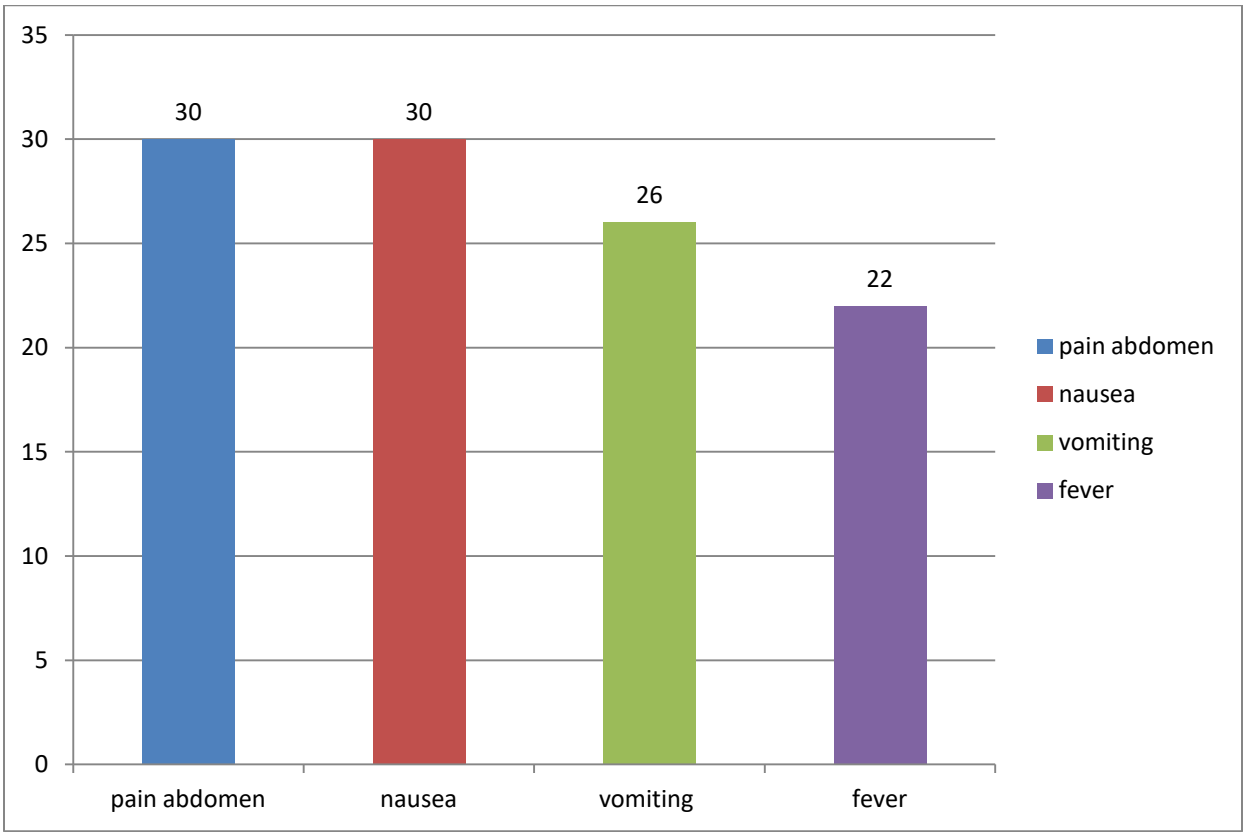

Figure 3: Symptom Wise Distribution of Cases

Table 4: Clinical Signs in Patients with Acute Appendicitis

	Number of Patients	Percentage
Mc Burney's point tenderness	30	100%
Rebound tenderness	24	80%
Rovsing's sign	05	16.66%
Obturator sign	07	23.33%
Iliopsoas sign	03	10.00%

Maximum number of cases [n=30] had tenderness over Burney's point. The incidence was 100%.
Minimum number of cases [n=3] had iliopsoas sign positive.

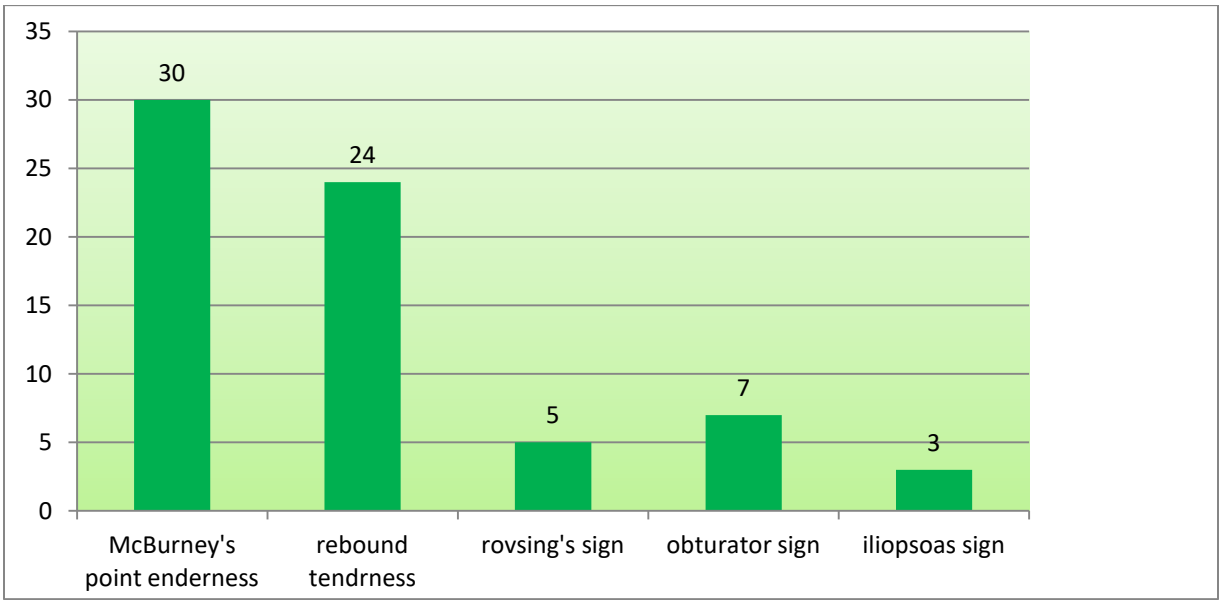

Figure 4: Clinical Signs in Patients with Acute Appendicitis

Table 5: Complete Blood Count in Cases of Acute Appendicitis

	Number of Cases	Percentage
Leukocytosis	27	90%

Maximum number of cases [n=27] had leukocytosis. The Incidence was 90%.

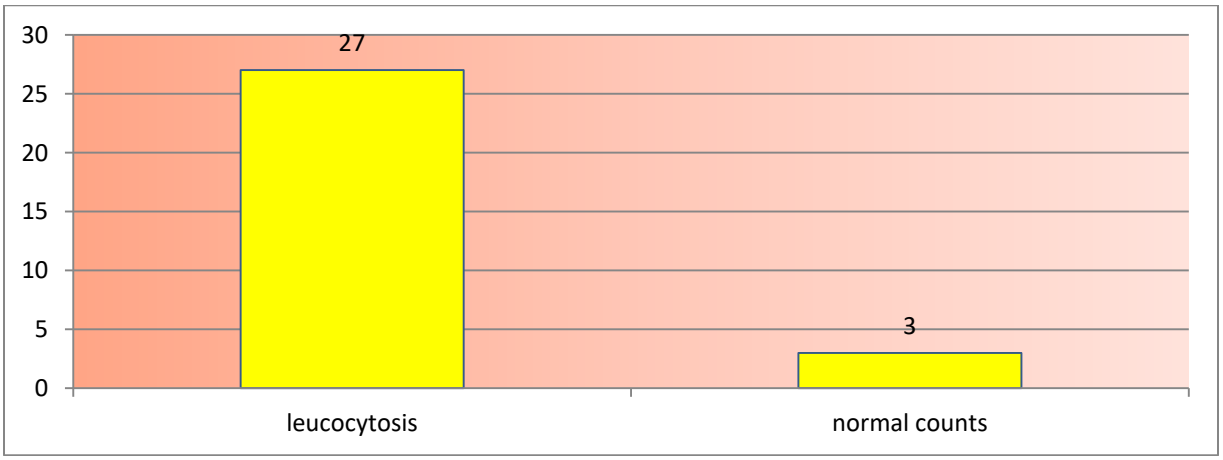

Figure 5: Complete Blood Count in Cases of Acute Appendicitis

Table 6: Ultrasonography Finding in Cases of Acute Appendicitis

	Number of Patients	Percentage
Wall thickening	30	100%
Increased appendiceal diameter	27	90%
Periappendiceal fluid collection	03	10%

Maximum number of cases [n=30] had appendicular wall thickening. Incidence was 100%.
Minimum number of cases [n=30] has periappendiceal fluid collection, with an incidence of 10%

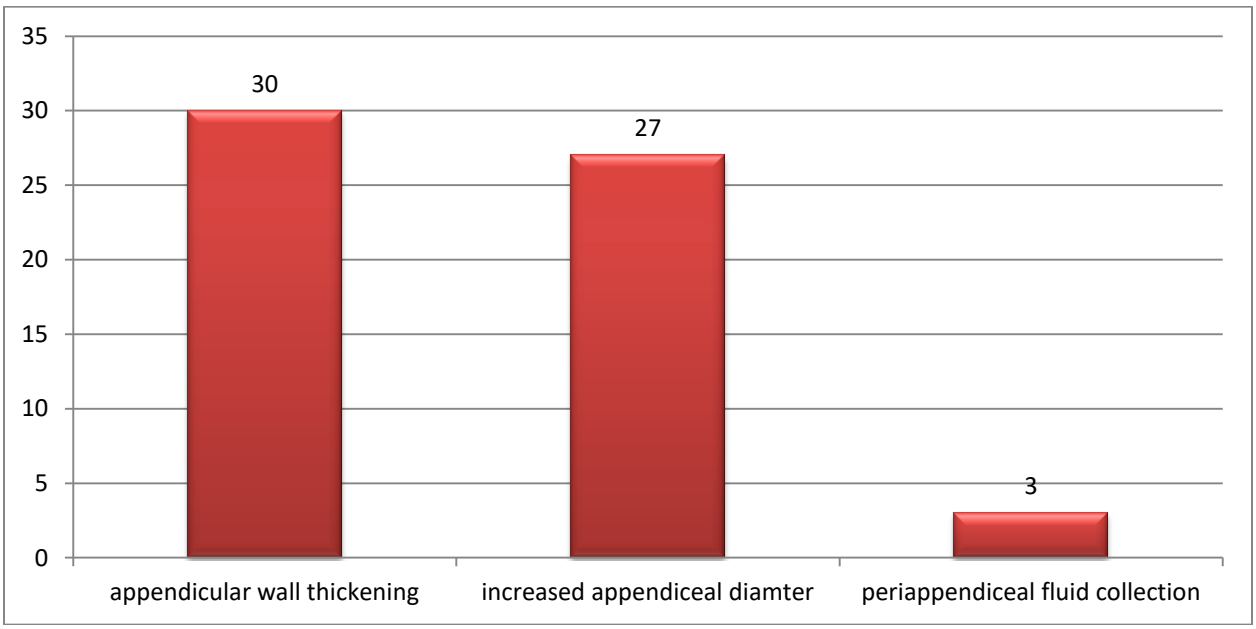

Figure 6: Ultrasonography Finding in Cases of Acute Appendicitis

Table 7: Complications in Cases of Acute Appendicitis

	Number of Cases	Percentage
Appendicular mass	2	06.67%
mucocele	1	03.0%

Maximum number of cases [n=2] had appendicular abscess with an incidence of 6.67%.
Single patient had mucocele [3%].

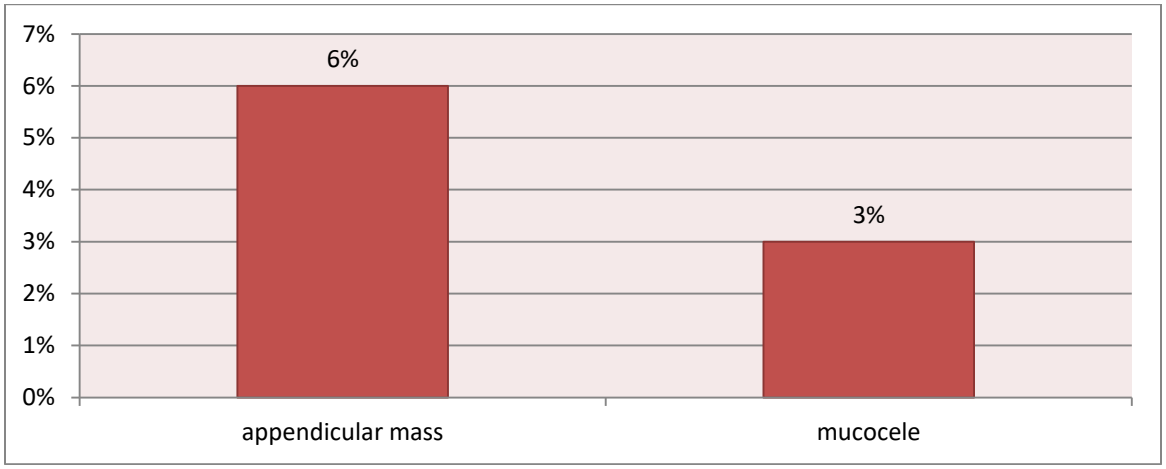

Figure 7: Complications in Cases of Acute Appendicitis

Table 8: Management in Cases of Acute Appendicitis

	Surgical –Appendectomy	Conservative
Number of Cases	28	2
Percentage	93.33%	6.67%

Maximum number of cases [n=2] were treated with surgical appendectomy.
Two cases had appendicular mass and were treated with higher antibiotics at the time of admission.

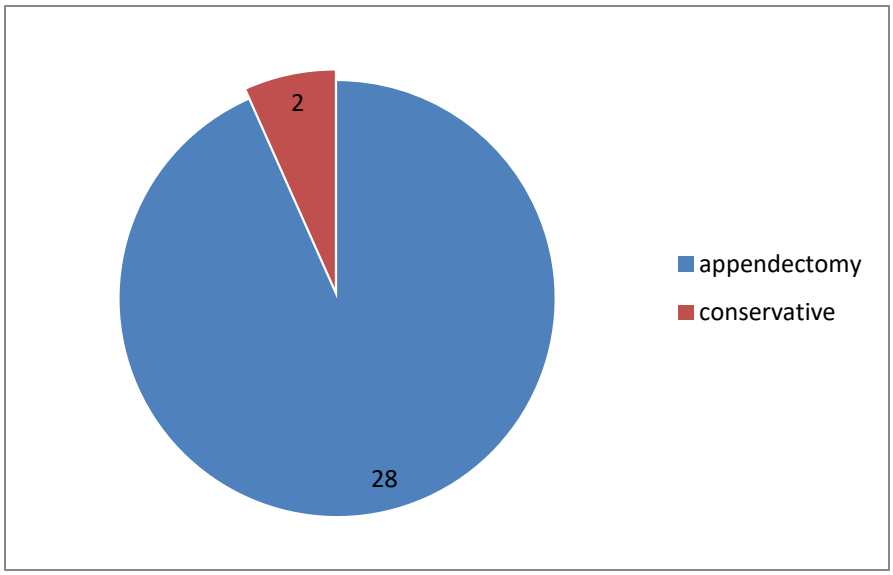

Figure 8: Management in Cases of Acute Appendicitis

Table 9: Duration of Hospital Stay

Duration of Hospital Stay	Number of Cases	Percentage
2 days	12	40%
3 days	16	53.33%
4 days	02	06.67%

Maximum number of cases [n=16] stayed in hospital for 3 days.
Minimum number of cases [n=2] stayed in hospital for 4 days.

Table 10: Outcome in Cases of Acute Appendicitis

Outcome	Number of Cases	Percentage
Complications	02	06.67%
Mortality	00	00
Recovery	30	100%

There was no mortality in our study.
All the thirty cases recovered completely.

Discussion

Sex Prevalence [Table 1]

In present study, maximum numbers of cases were males. They were 18 in number and accounted for 60% of cases. 12 cases were females and were contributing to 40% of cases. Our study correlates with the study done by Lewis *et al.*, (1975) where males were the commonest victim of acute appendicitis.

Age Prevalence [Table 2]

Maximum numbers of cases were from the age group of 21-30 years age. They were 16 in number and accounted for 53.33% of cases. Next highest numbers of cases were present in the age group of 14-20

years. This age group had 9 cases and accounted for 30%. 4 cases were present in fourth decade and accounted for 13.33 % of cases and all of them were females. Single patient was seen in fifth decade, she was a female contributing to 3.33% of cases. Our study correlates with the study done by Kazarian *et al.,* (1970) where maximum numbers of cases were present in second and third decade.

Symptom Prevalence [Table 3]

In the present study pain in abdomen and nausea was present in all the thirty cases. This was followed by vomiting, which was seen in 26[86.67%] cases. Fever was seen in 73.33 % of cases. Our study correlates with the study done by Earley *et al.,* (2006) where pain abdomen, nausea and vomiting were commonest symptoms.

Sign Prevalence [Table 4]

Tenderness over Burney's point was present in all the thirty cases. Next common sign was rebound tenderness and was seen in 80% [n=24] of the cases. obturaor sign was positive in 23.33% [n=7] which is suggestive of presence of inflamed appendix in the pelvis. Rovsing's sign was positive in 16.66% [n=5] of cases. Iliopsoas sign was positive in 10% [n=3] of the cases, which indicates presence of retrocecal appendicitis (Danny O, 2015).

Complete Blood Count in Cases of Acute Appendicitis [Table 5]

In the present study all the complete blood count parameters were normal except the leucocyte count.it was raised in 90% [n=27] of the cases. Our study correlates with the study done by Drake *et al.,* (2014) where maximum number of cases had leukocytosis.

Ultrasonography Findings in Cases of Acute Appendicitis [Table 6]

Thickening of the wall of the appendix was the commonest finding, seen in all the thirty cases. Next commonest finding was increased appendiceal diameter and was seen in 90% [n=27] cases. Periappendiceal fluid collection was seen in 10% [n=3] cases. Our study correlates with the study done by Lee and Ho (2003) where thickening of wall of appendix was common ultrasound finding.

Complications in Cases of Acute Appendicitis [Table 7]

In the present study complications were seen in three cases. Appendicular mass was present in 6.67% [n=2] of the cases and mucocele was present in 3% [n=1] of the cases. Our study correlates with the study done by Ingraham *et al.,* (2010) where formation of appendicular mass was the commonest complication.

Management in Cases of Acute Appendicitis [Table 8]

Maximum number of cases 93.33% [n=2] of the cases were treated with surgical appendectomy. Two [6.67%] cases had appendicular mass and were treated with higher antibiotics at the time of admission. Our study correlates with the study done by Yardeni *et al.,* (2004) where maximum number of cases was treated with surgical appendectomy

Duration of Hospital Stay [Table 9]

Maximum number of cases 53.33% [n=16] stayed in hospital for 3 days. Minimum number of cases 6.67% [n=2] stayed in hospital for 4 days. The minimum duration of hospital stay was 2 days and was seen in 40% [n=12] of the cases.

Outcome in Cases of Acute Appendicitis [Table 10]

In this study all the thirty cases recovered completely and there was no mortality. Early diagnosis and rapid management are the key stone in preventing mortality and morbidity in the cases of acute appendicitis.

Conclusion

Acute appendicitis is more common in males. Maximum number of cases is seen in third and second decade. Females of fourth and fifth decade are vulnerable for acute appendicitis. Pain abdomen, nausea, vomiting are the commonest symptoms. Tenderness over Burney's point and rebound tenderness was the commonest sign.

Leukocytosis was commonest finding in complete blood count. Thickening of the wall of the appendix was commonest ultrasonography finding. Appendicular mass formation was the commonest complication. Surgical appendectomy was the mode of treatment in maximum patients. All the patients recovered. There was no mortality.

REFERENCES

Danny O J (2015). Acute appendicitis and peritonitis, *Harrison's Principle of Internal Medicine,* 19 edition, **2**, (McGraw-Hill Companies, Inc., New York, USA) 1985-89.

Drake FT, Mottey NE, Farrokhi ET *et al.*, (2014). Time to appendectomy and risk of perforation in acute appendicitis. *JAMA Surgery* **149** 837–844.

Earley AS, Pryor JP, Kim PK *et al.*, (2006). An acute care surgery model improves outcomes in patients with appendicitis. *Annals of Surgery* **244** 498–504.

Ingraham AM, Cohen ME, Bilimoria KY *et al.*, (2010). Effect of delay to operation on outcomes in adults with acute appendicitis. *Archives of Surgery* **145** 886–892.

Kazarian KK, Roeder WJ and Mershelmer WL (1970). Decreasing mortality and increasing morbidity from acute appendicitis. *The American Journal of Surgery* **119** 681–685.

Lee SL and Ho HS (2003). Ultrasonography and computed tomography in suspected acute appendicitis. *Seminars in Ultrasound, CT, and MRI* **24**(2) 69-73.

Lewis FR, Holcroft JW, Boey J and Dunphy JE (1975). Appendicitis: a critical review of diagnosis and treatment in 1,000 cases. *Archives of Surgery* **110** 677–6843.

McBurney C (1889). Experience with early operative interference in cases of disease of the vermiform appendix. *New York Medical Journal* **50** 676–684.

William GR (1983). Presidential address: a history of appendicitis. *Annals of Surgery* **197** 495.

Yardeni D, Hirschl RB, Drongowski RA *et al.*, (2004). Delayed versus immediate surgery in acute appendicitis: Do we need to operate during the night? *Journal of Pediatric Surgery* **39** 464–469.