



CLINICAL STUDY TO ANALYSE THE ROLE OF INTERVAL APPENDECTOMY AFTER APPENDICULAR LUMP

General Surgery

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ABSTRACT

INTRODUCTION: Appendicular mass is one of the most common complication (2 - 6%) seen after acute attack of appendicitis. But in current scenario there is a debate going on the ideal management of appendicular lump our study aims to find out the need of interval Appendectomy and evaluate the outcome of conservative management.

METHOD AND MATERIALS: The study was carried out as a prospective randomized controlled study in the Department of General Surgery at Gajra Raja Medical College and Jayarogya group of Hospitals, Gwalior (M.P.) for 1½ year from January 2019 to June 2020. A total of 100 patients with Appendicular mass was admitted and were studied. The study was approved by the ethical committee of the hospital.

RESULTS:- The age range in our study varies from 16 to 66 with mean age was 36.2 years. Majority of the patients belong to age group 31 – 40 years with male to female ratio 2.3:1. The most common symptom reported was pain in right lower quadrant followed by Anorexia. In our study out of total 90 patients of appendicular lump recurrence was seen in only 17 cases (18.9%) who required appendectomy, rest of the patients responded well to initial conservative approach with success rate of 81.1%. 10 patients were lost during follow up.

CONCLUSION: From our study we conclude that Appendicular lump is more common in male with majority of Patients in age group of 20-40 years we also conclude that Appendicular lump can be managed successfully with conservative approach.

KEYWORDS

Appendicular lump, conservative approach, appendectomy

INTRODUCTION

Acute appendicitis is one of the most common acute surgical conditions of the abdomen and is encountered in 3 – 6% of patients.¹ The appendicular mass mostly develops after an attack of acute appendicitis and is the outcome of a walled-off appendicular perforation and represents a pathological spectrum starting from phlegmon to abscess.^{2,3} From localized collections of pus (peri-appendicular abscesses) to inflamed appendices which have become adherent to surrounding structures and omentum to form a phlegmon these masses shows a spectrum of clinical manifestation superseded by pathological processes. The definitive treatment of acute appendicitis is appendectomy and if timely appendectomy is not done, the patients has a risk of developing a mass in the right iliac fossa (Appendicular mass) as one of the early complications.^{4,5}

Management of an appendicular mass is done with three general treatment modality and is controversial.^{6,7}

'Classical management' in which there is initial conservative management using intravenous fluid and broad spectrum antibiotics and until the resolution of inflammatory mass followed by interval appendectomy 4-6 weeks later, believing to the fact that early appendectomy in these cases is dangerous, time consuming and may lead to life threatening complications such as fecal fistula.⁸

Semi conservative approach, in this method of treatment immediate appendectomy is performed during the initial admission after resolution of the inflammatory mass.

- Conservative approach without interval appendectomy.

Currently, most favoured modality is the initial conservative, nonoperative management for appendiceal mass by most surgeons. However, the million dollar question form the past era has been: what next after conservative management of appendiceal mass? 'interval appendectomy' is the conventional answer to this question, but in the literature this approach has been questioned. Recommenders of interval appendectomy believe that there is high rate of recurrence of appendicitis during the waiting period and, besides, appendectomy will provide a definite diagnosis and also rule out any underlying malignancy showing as a phlegmon or appendiceal lump. The antagonists of interval appendectomy proclaim that the rate of recurrent acute appendicitis is low (6–20%) but that the complications of surgery for acute recurrent appendicitis is not low, with reported rates ranging from 3.4–17%.

Therefore, our study is done with the aim to evaluate the outcome of conservative so as to achieve complete resolution of the inflammatory mass with disappearance of all the symptoms in the patient before any surgical intervention.

AIMS AND OBJECTIVES

- To study the need of interval appendectomy after 6 week of appendicular lump.
- To reduce the morbidity and expenses of surgery by reducing interval appendectomy.
- To prevent unnecessary exposure of patients to surgical complications of interval appendectomy.
- To study the course and duration of resolution of appendicular mass after conservative management.

MATERIAL AND METHODS

This is a prospective randomized study conducted on 100 patients with age more than 14 years who have been diagnosed with appendicular lump and were admitted in Department of General Surgery J.A group of hospital and G.R Medical College Gwalior during a period of January 2019 – March 2020. Out of 100 patients 10 patients were lost during follow up.

After confirming the diagnosis of acute uncomplicated appendicular mass

- Detailed history was taking & clinical examination done
- conservative approach with Ochsner Sherren Regime was adopted
- Surgery was offered to the patients who didn't responded to initial conservative management
- All the patients were Regularly followed up after frequent interval of 2week, 3month, 6month, 9month once the patient is discharged from hospital and following symptoms were assessed and investigation was done

- Anorexia/Nausea/Appetite
- Pain In Right Iliac Fossa
- Fever
- Any Bladder Or Bowel Symptoms
- Palpable Lump In Right Iliac Fossa
- Compression Symptoms Like Hydrourerter,
- Hydronephrosis, Hematuria, Melena
- Vomiting

- Melena

And if sign of recurrent appendicitis appeared appendectomy was done.

INCLUSION CRITERIA:

- Patient who are coming to ward with appendicular lump.

EXCLUSION CRITERIA:

- Patients with diabetes
- Patients without consent.
- Patient With Age Above 50 And Below 14 Years
- Hematological Disorder
- Peritonitis
- Patient With Malignancy
- Patient Who Has Under Gone Any Laparotomy Or Any Other Intra Abdominal Surgical Procedure

STATISTICAL ANALYSIS:

Data was collected and analyzed Statistically by SPSS software.

OBSERVATION AND RESULTS

A total of 100 patients with USG proven appendicular mass were included in study who were admitted in J A Group of hospitals and G.R Medical college Gwalior during a period of January 2019-june 2020. The patients were then followed up regularly till 9 month. 10 patients were lost during follow up due to covid pandemic.

Table 1: Age wise distribution of patients with appendicular lump (N=90)

Age (years)	No. of patients	Percentage
12 - 20	11	12.2%
21 - 30	17	18.8%
31 - 40	37	41.1%
41 - 50	13	14.4%
51 - 60	9	10%
>60	3	3.3%

Table 2: Gender wise distribution of patient with appendicular lump (N=90)

Gender	No. of patients	Percentage
Male	63	70%
Female	27	30%

Table 3: Clinical presentation of patient of appendicular lump (N=90)

Symptoms/Signs/ Investigations	No. of patients	Percentage
Pain	90	100%
Nausea/Vomiting	50	55.5%
Anorexia	82	91.1%
Fever	56	62.2%
Palpable lump	90	100%

Table 4: Most common Symptoms/Sign/Investigations which persist after 2 weeks in patients who respond to initial conservative management (N=73)

Symptoms/Signs/ Investigations	No. of patients	Percentage
Pain	19	26.0%
Nausea/Vomiting	11	15.0%
Anorexia	26	35.6%
Fever	8	10.9%
Palpable lump	36	49.3%
Leucocytosis	28	38.3%

Table 5: Duration of resolution of appendicular lump in patient who respond to conservative management (N=73)

Duration	No. of patients	Percentage
2-4 weeks	37	50%
3 months	26	35%
6 months	10	13.6%
9 months	0	0

Table 6 : Treatment response in patients with appendicular lump

Conservative Management	No. of patients	Percentage
Conservative Ochsner- Sherren Regimen	73	81.1%
Appendectomy Due To Recurrence	17	18.9%

Table 7: Duration of hospital stay in patients responding to conservative management (N=73)

Duration	No. of patients	Percentage
< 2 days	0	0%
3 - 5 days	4	5.73%
6 - 9 days	20	27.3%
9 - 11 days	34	46.3%
>11 days	15	20.5%

DISCUSSION

An appendicular mass is a common surgical clinical entity encountered in 2-6 % of patients presenting with acute appendicitis, which is usually palpable in right iliac fossa as a tender mass which is an inflammatory mass composed of inflamed appendix, caecum, omentum, terminal ileum and at times sigmoid colon or tube and ovaries in female. This has been attributed to prevent the spread of infection as a part of protective mechanism.

The treatment of appendicular mass is taking a turn from traditional approach of immediate or interval appendectomy to only conservative management. However this change is not widely accepted and a large number of surgeon still continue to adopt same traditional approach.

In the present study after admission the patients were given conservative ochsner-sherren regimen and those who responded to this regimen were discharged and followed up for a period of 9 month.

AGE AND GENDER INCIDENCE

In our study the mean age of the patients was (36.2) ranging from (16-66 years) Majority of the patients (41.1%) belong to age group of 31-40 years with male to female ratio is 2.3:1, which shows male dominance which is consistent with previous studies. **Ajaz Ahmad Malik et al⁹** reported the age range in there study to be from 15-63 year with maximum incidence in second and third decade with male predominance which is much similar to our study. **Bhandari et al¹⁰** reported similar age range in there study to be from 11-80 years with maximum incidence noted in third decade.

Clinical signs and symptoms

- Pain in right lower quadrant in our study was found in all 90 cases (100%) almost similar was reported in **Ajaz Ahmad Malik et al⁹** (100%) and **Jiban Debnath et al¹¹** (100%) study
- In our study anorexia was seen in 91.1% patients which is almost similar (79.8%) to **Ajaz Ahmad Malik et al⁹** and **Jiban Debnath et al¹¹** (84%) study.
- Fever was present in 62.2% of cases in our study which is in similar range to **Ajaz Ahmad Malik et al⁹** study (53%) and **Jiban Debnath et al¹¹** study (54%)
- Palpable lump was present in 100% in our study which is similar to other studies
- Leucocytosis was present in 82.2% of patients in our study at the time of admission which is similar to **Ajaz Ahmad Malik et al⁹** study (79.8%).

From the above results we can report that the finding of sign, symptoms and investigation of patients who had recurrence in our study is much similar to other study and there is no clinical difference in the presentation of primary cases and those who had recurrence. The success rate of initial conservative management varies between 76-97%. In our study out of total 90 patients of appendicular lump recurrence was seen in only 17 cases (18.9%) and underwent appendectomy and remaining 73 cases were managed conservatively. The success rate of our study is 81.1% which is almost similar to success rate of other studies like **Ajaz Ahmad Malik et al⁹** (success rate 86.8%), **Roland E Andreson et al¹²** (success rate 92.8%), **A Tekin et al¹³** (success rate 85.4%), **Bhandari R S et al¹⁰** (success rate 93%). From our study we can also report that majority of recurrence occurred within first 6 month and there after the recurrence rate is low. Mean hospital stay in our study was 9.7 days after conservative management. In a study by **Brown CV et al¹⁴** he reported a mean hospital stay of 10.7±5.4 days. **Surana R et al¹⁵** reported a mean hospital stay of 9.7 days. **Foran B et al¹⁶** reported a mean hospital stay of 7.2 days. **Erdogan D et al¹⁷** reported a mean hospital stay of 8.9±2.6 days. According to the results of our study, most of the patients were managed successfully by conservative approach with only few needing surgery for recurrence.

CONCLUSION

Majority of the patients with appendicular mass who responded to initial conservative management did not report with recurrent symptoms of appendicitis and were managed successfully without appendectomy. Appendectomy should be offered selectively to those who do not respond to initial conservative management or to those who have recurrent attack of appendicitis.

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