

Comparative Study of Non-operative versus Operative Management of Appendicular Lump in Maharashtra Population

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Abstract

Background: Acute appendicitis is one of the most common acute surgical conditions of the abdomen and appendicular lump is formed, if the treatment is delayed. There is no clear standardized approach with abscess or phlegmon. Hence, different therapy would be useful and cost effective.

Materials and Methods: 60 patients aged between 20 and 40 years were studied. The patients classified into Group-I – emergency surgery group 19 (31.6%) and Group-II had conservative treatment – 41 (68.3%) (a) surgery after certain time (II A), (b) ambulatory follow-up (II B), and (c) underwent appendectomy (II C).

Results: The clinical manifestations were compared – Duration of symptoms 6.58 in Group-I, 9.48 in Group-II, body temperature (c) 39% in Group-I, 37.7 group to heart rate (pulse/min) 87.4 in Group-I, and 85.7 in Group-II in Group-II. Size of abscess 3.42 in Group-I, 4.98 in Group-II, in the comparison of surgical outcome between emergency and delayed operation groups. 13 appendectomy in Group-II, 24 in Group-II, Ileostomy was 5 in Group-I, 2 in Group-I right hemicolectomy 1 in Group-I, 2 in Group-II. Duration of operation 107.66 in Group-I, 89.18 in Group-II, post-operative complication 2 in Group-I, 6 in Group-II, and post-operative stay 9.31 in Group-I, 9.46 in Group-II.

Conclusion: Early surgical exploration confirms the diagnosis and cures the problem; reduce the cost of management with satisfactory outcome.

Key words: Appendectomy, Appendicular lump, Conservative treatment, Emergency, Non-operative

INTRODUCTION

Appendicitis is probably the most common surgical emergency worldwide and one in ten people will have appendicitis during their life time.^[1] Although appendectomy is a routine surgical procedure with low mortality, it can be associated with post-operative morbidity.^[2] It is described that relationship between appendix and pelvic abscess, which results in high mortality. In the absence of antibiotics appendectomy can reduce the risk of uncontrolled pelvic infection to

save lives.^[3] In the post decades, conservative treatment has seemed to be safe and may represent an effective first line of treatment for appendicitis, although with an unknown long-term risk of recurrence or other complications.^[4]

In consideration of the lifetime incidence of appendicitis, the choice of treatment may have the potential to impact too many patients. The aim of the present study was to compare non-operative versus operative management of appendicular lump.

Observation and Results

- Duration of symptoms 6.58 in emergency and 9.48 in non-operative (Group-II) group
- Body temperature 39.1 in emergency group 37.7 in non-operative group (Group-II)
- Heart rate 87.46 in emergency group 85.71 in non-operative group

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- d. WBC count 13.254 in emergency group, 13.2012 in non-operative group in size of abscess 3.42 in Group-I, 4.98 in Group-II.

Table 2: Comparison of surgical outcome between emergency and delayed operative group.

1. Appendectomy – 13 patients in emergency group, 25 patients in delayed operation group
2. Ileostomy 5 in emergency group and 3 in delayed operation group
3. Right hemicolectomy 1 in emergency, 2 in Group-II (delay operation)
4. Duration of operation (minutes) 107.66 in emergency group, 89.18 in delayed group
5. Post-operative complications two patients in emergency group, six patients in delayed post-operative group
6. Post-operative stay – 9.31 in emergency group, 9.46 in delayed operation group.

MATERIALS AND METHODS

Sixty patients aged between 20 and 40 years attending surgical OPD Institute of Medical Sciences and research Mayani Maharashtra-415102 were studied.

Inclusive Criteria

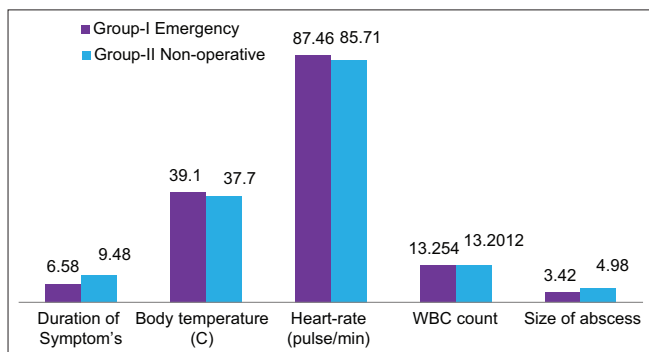
The patients diagnosed having appendicitis by physical examination and USG study were selected for study.

Exclusion Criteria

The patient’s previously undergone abdominal surgery for appendicitis and patients having cardio-vascular, renal diseases. Malignancy in abdomen was excluded from the study.

Table 1: Comparative study of clinical manifestations between both emergency and non-operative group

| Sl. No | Clinical manifestations | Group-I emergency | Group-II Non-operative |
|--------|-------------------------|-------------------|------------------------|
| 1. | Duration of Symptom’s | 6.58 | 9.48 |
| 2. | Body temperature (C) | 39.1 | 37.7 |
| 3. | Heart-rate (pulse/min) | 87.46 | 85.71 |
| 4. | WBC count | 13.254 | 13.2012 |
| 5. | Size of abscess | 3.42 | 4.98 |



Method

Patients undergone emergency surgery for appendicitis was classified as Group I (19 patients). Patients treated with conservative treatment (management) by usage of antibiotics with or without ultrasound guided percutaneous drainage were conservation treatment are Group-II which was sub-divided into internal surgery group in which patients had surgery at certain time after initial treatment is classified as Group-II A. The ambulatory follow-up observation continuously are Group-II B and those patients and underwent appendectomy for recurrent appendicitis are classified as Group-II C.

Group-I

Nineteen patients had major symptoms were pain and vomiting 15 (78.9%), 2 (10.7%) had fever mass in the right lower abdomen. Two (10.7%) Patients were diabetic apart from symptoms of appendicitis.

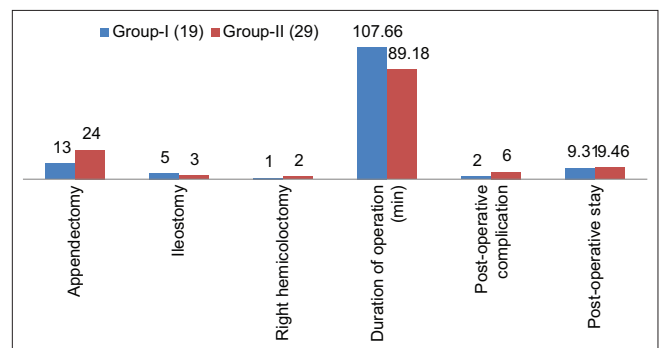
Group-II

Forty-one (68.3%) patients having clinical symptoms of non-operative management. The clinical features were fever, abdominal distension and heart burn among them 9 (21.9%) patients had HTN, 7 (17%) had type-II DM and 4 (9.75%) patients had tuberculosis and other respiratory diseases.

USG and routine blood examination were carried out in each patient. The clinical characteristics of patients, type of surgery, follow-up, and observations were analyzed on the basis of medical records.

Table 2: Comparison of surgical out come between emergency and delayed operation groups

| Sl. No. | Surgery details | Group-I (19) | Group-II (29) |
|---------|-----------------------------|--------------|---------------|
| 1. | Appendectomy | 13 | 24 |
| 2. | Ileostomy | 5 | 03 |
| 3. | Right hemicolectomy | 1 | 02 |
| 4. | Duration of operation (min) | 107.66 | 89.18 |
| 5. | Post-operative complication | 2 | 6 |
| 6. | Post-operative stay | 9.31 | 9.46 |



Classification

- Group-I Emergency surgery group 19 (31.6%) patients
- Group-II conservative treatment 41 (68.3%) patients.

Group-II: (a) Surgery after certain time 2A, (b) Ambulatory follows up 2B, (c) Underwent appendectomy 2C.

The duration of surgery was from August-2013 to July-2019.

Statistical Analysis

Clinical manifestations and surgical outcome between both groups were analyzed. The statistical analysis was carried out in SPSS software. The ratio of males and females was 2:1.

DISCUSSION

The present comparative study of non-operative versus operative management of appendicular lump: the duration of symptoms 6.58 in Group-I (emergency group), 9.48 in non-operative group (Group-II), body temperature in Group-I, 37.7 heart rate 39.1 (pulse/min) 87.4 in Group-I, and 85.7 in non-operative group. WBC count 13.254 in Group-I, 13.2012 in Group-II, size of abscess 3.42 in Group-I, and 4.98 in Group-II [Table 1]. Comparison of surgical outcome between emergency and delayed operation groups: Appendectomy 13 in Group-I, 24 in Group-II, Ileostomy 5 in Group-I, 3 in Group-II, right hemicolectomy 1 in Group-I, and 2 in Group-II. Duration of operation 107.66 in Group-I, 87.18 in Group-II, post-operative complication 2 in Group-I, 6 in Group-II, Post-operative stay 9.31 in Group-I, and 9.46 in Group-II [Table 2]. These findings are more or less in agreement with the previous studies.^[5-7]

Obstruction of appendiceal lumen leads to increasing intraluminal pressure, which can be caused by fecalith, foreign body, lymphoid hyperplasia, or malignancy. As intraluminal pressure rises, it eventually surpasses that of the appendiceal veins, leading to outflow obstruction. Venous congestion, loss of epithelial integrity, and bacterial invasion of the appendiceal wall with continued obstruction, intraluminal pressures may eventually surpass appendiceal ischemia and necrosis, with possible perforation and development of gangrene of the appendix.^[8] Acute appendicitis surgery has shifted to laparoscopic appendectomy and is accepted as the gold standard treatment since the early 1990s. Hence, the rate of complicated appendicitis increases as compared to uncomplicated cases,^[9] because neither clinical findings nor laboratory markers are reliable enough

to estimate the severity of acute appendicitis, therefore, the roles of CT in identifying complicated and uncomplicated acute appendicitis have pivotal importance.

It is reported that the risk associated with surgical therapy of complicated appendicitis has included non-operative management with intravenous antibiotics and interval appendectomy once inflammation has subsided to perform operation safely. It is confirmed that failure of non-operative management necessitates bowel resection. It indicates that early surgery would have saved bowel resection; on the other hand, use of antibiotics and planning on interval appendectomy in cases of complicated appendicitis seems to be successful. In the majority of cases of complications, such as abscess formation or re-admission before planned interval appendectomy, contributed to certain clinical indicators or bad progress.^[10]

SUMMARY AND CONCLUSION

The present comparative study of non-operative versus operative management has proved that non-operative management of complicated appendicitis has significant failure rates when compared to immediate surgical management of complicated appendicitis. Hence, immediate surgical management in complicated appendicitis is proved beneficial. However, this study demands further genetic, nutritional, angiological, pathophysiological, and pharmacological studies because the exact pathogenesis of appendicitis is still unclear.

This research was approved by the Ethical Committee of the Institute of Medical Science and Research, Maharashtra – 415102.

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