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Original Research

Evaluation of cases of complicated and uncomplicated appendicitis-A clinical study

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ABSTRACT:

Background: The present study was conducted to determine the outcome of cases of complicated and non complicated appendicitis appendectomy. **Materials & Methods:** The present study was conducted in 120 cases of appendicitis in the department of general surgery. Group I had cases of uncomplicated appendicitis and group II had complicated appendicitis. Factors such as symptom, surgical findings and length of hospital stay were noted. **Results:** Out of 120 patients, group I had 70 cases and group II had 50 cases. There were 30 males and 40 females in group I and 28 males and 22 females in group II. The mean age was 31.4 ± 2.1 years and 35.8 ± 1.8 years in both groups respectively. Pre hospital time in group I was 1232.8 ± 13.42 minutes and 2846.5 ± 20.6 minutes in group II. In hospital time was 432.2 ± 110.6 minutes and 430.3 ± 124.5 minutes in both groups respectively. Overall time (hours) was 30.2 and 52.6 in both groups. Duration of operation (hours) was 24.6 and 36.4 in both groups. Duration of hospital stay (days) was 3.6 ± 1 and 4.8 ± 0.8 in both group respectively. The difference was significant ($P < 0.05$). **Conclusion:** Authors found that complicated appendicitis has more pre hospital time, hospital stays, duration of operation as compared to uncomplicated appendicitis.

Key words: Appendicitis, Complicated Appendicitis, Uncomplicated appendicitis

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INTRODUCTION

Acute appendicitis is the most common surgical acute abdominal disease, and its lifetime incidence is approximately 7% to 9%. According to clinical features and pathological anatomy changes, it is divided into acute simple appendicitis, acute purulent appendicitis, acute gangrenous or perforated appendicitis, and peri-appendiceal abscess.¹ In present literatures, the first 2 types of pathology have often been called uncomplicated appendicitis (UA), and the latter two have been called complicated appendicitis (CA) or progressive appendicitis. CA accounts for 20% to 30% of acute appendicitis cases, while UA accounts for 68% to 90% of cases in children.²

Clinical features comprised of abdominal pain, nausea, vomiting, and decreased appetite are common symptoms. Severe complications of a ruptured appendix include widespread, painful inflammation of the inner lining of the abdominal wall and sepsis. The classification of the disease according to stage of evolution is important to assess severity and prognosis, as well as allowing the development of therapeutic management protocols and research.³ Appendectomy may be performed laparoscopically or as open operation. Recovery may be a little quicker with laparoscopic surgery; the procedure is more expensive and resource-intensive than open surgery and generally takes a little longer. It has additional risks associated with pneumoperitoneum. Advanced pelvic sepsis

occasionally requires a lower midline laparotomy.⁴ The present study was conducted to determine the outcome of cases of complicated and non complicated appendicitis appendectomy.

MATERIALS & METHODS

The present study was conducted in 120 cases of appendicitis in the department of general surgery. Ethical clearance was taken from institutional ethical

committee. All patients were informed regarding the study and written consent was obtained.

Data pertaining to patients were recorded. Patients were divided into 2 groups. Group I had cases of uncomplicated appendicitis and group II had complicated appendicitis. Factors such as symptom, surgical findings, postoperative complications, and length of hospital stay were also noted. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

| Total- 120 | | |
|------------|---------|----------|
| Groups | Group I | Group II |
| Number | 70 | 50 |
| Male | 30 | 28 |
| Female | 40 | 22 |

Table I, graph I shows that out of 120 patients, group I had 70 cases and group II had 50 cases. There were 30 males and 40 females in group I and 28 males and 22 females in group II.

Graph I Distribution of patients

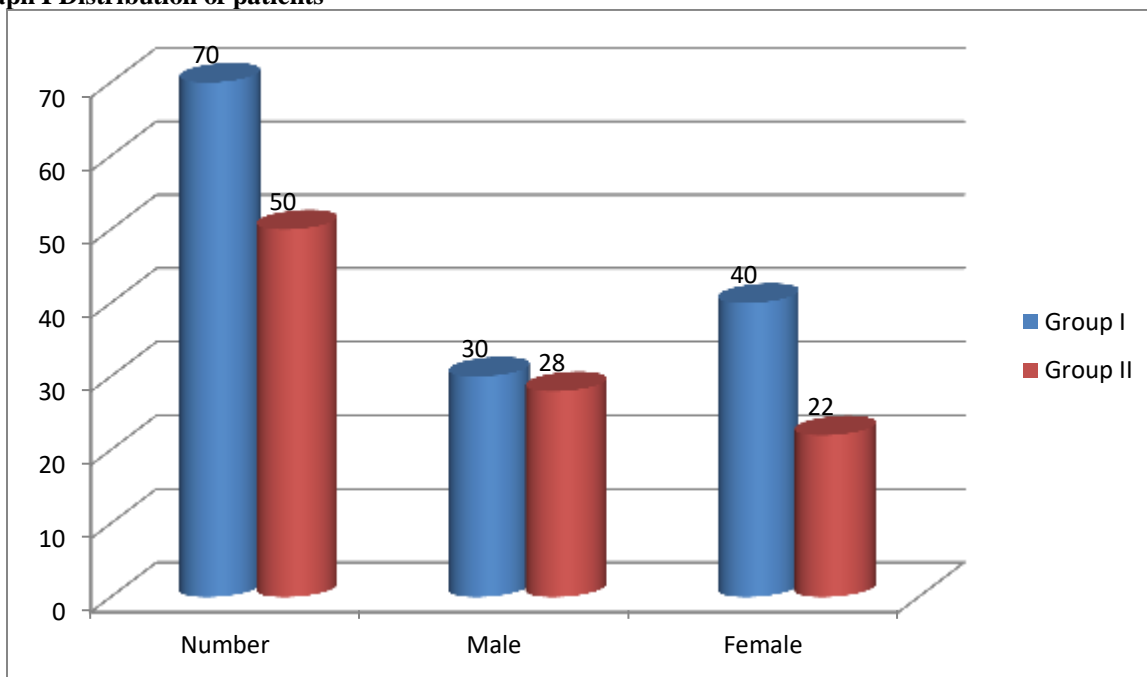
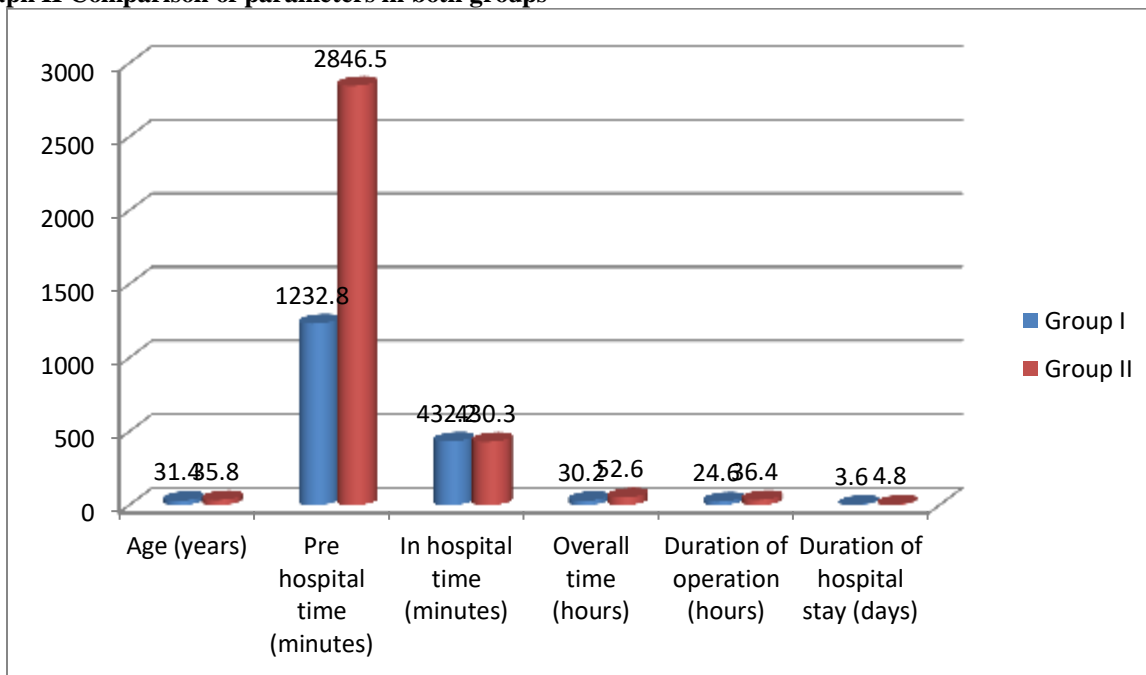


Table II Comparison of parameters in both groups

| Parameters (Mean) | Group I | Group II | P value |
|----------------------------------|---------------|--------------|---------|
| Age (years) | 31.4± 2.1 | 35.8± 1.8 | 0.72 |
| Pre hospital time (minutes) | 1232.8± 13.42 | 2846.5± 20.6 | 0.02 |
| In hospital time (minutes) | 432.2± 110.6 | 430.3± 124.5 | 0.91 |
| Overall time (hours) | 30.2 | 52.6 | 0.01 |
| Duration of operation (hours) | 24.6 | 36.4 | 0.05 |
| Duration of hospital stay (days) | 3.6± 1 | 4.8± 0.8 | 0.01 |

Table II, graph II shows that mean age was 31.4 ± 2.1 years and 35.8 ± 1.8 years in both groups respectively. Pre hospital time in group I was 1232.8 ± 13.42 minutes and 2846.5 ± 20.6 minutes in group II. In hospital time was 432.2 ± 110.6 minutes and 430.3 ± 124.5 minutes in both groups respectively. Overall time (hours) was 30.2 and 52.6 in both groups. Duration of operation (hours) was 24.6 and 36.4 in both groups. Duration of hospital stay (days) was 3.6 ± 1 and 4.8 ± 0.8 in both group respectively. The difference was significant ($P < 0.05$).

Graph II Comparison of parameters in both groups



DISCUSSION

The first successful recorded case of appendectomy was at St. George’s Hospital in London, when French surgeon Claudius Amyand described the presence of a perforated appendix within the inguinal hernial sac of an 11-year-old boy. The organ had apparently been perforated by a pin the boy had swallowed.⁵ Many studies support emergency appendectomy. However, there is evidence that delayed appendectomy is acceptable and some studies have reported that it is not associated with a higher rate of complications.⁶ Recovery time from the operation varies from person to person. Some take up to three weeks. In the case of a laparoscopic operation, the patient has three stapled scars of about an inch in length, between the navel and pubic hair line appendix becomes more swollen and inflamed, it begins to irritate the adjoining abdominal wall.⁷ The present study was conducted to determine the outcome of cases of complicated and non complicated appendicitis appendectomy.

In this study, out of 120 patients, group I had 70 cases and group II had 50 cases. There were 30 males and 40 females in group I and 28 males and 22 females in group II. CA is defined as irreversible appendicitis in some articles, because CA (acute gangrenous or perforated appendicitis) is difficult to cure by

conservative treatment.⁸ According epidemiology, immunology, and pathology data, some scholars have consider that appendicitis is not necessarily a progressive disease, and they considered that CA and UA are different diseases developed by different causes. The results of the bacterial culture of ascites and fluid in the appendiceal cavity of these 2 types of appendicitis patients were significantly different. Furthermore, there was a higher positive rate of culture in CA.⁹

We found that mean age was 31.4 ± 2.1 years and 35.8 ± 1.8 years in both groups respectively. Pre hospital time in group I was 1232.8 ± 13.42 minutes and 2846.5 ± 20.6 minutes in group II. In hospital time was 432.2 ± 110.6 minutes and 430.3 ± 124.5 minutes in both groups respectively. Overall time (hours) was 30.2 and 52.6 in both groups. Duration of operation (hours) was 24.6 and 36.4 in both groups. Duration of hospital stay (days) was 3.6 ± 1 and 4.8 ± 0.8 in both group respectively. Kang et al¹⁰ included 238 patients with acute appendicitis which included 18 patients with acute simple appendicitis (7.6%), 170 patients with acute purulent appendicitis (72.0%) and 48 patients with acute gangrene and perforation (20.3%). The clinical manifestations and inflammatory reaction indicators were analyzed. Results showed that the cut-off value of

the abdominal pain score was 7 while the abdominal pain duration was 32 hours. And the cut-off value of the highest body temperature, the peripheral white blood cell (WBC) count, neutrophil (NE%), NLR, CRP, and PCT were 37.9 °C, $13.66 \times 10^9/L$, 85.2%, 10.9, 66.1 mg/L, and 0.48 ng/mL, respectively.¹¹

The standard treatment for appendicitis is an appendectomy, a surgical procedure to remove the appendix. If it is not done within 24 to 72 hours after symptoms begin — the organ may rupture, or burst. The result is a perforated appendix. Simple, focal, or suppurative appendicitis are uncomplicated appendicitis and gangrenous, perforated appendicitis, and periappendiceal abscess formation is complicated appendicitis.

CONCLUSION

Authors found that complicated appendicitis has more pre hospital time, hospital stays, duration of operation as compared to uncomplicated appendicitis.

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