



## Outcomes of Early Surgical Intervention in Appendicitis: A Retrospective Cohort Study in Multiple Large Hospitals in Baghdad

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**Abstract:** **Background:** Appendicitis is a public and crucial surgical condition that necessitates prompt intervention to avert severe difficulties. **Objectives:** This scholarship aims to evaluate the efficacy of surgical treatment as the gold standard for dealing with appendicitis. **Methods:** A total of 66 patients with appendicitis in many hospitals in Baghdad were involved in the study. The patients endured appendectomy, either through open surgery or laparoscopic practices. Data were gathered on patient demographics, symptoms, analysis, surgical consequences, and postoperative recovery. **Results:** The results confirmed a high achievement rate of appendectomy in handling appendicitis, with minimal problems and favourable outcomes. The complications particularly wound infections was documented, where in current study also reported a wound infection of 20% among the patients who underwent surgical therapy, 75% among those that had late surgery, and 17.5% among early surgical intervention. **Conclusion:** Laparoscopic surgery was linked with shorter hospital delays, reduced postoperative pain, and quicker homecoming to normal activities associated with open surgery. This study highlights the importance of prompt diagnosis and prompt surgical intervention in achieving optimal results for patients with appendicitis in Baghdad. The results support the constant use of surgical treatment as the gold standard for appendicitis management.

**Key Words:** Appendicitis, Appendectomy, Surgical Management, Acute Appendicitis, Gold Standard Treatment

### INTRODUCTION

The infection of the appendix, a minor pouch off the large intestine, is termed appendicitis. This communal condition frequently needs surgery and is characteristically caused by obstructions from fecal matter, foreign objects, or enflamed lymphatic tissue with bacterial progression, though tumors can also be regarded as a cause [1].

Appendicitis can strike anyone, but it's most common in those between 10 and 30. It frequently presents with unexpected, intense abdominal discomfort, initially near the tummy button before shifting to the inferior right side. Nausea, vomiting, reduced appetite, and fever are likewise typical. Untreated appendicitis can rupture, causing life-endangering peritonitis. [2].

Appendicitis is a global health issue, but its prevalence varies by region. In the United States, for example, approximately 5% of the population will experience appendicitis at some point in their lives. In Baghdad and other regions of Iraq, the incidence rates may be influenced by factors such as access to healthcare, dietary habits, and

genetic predispositions. However, comprehensive epidemiological data specific to Baghdad may be limited. [3] The standard treatment for appendicitis involves the surgical removal of the appendix, a procedure known as an appendectomy. Medical advancements have led to the frequent use of laparoscopic surgery, which is a less invasive alternative to traditional open surgery and offers a faster recovery period. Swift diagnosis and immediate surgical intervention are critical in preventing complications and ensuring that patients with appendicitis have a positive prognosis. [4].

### Importance of Surgical Intervention as a Curative Treatment

Surgically removing the appendix (appendectomy) is considered the final answer for appendicitis because it completely eliminates the source of the problem. This prevents dangerous issues like rupture, peritonitis and abscesses. Surgery likewise quickly affluences symptoms, recovers the patient's welfare, and reduces their hospital stay. Modern laparoscopic operation has meaningfully improved

appendectomy, making it the preferred technique [5]. In finale, operating intervention for appendicitis is fundamental due to its capacity to provide final treatment, prevent grave complications, offering rapid assistance from symptoms. The extraordinary success rate and progressions in surgical practices further highlight its importance as the therapeutic approach for this communal condition [6].

**Objectives**

- To assess the effectiveness of an early surgical intervention for acute appendicitis in hospitals in Baghdad
- To examine the results and complications related to the surgery

**METHODS**

**Study Design**

This research employed a retrospective cohort design to assess the outcomes of early surgical intervention in patients diagnosed with appendicitis. The study took place in the surgical departments of multiple hospitals in Baghdad, Iraq, between October 2024 and February 2025.

**Sample Selection**

A total of 66 patients diagnosed with appendicitis were included in the study. Inclusion criteria were patients of all ages who presented with clinical signs and symptoms of appendicitis and were subsequently diagnosed based on clinical, laboratory, and imaging findings. Patients who had previous abdominal surgery, underlying chronic diseases, or incomplete medical records were excluded from the study. All patients who fulfilled the above inclusion and exclusion criteria were included in the study, provided their records were clear and well-documented.

The sample size will be better if it is larger; however, the period taken to prepare this research was short. The sample covers both sexes in comparable numbers, with a rational percentage for those who underwent early versus those who underwent late intervention, which is comparable to the results written in other articles.

**Data Collection Procedure**

The study was conducted among 66 patients with acute appendicitis diagnosed with the help of clinical examination and imaging tests which usually include erect abdominal XR, and ultrasonic examination. The clinical symptoms were recorded.

Certain demographic profiling information were also collected like: Age, gender, Clinical presentation (Abdominal pain, anorexia, fever, vomiting, nausea), Treatment approach (Early surgical intervention, late surgical intervention, conservative management), Postoperative outcomes (Wound infection, recovery time, hospital stay duration), Complications (Presence of perforation, abscess formation). All 66 patients underwent an appendectomy and were followed up in the hospital to observe immediate complications. All patients have received

3 to 5 days of antibiotics and regular treatment. Appropriate treatment was given whenever complications were noted.

**RESULTS**

Out of 66 patients, 42.4 % were male and 54.5% were female. All 66 patients (100%) complained of abdominal pain, 12.8% had anorexia, 37.8% had a fever, 54% suffered from continuous vomiting, and 34% had nausea (Table 1, Figure 1).

Table 1: The Statistical Information Regarding Gender, Type of Management (Surgical or Conservative) of the Patients Under Study, and Timing of Surgical Intervention, if any

Number of patients (n.)	Percentage	Category	Total
28	42.4	Male	100%
36	54.5	Female	
57	86.7	Early surgery	100%
4	6.7	Late surgery	
4	6.7	Conservative management	

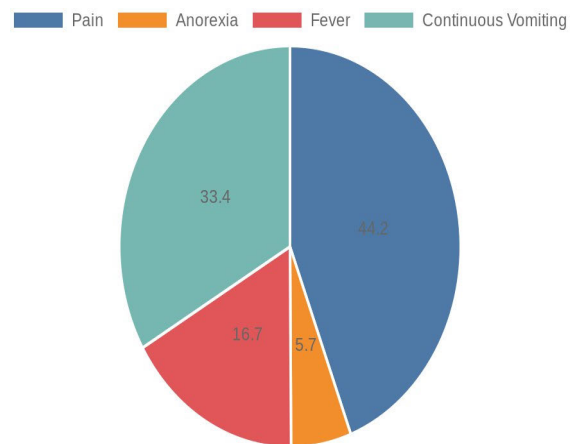


Figure 1: The Distribution of the Presenting Symptoms

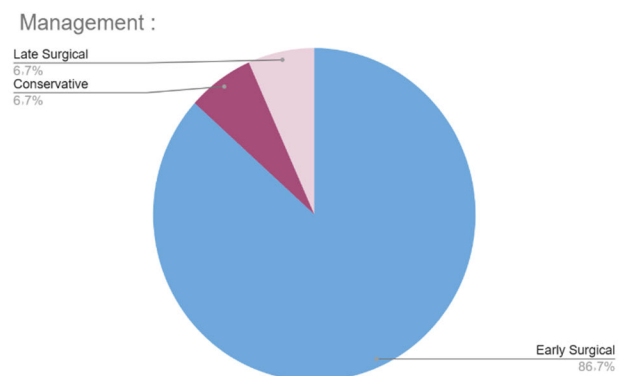


Figure 2: The Percentage of Patients who Received Early Treatment, Late Treatment, and Conservative Management. The Study also Noted a Wound Infection Rate of 20% for Patients who Underwent Surgical Intervention, 75% for those who Had Late Surgery, and 17.5% for Those who Received Early Surgery. This Indicates that Complications from Appendectomy, Particularly Wound Infections, are More Prevalent with Delayed Surgical Intervention

Patients diagnosed with appendicitis were included in the study. Figure 2 showed the classification of the patients according to the method of treatment.

In which 86.7% (n = 57) underwent early surgical intervention. The early surgery group showed a significantly higher rate of successful outcomes, with the majority of patients experiencing rapid recovery and minimal postoperative complications.

Conversely, 6.7% (n = 4) of the patients underwent late surgical intervention. This group generally exhibited more complications and longer hospital stays compared to the early surgery group. The postponement in surgery is often correlated with more unadorned symptoms and the occurrence of complications like perforation or abscess development.

Exciting result in that, 6.7% (n = 4) of the study group were treated conservatively without the necessity for surgical treatment. These patients presented with mild symptoms, which resolved with antibiotics and with supportive measures. The success of conservative treatment in this subgroup suggests that non-surgical therapy may be viable for certain patients with mild appendicitis.

These findings highlight the benefits of abrupt surgical intervention in cases of appendicitis, demonstrating an overt advantage in terms of outcome and recovery period. Moreover, the result indicates that conservative therapy may be an effective method in certain situations.

## DISCUSSION

In the current study, 54.5% of the 66 patients diagnosed with acute appendicitis were females. The majority of the patients were aged between 6 and 34 years. All 66 patients (100%) reported sudden abdominal pain, while 12.8% complained of anorexia, 37.8% had a high temperature, 54% suffered from continuous vomiting, and 34% reported associated nausea. These results highlight the differences in the clinical presentation of the disease and the importance of thorough clinical assessments [6].

The current study also reported a wound infection of 20% among the patients who underwent surgical therapy, 75% among those who had late surgery, and 17.5% among those who had early surgical intervention, with a statistically significant difference according to the Student's T-test, with a p value taken to be significant if less than 0.05%. This indicates the complications from appendectomy, particularly the wound infections, are more obvious with delayed surgery. These results highlight the critical importance of timely surgical intervention, to minimize postoperative complications and show the potential risks that may occur with delaying appendectomy [7].

The findings highlight the importance of early surgical treatment in patients with appendicitis. Of the 66 patients who were included in the study, 86.7% (n = 57) were treated with early surgery, which gave significantly better outcomes, with faster recovery and much fewer postoperative complications. The high rate of success in the early surgical group illustrates the importance of prompt surgical

procedures in reducing morbidity and improving patients' recovery [8].

On the contrary, 6.7% (n = 4) of the patients established late surgical interference, which was associated with a complex incidence of complications, mainly wound infections. This advises that postponements in surgery can lead to poorer clinical outcomes. These results are consistent with earlier research that highlights the risks related to late appendectomy, such as the progression of complications, such as perforation and abscess formation [9].

Notably, 6.7% (n = 4) of the cases were managed conservatively without surgery. These patients expressed mild symptoms, which were successfully treated with antibiotics and supportive measures. The positive results of conservative treatment in this subgroup indicate that non-surgical therapy might be advised for certain patients with mild appendicitis symptoms. However, further refinement criteria for conservative management is important to guarantee optimal patient selection and results [10,11].

## CONCLUSION

This study highlights the considerable advantages of early surgical intervention for patients with appendicitis, showing better patient outcomes and fewer complications in comparison to late surgery. The findings were advised for prompt appendectomy as the standard therapy for managing appendicitis, more importantly, in cases with obvious clinical indications. Moreover, conservative treatment may be a suitable option for certain patients who present with mild symptoms.

## Recommendation

Educating the patients about how important the early medical consultation and potential risks associated, in case of delaying treatment, which can contribute to improved outcomes. Further study, including a larger sample size and many hospitals in different cities, is recommended. The study highly recommended that the Ministry of Health to provide the hospitals in all cities with laparoscopic equipment.

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