

## **ASSESSMENT OF THE OUTCOME OF EARLY APPENDECTOMY AMONG CASES OF THE APPENDICULAR LUMP AT A TERTIARY CARE CENTER**

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### **ABSTRACT**

**Background:** An appendicular lump presents in the right iliac fossa usually after 48-72 hours of first sign and symptoms of acute appendicitis. The lump usually develops when appendicitis is followed by an obstruction in the lumen of the appendix. The decision for surgical intervention on a patient with an appendicular lump can therefore be published as a research study that how various factors are associated with surgical decision-making. **Material & Methods:** A total of 40 patients had developed an appendicular lump within 3 to 8 days after acute appendicitis. Patients of 11 to 18 years of age who had been admitted to the pediatric surgery department were enrolled by simple random sampling. Clearance from Institutional Ethics Committee was taken before the start of the study. Initially Informed and written individual consent was taken from each and every patient/parent included in the study. **Results:** In the present study among group I, out of 20 patients, 18 patients were discharged from the hospital without any complications, only 01 patient have developed wound infections and only 01 patient had developed fecal fistula in the post-operative period. In group II, out of 20 patients, 12 patients were needed exploration who was progressed to complications and 08 patients were continued the conservative treatment those were progressed to resolving the lump. In group II, 06 patients were developed wound infections, 04 patients were developed paralytic ileus and 02 patients were developed fecal fistula in the post-operative period. This difference between the two groups was statistically significant (P-value < 0.05). The duration of stay is shorter among group I patients and the difference between the two groups was statistically significant (P-value < 0.05). **Conclusion:** We concluded from the present study that early surgical exploration of appendicular lump cures the problem, reduces the cost of management and shortens the period of hospital stays with a reasonably satisfactory outcome.

**Keywords:** Abdominal lump, Appendicitis, Appendicectomy.

### **INTRODUCTION**

The global prevalence of acute appendicitis is approximately 7% of the total population. Acute appendicitis is one of the leading causes of acute abdomen pain which requires surgical intervention. Appendicular mass is the common complication usually seen in patients presenting a few days after the first onset of acute appendicitis or a failure of diagnosis. The peak incidence of acute appendicitis is around 15 years among boys and 10-14 years among girls (1). The treatment of choice for acute appendicitis is appendectomy. The benefits of early

and prompt diagnosis of acute appendicitis significantly eliminate the risk of anticipated complications such as sepsis, perforation, and death (2). The sequel of delay in the management of acute appendicitis or diagnosis delay leads to appendicular mass (3).

Important associated factors which should be considered are the safety of diagnostic procedures and treatment alternatives as well as their impact on the patient's safety, outcome, quality-of-life, long-

term survival, and health economics (4). Acute appendicitis is one of the surgical emergencies and requires effective health care, early diagnosis, and rapid intervention with effective decision-making. Effective health care implies careful consideration of all associated factors before the final decision (5). The intervention related to surgical treatment in cases with suspected appendicitis involves high diagnostic accuracy, associated co-morbidities, patient's age, patient's consent, the surgeon's core medical values, priority considerations related to the use of limited resources, and expected natural course of non-operative management (6).

An appendicular lump presents in the right iliac fossa usually after 48-72 hours of first sign and symptoms of acute appendicitis. The lump usually develops when appendicitis is followed by an obstruction in the lumen of the appendix. Some studies reported that the prevalence of Appendicular lumps is 2-6% (7). The previous researches on appendicular lump are very useful and a reference for new surgeons. The decision for surgical intervention on a patient with an appendicular lump can therefore be published as a research study that how various factors are associated with surgical decision-making. Hence the present study was conducted to evaluate the outcome of early appendectomy among cases of the appendicular lump at the tertiary care center.

## MATERIALS & METHODS

The present cross-sectional observational study was conducted at the department of pediatric surgery of our tertiary care hospital. The study duration was of two years from June 2018 to May 2020. A sample size of 40 was calculated at a 95% confidence interval at a 5% acceptable margin of error by epi info software version 7.2. A total of 40 patients who had developed an appendicular lump within 3 to 8 days after acute appendicitis. Patients of 11 to 18 years of age who had been admitted to the pediatric surgery department were enrolled by simple random sampling. Clearance from Institutional Ethics Committee was taken before the start of the study. Initially Informed and written individual consent was taken from each and every patient/parent included in the study.

Detailed demographic history including age, sex, etc. along with the presenting complaints has been noted. Past history of the patient included any history of previous episodes of pain were also recorded. Dietary history along with diet was recorded. Blood pressure, pulse, and temperature were noted.

Detailed clinical systemic examination was done for the detection of the presence of lymphadenopathy and any abnormality in the cardiovascular system and respiratory system. The local examination included detection of any right inguinal tenderness. All patients were subjected to hemoglobin, complete blood cells examination, serum creatinine levels, and abdominal ultrasonography. Data analysis was carried out using SPSS v22. All tests were done at an alpha (level significance) of 5%; which means a significant association was present if the p-value was less than 0.05.

## RESULTS

In the present study, A total of 40 patients had developed an appendicular lump within 3 to 8 days after acute appendicitis. Patients of 11 to 18 years of age who had been admitted to the pediatric surgery department were enrolled by simple random sampling. Among all, 40 patients of an appendicular lump who were enrolled in the study were divided into two equal groups of 20 patients, the group I and group II. In group, I, patients who had been admitted to the hospital after 3 to 5 days of acute appendicitis was included. They have undergone an early appendicectomy. In group II, patients who had been admitted to the hospital after 6 to 8 days of acute appendicitis were included. In group II, 12 patients were operated and 08 patients were continued the treatment conservatively. The incidence of acute appendicitis was found much more in females i.e.60 % compared to only 40% in males. The mean age of study participants was  $16.1 \pm 1.6$  years. (Table 1)

**Table 1: Distribution of study participants according to age and gender.**

Parameters		No. of patients (%)
<b>Sex</b>	Male	40
	Female	60
<b>Mean age</b>	(years)	$16.1 \pm 1.6$

In the present study among group I, 20 patients were included who were admitted to the hospital after 3 to 5 days of first symptoms of acute appendicitis. The 20 patients had undergone an early appendicectomy. In group I, 12 patients was admitted at 3 days, 06 patients at 4 days, and 02 patients were admitted at 5 days after the first symptoms of acute appendicitis. Amon group II, 20

patients were included who were admitted to the hospital after 6 to 8 days of first symptoms of acute appendicitis. In group II, 10 patients were admitted at 6 days, 06 patients admitted at 7 days and 04 patients were admitted at 8 days after the first symptoms of acute appendicitis. This difference between the two groups was statistically significant (P-value < 0.05) (Table 2)

**Table 2: Distribution of patients as per the Duration of lump formation (days).**

Groups	Duration of lump formation (days)	No. of patients (%)	P value
Group I	3	12	<0.05
	4	06	
	5	02	
	6	10	
Group II	7	06	
	8	04	

In the present study among group I, out of 20 patients, 18 patients were discharged from the hospital without any complications, only 01 patient have developed wound infections and only 01 patient had developed a fecal fistula in the post-operative period. In group II, out of 20 patients, 12 patients were needed exploration who was progressed to complications and 08 patients were continued the conservative treatment those were progressed to resolving the lump. In group II, 06 patients were developed wound infections, 04 patients were developed paralytic ileus and 02 patients were developed fecal fistula in the post-operative period. This difference between the two groups was statistically significant (P-value < 0.05). The duration of stay is shorter among group I patients and the difference between the two groups was statistically significant (P-value < 0.05). (Table 3)

**Table 3: Distribution of patients based on Postoperative complications.**

Groups	Post-operative complications	No. of patients (%)	P value
Group I	No complications	18	<0.05
	Wound infections	01	
	Fecal fistula	01	
Group II	No complications	08	
	Wound infections	06	
	Paralytic ileus	04	
	Fecal fistula	02	

## DISCUSSION

In the present study, A total of 40 patients who had developed an appendicular lump within 3 to 8 days after acute appendicitis. Patients of 11 to 18 years of age who had been admitted to the pediatric surgery department were enrolled by simple random sampling. Among all, 40 patients of an appendicular lump who were enrolled in the study were divided into two equal groups of 20 patients, the group I and group II. In group, I, patients who had been admitted to the hospital after 3 to 5 days of acute appendicitis was included. They have undergone an early appendicectomy. In group II, patients who had been admitted to the hospital after 6 to 8 days of acute appendicitis were included. In group II, 12 patients were operated and 08 patients were continued the treatment conservatively. The incidence of acute appendicitis was found much more in females i.e.60 % compared to only 40% in males. The mean age of study participants was  $16.1 \pm 1.6$  years. A similar study conducted by Haque ASMR et al among 60 patients of appendicular lump found almost similar results to the present study. prevalence of appendicular lump was found more among male patients compared to female patients (8).

In the present study among group I, 20 patients were included who were admitted to the hospital after 3 to 5 days of first symptoms of acute appendicitis. The 20 patients had undergone an early appendicectomy. In group I, 12 patients were admitted at 3 days, 06 patients at 4 days, and 02 patients were admitted at 5 days after the first symptoms of acute appendicitis. Amon group II, 20 patients were included who were admitted to the hospital after 6 to 8 days of first symptoms of acute appendicitis. In group II, 10 patients were admitted at 6 days, 06 patients admitted at 7 days and 04 patients were admitted at 8 days after the first symptoms of acute appendicitis. This difference between the two groups was statistically significant (P-value < 0.05). A similar study conducted by D B Gahukamble et al among 66 children of appendicular lump found almost similar results to the present study. They reported that conservative management of appendicular mass is safe and effective among children (9).

In the present study among group I, out of 20 patients, 18 patients were discharged from the hospital without any complications, only 01 patient have developed wound infections and only 01 patient had developed a fecal fistula in the post-operative period. In group II, out of 20 patients, 12 patients were needed exploration who was

progressed to complications and 08 patients were continued the conservative treatment those were progressed to resolving the lump. In group II, 06 patients were developed wound infections, 04 patients were developed paralytic ileus and 02 patients were developed fecal fistula in the post-operative period. This difference between the two groups was statistically significant (P-value < 0.05). The duration of stay is shorter among group I patients and the difference between the two groups was statistically significant (P-value < 0.05). A similar study conducted by Derya Erdoğan et al among 66 children of appendicular lump found almost similar results to the present study. They reported that conservative management of appendicular mass is safe and effective among children. However, also advocate elective appendectomy because of the probable risk of recurrence (10).

## CONCLUSION

We concluded from the present study that early surgical exploration of appendicular lump cures the problem, reduces the cost of management, and shortens the period of hospital stays with a reasonably satisfactory outcome. Early diagnosis and early appendectomy of the appendicular lump are more beneficial to the patient. So, when there may be a suspected case of acute appendicitis or appendicular lump must be referred to where surgical facilities are available.

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