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Original Research

A Comparative Study of Open and Laparoscopic Appendectomy

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ABSTRACT:

Background: Acute appendicitis (AA) is the leading cause of surgical acute abdomen worldwide. The present study was conducted to compare open and laparoscopic appendectomy cases. **Materials & Methods:** The present study was conducted in the department of general surgery. It comprised of 84 cases of appendicitis. Patients were divided into 2 groups of 41 each. Group I underwent open appendectomy and group II underwent laparoscopic appendectomy. In both groups, length of hospital stay and any complications were recorded. **Results:** Mean age in group I was 46.3 years and in group II was 47.2 years, operative time in group I was 48.2 years and in group II was 42.5 years, hospital stay was 3.2 days and in group I and 4.6 days in group II. Wound infection was seen in 1.2 patients in group I and 3.4 in group II. **Conclusion:** Authors suggested that open and laparoscopic appendectomy can be performed in appendicitis cases. Operative time and hospital stay was less in group I than group II.

Key words: Appendicitis, Complications, Open appendectomy.

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INTRODUCTION

Acute appendicitis (AA) is the leading cause of surgical acute abdomen worldwide, with a prevalence of approximately 7% of the population. It has a peak incidence between 10-14 years in females and 15-19 in males. Appendectomy is the treatment of choice. Besides allowing definitive diagnosis, it also significantly reduces the risk of complications such as perforation, sepsis and death.[1]

The inflammation of the vermiform appendix happens mainly due to the obstruction of its lumen. From the anatomopathologic point of view, the acute appendicitis is classified as: catarrhal, phlegmonous, gangrenous and perforated.[2] These categories represent the evolutionary stages of the disease. Pain in the abdomen is the main and most frequent symptom of acute appendicitis, with classic migration from periumbilical or epigastric to location in the right iliac fossa in 75% of patients. It may occasionally be reported in other places depending on the position occupied by the cecal appendix.[3]

Appendectomy has also a complication rate ranging from 8% to 11%, depending on the surgical technique.[4] Several reports described spontaneous resolution of uncomplicated appendicitis without the need of an operation and, since the high rate of negative appendectomy and the significant complications rate, some authors proposed and advised conservative management for uncomplicated appendicitis.[5] The present study was conducted to compare open and laparoscopic appendectomy cases.

MATERIALS & METHODS

The present study was conducted in the Department of General Surgery, Govt. Medical College Datia, M.P. , India. It comprised of 84 cases of appendicitis reported to

the department. The study purpose was approved from institutional ethical committee. All patients were informed regarding the study and written consent was obtained.
Patient data related to name, age, gender etc. was recorded. Patients were divided into 2 groups of 41 each. Group I underwent open appendectomy and group II underwent laparoscopic appendectomy. In both groups, length of hospital stay and any complications were recorded. Results were tabulated and subjected to statistical analysis. P value less than 0.05 was considered significant.

RESULTS

Table I Distribution of patients

Groups	Group I	Group II
Technique	**Open**	**Laparoscopic**
Number	41	41

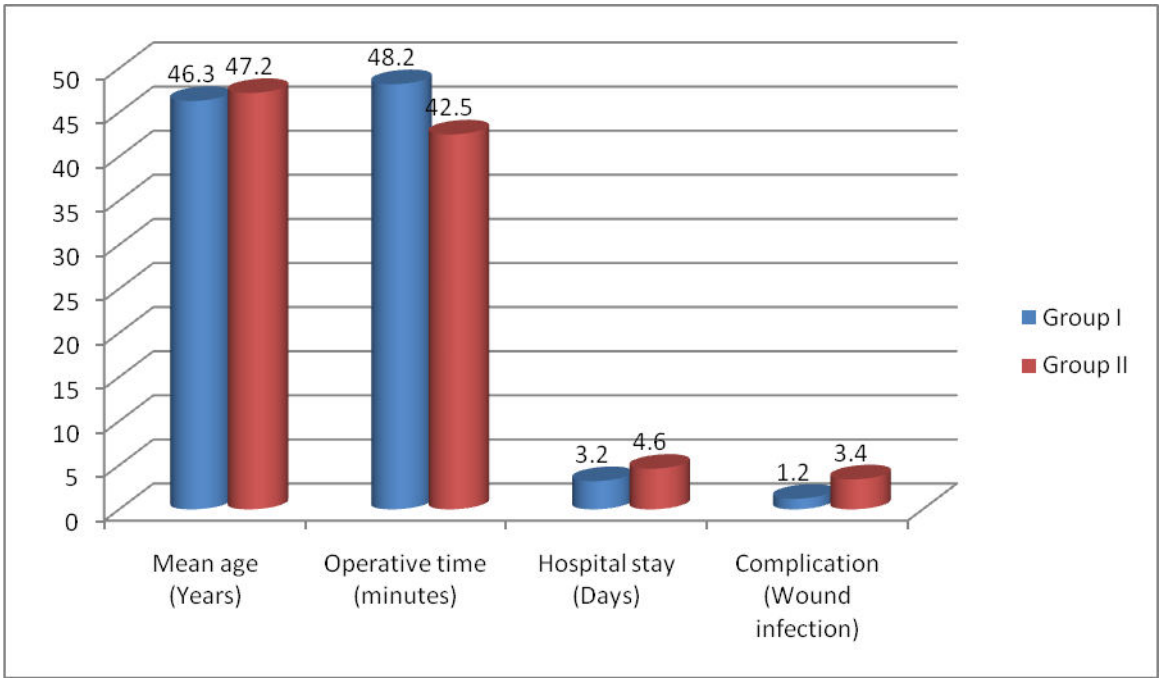
Table I shows that group I underwent open appendectomy and group II underwent laparoscopic appendectomy. Each group had 41 patients each.

Table II Parameters in both groups

Parameters	Group I	Group II
Mean age (Years)	46.3	47.2
Operative time (minutes)	48.2	42.5
Hospital stay (Days)	3.2	4.6
Complication (Wound infection)	1.2	3.4

Table II, graph I shows that mean age in group I was 46.3 years and in group II was 47.2 years, operative time in group I was 48.2 years and in group II was 42.5 years, hospital stay was 3.2 days and in group I and 4.6 days in group II. Wound infection was seen in 1.2 patients in group I and 3.4 in group II.

Graph I Parameters in both groups



DISCUSSION

Acute appendicitis is the most common intra-abdominal condition which requires emergency surgery in children. It has a life-time incidence between 7% and 9%. Open Appendectomy (OA) was first described in 1894 and was performed through the right lower quadrant incision. It remained the golden standard until the introduction of Laparoscopic Appendectomy (LA) by Semm in 1983.[6] There is a lot of discussion among pediatric surgeons over the benefits of each technique. As advantages of LA have been proposed a better wound healing, reduced postoperative pain, faster recovery, earlier resumption of diet, earlier discharge from hospital, and finally, a better cosmetic result. Disadvantages of LA compared to OA are considered the increased operative time, the cost of the operation and a higher incidence of intra-abdominal abscesses, especially in case of a perforated appendicitis.[7] The present study was conducted to compare open and laparoscopic appendectomy cases.

In present study, group I patients underwent open appendectomy and group II underwent laparoscopic appendectomy. Each group had 41 patients each. Kirby et al[8] found that AA was more prevalent in young adults (19-44 years) and males (65.20%). The mean hospital stay was seven days and phase II was the most prevalent. Authors found the histopathological diagnosis of primary tumor of the appendix in six patients (0.94%), adenocarcinoma being the most common histologic type (66.7%). Regarding the use of antibiotics, 196 patients underwent antibiotic prophylaxis and 306 received antibiotic therapy. Eighty-one patients used some kind of drain, for an average of 4.8 days. Seventeen patients died (2.67%), predominantly males (70.59%), with mean age of 38.47 years.

We found that mean age in group I was 46.3 years and in group II was 47.2 years, operative time in group I was 48.2 years and in group II was 42.5 years, hospital stay was 3.2 days and in group I and 4.6 days in group II. Wound infection was seen in 1.2 patients in group I and 3.4 in group II.

Bhangu et al[9] in their study found that mean age was 24.51 ± 16.17, 54.7% were male and the mean Charlson's comorbidity index was 0.32 ± 0.92. Mortality was < 0.0001%. Appendectomy was performed in 94.7% of the patients and the mean length of stay was 5.08 ± 2.88 days; the cumulative hospital stay was 5.19 ± 3.36 days and 1.2% of patients had at least one further hospitalization due intestinal occlusion. Laparoscopic appendectomy was performed in 48% of cases. Percent of 5.34 the patients were treated conservatively with a mean length of stay of 3.98 ± 3.96 days; the relapse rate was 23.1% and the cumulative hospital stay during the study period was 5.46 ± 6.05 days. Chamisa et al[10] in their study found that in the year categories 14-25, acute appendicitis is more frequent in females. Laparoscopic appendectomy was performed in 48% of the cases, with an enormous increase across the years, from 26% to 69%.

CONCLUSION

Authors suggested that open and laparoscopic appendectomy can be performed in appendicitis cases. Operative time and hospital stay was less in group I than group II.

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