ORIGINAL ARTICLE

Efficacy of Early Exploration in Appendicular Mass

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ABSTRACT

Aim: To determine the efficacy of early exploration in appendicular mass.
Methods: This randomized controlled trial was conducted in the Department of Surgery, Nishtar Hospital, Multan from October 2013 to April 2014. A total of 300 patients with appendicular mass were divided into two groups.
Results: Wound infection was seen in 12 patients in group A and in 8 patients in group B (p-value 0.355), postoperative intra-abdominal abscess was seen in 2 patients in group A and in 3 patients in group B (p-value 0.652), shorter hospital stay was noted in 138 patients in group A and in only 34 patients in group B (p-value 0.000). Efficacy of the procedure was labeled as 'yes' in 138 patients in group A and in 34 patients in group B (p-value 0.000).
Conclusions: The efficacy of early exploration of the appendicular mass is more than conventional method.
Keywords: Appendicular mass; Early exploration; conventional method.

INTRODUCTION

Acute appendicitis remains the most common intra-abdominal surgical pathology requiring surgical intervention. But 15.8% of the patients present late with appendicular mass[1]; Appendicular mass is a common complication of acute appendicitis and its management is controversial worldwide[2]. The management of appendicular mass is changing from the traditional approach of initial conservative treatment followed by interval appendectomy to immediate appendectomy[3,4]. Early surgical intervention has been known to be an effective alternative to conservative therapy for a long time, as it considerably reduces the total hospital stay and obviates the need for a second admission[5]. Moreover, in 10-20% of the cases, conservative management fails and the patients need an emergency operation due to peritonitis, which is comparatively more difficult and carries more morbidity and mortality[6,7]. In addition, the patient may suffer recurrent appendicitis after being discharged from the hospital[8,9]. In rural areas, a large number of patients refuse an operation once their acute problem is solved and this seems to be a major disadvantage of the initial conservative approach. Another disadvantage of the conservative management is the chance of misdiagnosis of the conditions like carcinoma of caecum, neoplasm of the appendix and ileo-ileal intussusception and especially in our setup ileo-cecal tuberculosis, which is very common among our population[3,10]. The incidental finding of appendiceal neoplasm in appendicular mass has been documented to be as high as 28% in patients managed by interval appendicectomy and it is therefore recommended for at least elderly patients (more than 40 years) to undergo colonoscopy or barium enema after recovery from conservative treatment to detect any other underlying disease and to rule out coexistent carcinoma of colon[11].

In a study at Vakif Gureba Training and Research Hospital, General Surgery department, from January 2004 to April 2010 it was found that wound infection was 27.7%, wound dehiscence was 2.1% and intra-abdominal abscess was 2.1% after early exploration of the appendicular mass[12].

In another study conducted at department of surgery, Liaquat University of Medical and Health Sciences, Jamshoro, Sindh, Pakistan, it was found after subdivision of the patients into group 1 (early exploration of appendicular mass) and group 2 (management of appendicular mass by conventional method) that wound infection was 15.9% vs. 6.8% and residual abscess was 1.1% vs. 0%. Whereas, patients in group 2 remained hospitalized for 7-10 days during their first admission and for another 4-6 days after interval appendicectomy[13].

In another study at district headquarters hospital Khanewal from December 2003 to November 2005 it was found that wound infection was 13.3% in group 1 (early exploration) vs. 16.7% in group2 (management of appendicular mass by conventional method), residual abscess was 0% vs. 10% and hospital stay was less than 3 days in 80% of the patients vs. 0%, rather the hospital stay was more than 7 days in 70% of the patients in group[14].

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METHODS

This randomized controlled trial was conducted in the Department of Surgery, Nishtar Hospital, Multan from October 2013 to April 2014. A total of 300 patients with appendicular mass were divided into two groups. 150 patients in group A were managed by early exploration and 150 patients in group B were managed by conventional method. Two groups were compared for efficacy.

RESULTS

In group A, there were 59.3% male patients and 40.7% female patients. The male to female ratio in this group was 1.46:1. In group B, there were 61.3% male patients while 38.7% patients were female. The male to female ratio in this group was 1.59:1. On comparison, there was no statistically significant difference between the two groups (p >0.05). In group A, wound infection was present among 8% patients and in group B, it was present in 5.3% patients. Chi-square test was applied and the difference between the two groups was not statistically significant (p-value > 0.05). In group A, intra-abdominal abscess was seen in 1.3% patients and in group B, intra-abdominal abscess was seen in 2%. Chi-square test was applied and the difference between the two groups was statistically not significant (p-value >0.05). In group A, shorter hospital stay was seen in 92% patients and in group B, shorter hospital stay was seen only in 22.7% patients whereas, mean hospital stay was 2.44 ± 0.973 days in group A and mean hospital stay was 5.41±1.46 days in group B. Chi-square test was applied and the difference between the two groups was statistically significant (p-value < 0.05). In group A, efficacy was labeled as 'yes' in 92% patients and in group B, efficacy was labeled as 'yes' in 22.7%. Chi-square test was applied and the difference between the two groups was statistically significant (p-value < 0.05).

Table 1 shows the distribution of patients by age. Cross tabulation of age groups of patients against efficacy in group-A and B (Table-2). Cross tabulation of gender of patients against efficacy in group-A and B (Table-3).

Table 1: Distribution of patients by age (n= 300).

Age (years)	Group A		Group B	
	No	%age	No	%age
15-25	95	63.3	92	61.3
26-35	32	21.3	42	28.0
36-45	11	07.3	09	06.0
46-55	08	05.3	04	02.7
56-65	04	02.7	03	02.0
Mean±SD	26.08±10.6		25.89±9.43	
P-value	0.545			

Table-2: Cross tabulation of age groups of patients against efficacy in group-A and B (n=150)

Group-A

Age (years)	Efficacy		Total
	Yes	No	
15-25`	88	07	95
26-35	29	03	32
36-45	10	01	11
46-55	07	01	08
56-65	04	-	04
Total	138	12	150

Pvalue**=** 0.949

Group-B

Age (years)	Efficacy		Total
	Yes	No	
15-25`	21	71	92
26-35	10	32	42
36-45	1	8	9
46-55	1	3	4
56-65	1	2	3
Total	34	116	150

Pvalue= 0.921

Table-3: Cross tabulation of gender of patients against efficacy in group-A and B. (n=150)

Group-A

Sex	Efficacy		Total
	Yes	No	
Male	83	05	89
Female	55	06	61
Total	138	12	150

P-value= 0.493

Group-B

Sex	Efficacy		Total
	Yes	No	
Male	18	74	92
Female	16	42	58
Total	138	12	150

P value= 0.253

DISCUSSION

Comparing the two groups the results of wound infection and intra-abdominal collection were not statistically significant but results of hospital stay were statistically significant. This study showed higher efficacy of early exploration of appendicular mass 92% compared to the conventional method 22.7%.

The mean age of the patients in my study was 26.08±10.6 years in group A and 25.89±9.43 years in group B with a male predominance in both groups (i.e. 59.3% and 61.3%). In a study there were 64.8% males and 35.2% females with a mean age of 25.09 ± 8.45years[13].

The frequency of wound infection in my study was 8% among patients of early exploration group

and 5.3% among patients who were managed conventionally (p-value >0.05) showing no statistically significant difference. In a previous study wound infection was observed in 13.33% of patients of early exploration group and 16.66% of patients who were managed by conventional method (p-value > 0.05) showing no statistically significant difference between the two groups[14]. In another study most of the complications were limited to local wound infection 17.2% after early exploration of appendicular mass[4]. In another study it was found that wound infection was 27.7% in patients after early exploration[12].

The frequency of intra-abdominal abscess after early exploration of appendicular mass in my study was 1.3% and 2% among patients who were managed by conventional method (p-value >0.05) showing no statistically significant difference. In a study it was observed that intra-abdominal abscess was found in 2.1% of patients after early exploration[12]. In another study, there was intra-abdominal collection in 1.1% of patients of early exploration group and no intra-abdominal collection among patients managed by conventional method showing no statistically significant difference[13]. In a study intra-abdominal collection was observed in none of the patients of early exploration group and it was noted in 10% of patients who were managed by conventional method (p-value > 0.05) showing no statistically significant difference between the two groups[14].

CONCLUSION

We can conclude that early exploration is a better and more effective option than conventional method as it confirms the diagnosis, cures the disease, obviates the need of a second admission and reduces the cost of management by reducing the hospital stay.

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