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APPENDICULAR MASS

EARLY EXPLORATION VS CONSERVATIVE MANAGEMENT

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ABSTRACT... Introduction: Appendicular mass is a common complication of acute appendicitis. The traditional treatment of this is conservative followed by delayed appendectomy. But now with advancement in all the fields of medicine early surgical exploration of the appendicular mass can be done with satisfactory results. **Aims and objectives:** A comparison of conservative treatment versus early surgical exploration of appendicular mass. **Study Design:** Experimental study. **Material and Method:** Two years study from December 2003 to November 2005 at district headquarters hospital Khanewal. Total 60 patients, both males and females between 12 to 65 years of age with symptoms and signs consistent with appendicular mass were included. They were randomly divided into group I (Early exploration) and group II (Conservative treatment) each containing 30 patients. A comparison of outcome between two groups was done statistically by applying student Chi-square test. **Results:** There was a peak incidence of acute appendicitis in Second and third decades of life. Male to female ratio was 2:1. More than 90% of patients had history of shifting of abdominal pain. 100% of the patients had inflamed appendix to variable extent on exploration. The complications in the form of adhesive intestinal obstruction; failure of treatment; lost follow up; misdiagnosis and re admission were less in group I. There was a significant less duration of hospital stay in group I as compared to Group II. The observations and outcome in this study are almost comparable and correspond with other studies done in this regard. **Conclusion:** Early surgical exploration of appendicular mass is safe and cost effective.

Key words: Acute appendicitis; appendicular mass; exploration; Ochsner Sherren regime; interval appendectomy.

INTRODUCTION

Acute appendicitis i.e. acute inflammation of the appendix from mild inflammation of mucous membrane to gangrene, perforation and peritonitis is the most common acute surgical condition[1,2,3]. Regardless of the cause it is associated with definite morbidity and mortality if not managed properly. These complications are more at the extremes of age and in immunocompromised patients. The definite treatment of acute appendicitis is appendicectomy to avoid complications[4]. If timely appendicectomy is not done due to any reason 2-6% of the patients develop a mass as one of the early complications. On the third day (rarely sooner) of commencement of acute appendicitis, a tender mass can frequently be felt in right iliac fossa. This mass is composed of omentum, edematous caecal wall and edematous loop of ileum. In its midst is a perforated or inflamed appendix[5]. In its natural course from 5th to 10th day, the mass either becomes larger and an appendicular abscess results or it becomes smaller and subsides as the inflammation resolves[6]. The conventional conservative treatment followed by delayed appendicectomy in patients with appendicular mass is well recommended[7]. Even majority of these patients do not need interval appendectomy as evidenced by no symptoms and signs during the follow up and fibrotic or no appendix during operation[8]. But unfortunately, this policy is not successful always. Some 10 to 20% of such patients fail to respond and require a delayed and potentially more difficult appendicectomy with a possible laparotomy and bowel resection[9].

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Moreover 7-46% of the patients suffer a recurrence of acute appendicitis or appendicular mass following discharge from the hospital after successful conservative treatment of appendicular mass. Misdiagnosis is another enigma. Conditions such as caecal carcinoma in middle aged or elderly; intussusceptions in children and ileocaecal tuberculosis at any age may mimic appendicular mass[10]. With the availability of better operative and anaesthesia facilities and to avoid the uncertain natural course and misdiagnosis an early exploration of the appendicular mass is recommended[10]. This cuts short the hospital stay, cures and diagnoses the disease and obviates the need of a second hospital admission with no added morbidity and mortality[11,12]. In this modern era where facilities and expertise of laparoscopic surgery available, laparoscopic appendectomy for both complicated (appendicular mass) and non-complicated appendicitis is recommended which further lessens the sufferings of the patients[13].

AIMS AND OBJECTIVES

A comparison of early exploration versus conservative management of appendicular mass.

MATERIAL AND METHOD

Duration

Two years from November 2003 to December 2005

Inclusion Criteria

1. Both males and females between 12 and 65 years of age.
2. Patients with a right iliac fossa mass consistent with appendicular mass.

Exclusion Criteria:

1. Age below 12 years and more than 65 years.
2. Symptoms less than 48 hours duration.
3. Immunocompromised patients.

This prospective study was conducted at District Headquarters Hospital Khanewal. A total of sixty patients were included. Thorough history and clinical examination was made. Complete blood count; urinalysis; urea and electrolytes; plain x-ray abdomen; and ultrasonography of abdomen and other investigations as per need of the patient were done. The patients were divided randomly in two groups, each containing thirty. In Group I, early surgical exploration was done. In Group II, conservative approach with Ochsner Sherren Regime was adopted followed by interval appendectomy. A full record of all the patients was maintained on the proforma designed for this purpose. A comparison of outcome between two groups was done statistically by applying Student Chi-square test.

RESULTS

Table-I. Age Groups of Patients (n=60)

Age groups	No. of Patients	%age
12-20 years	29	48.33%
21-30 years	20	33.33%
31- 40 years	5	08.33%
41-50 years	3	05.00%
51-65 years	3	05.00%
Mean age 29.16 years		

Maximum patients 29 (48.33%) were between the age of 12-20 years. The next 20 (33.33%) were between the age of 21-30 years. The incidence decreased with the advancing age.

Table-II. Sex of Patients (n=60)

Sex	No. of Patients	%age
Male	40	66.66%
Female	20	33.33%
Male to Female ratio 2:1		

Out of 60 patients, 40(66.66%) were males and 20(33.33%) were females.

In majority, 42 (70%) of the patients the onset of pain was periumbilical. 9 (15%) of the patients had generalized

Table-III. Symptomatology of Patients (n=60)			
Symptom		**No. of Pts.**	**%age**
Site of onset of abdominal pain	Periumbilical	42	70.00%
	Generalized abdominal	09	15.00%
	Epigastric	05	08.00%
	Right lower abdomen	04	06.66%
Shifting of Pain	Shifted	56	93.33%
	Not shifted	04	06.66%
Gastrointestinal upset (Nausea, vomiting, anorexia, loose stool and constipation)	Present	57	95.00%
	Absent	03	05.00%
Temperature (fever)	Raised	36	60.00%
	Normal	24	40.00%

abdominal pain to start with and 05 (8.33%) epigastric. There was a history of shifting of pain to right iliac fossa in 56 (93.33%) of the patients. Gastrointestinal upset in different forms was found in 57 (95%) of the patient. 36

Table-IV. Operative findings and procedure (n=30)			
Operative finding	**Procedure**	**No. of Pts.**	**%age**
Suppurative appendix	Appendectomy	24	80%
Gangrenous appendix	Appendectomy	03	10%
Perforated appendix & Appendicular abscess	Drainage of abscess and appendectomy	03	10%
Normal appendix	Nil	Nil	Nil

(60%) patients gave history of fever.

In 24 (80%) patients there was Suppurative appendix in the midest of appendicular mass. In 3 (10%) of the patients appendix was gangrenous. 3 (10%) of the patients had appendicular abscess formation.

Table-V.			
Complications	**Group-I**	**Group-II**	**p-value**
Wound infection	4 (13.33%)	5 (16.66%)	0.72
Residual abscess	0 (0%)	3 (10%)	0.08
Faecal Fsitula	0 (0%)	3 (10%)	0.08
Adhesive intestinal obstruction	0 (0%)	6 (20%)	0.01
Chest Complications	1 (3.3%)	0 (0%)	0.31
Haematoma	1 (3.3%)	1 (3.3%)	-
Incisional and right inguinal hernia	0 (0%)	0 (0%)	-
Sterility in Women	0 (0%)	0 (0%)	-
Failure of treatment	0 (0%)	2 (6.66%)	0.15
Lost Follow up	0 (0%)	2 (6.66%)	0.15
Misdiagnosis	0 (0%)	1 (3.3%)	0.31
Readmission	0 (0%)	2 (6.66%)	0.15

There was not a big difference in postoperative wound sepsis in either group. 3 (10%) patients in Group II developed residual abscess while none in group I. One patient in Group I developed faecal fistula that was

treated successfully with conservative treatment. Significant number 6 (20%) patients in Group II developed adhesive intestinal obstruction to some extent while none in Group I. Chest complications were more in Group II due to prolonged hospital stay. 2 (6.66%) patients in Group II failed to respond to conservative treatment where intervention was done rather in a difficult situation. 2 (6.66%) of patients in Group II lost follow up with unknown fate. One patient in Group II was ultimately diagnosed as caecal carcinoma which had been treating as appendicular mass. 2 (6.66%) patients in Group II

needed readmission for recurrent acute appendicitis or

appendicular mass again.

Table-VI.

	Groups		Total
	Group-I	Group-II	
Less than 3 days	24 (100.0%)	0 (0%)	24 (100.0%)
4-6 days	6 (40.0%)	9 (60.0%)	15 (100.0%)
More than a week	0 (0%)	21 (100.0%)	21 (100.0%)
Total	30 (50.0%)	30 (50.0%)	60 (100.0%)
P-value <0.001			

24 (80%) of the patients in Group I had hospital stay less than three days and none more than one week. On the other hand, 21 (70%) of the patients in Group II had

hospital stay more than one week and none less than three days.

DISCUSSION

The maximum 29 (48%) patients in this study were between 12 to 20 years of age. The next came between 21 to 30 years of age. These results are comparable with other studies where peak incidence of acute appendicitis was in second and third decades of age[6,14]. The male to female ratio of 2:1 is also comparable with another study where males are more commonly affected[6]. The history of shifting of pain in 93% of patients in this study is comparable to another study[6]. The gastrointestinal upset in the form of nausea; vomiting; decreased appetite; loose stools or constipation in 57 (95%) of the patients in this study correspond with other studies[6,15]. Sixty percent of the patients were febrile[16]. The presence of suppurative, gangrenous or perforated appendix with abscess in the appendicular mass corresponds with the literature[17,18].

The wound sepsis in 4 (13.33%) in Group I and 5 (16.66%) in Group II is comparable with another study where wound sepsis was 10% in non-perforated and 20% in gangrenous or perforated appendix[15]. Formation of faecal fistula in early exploration of appendicular mass in one (3.33%) patient is comparable with other studies[6,19]. The other complications such as failure of conservative treatment, misdiagnosis, readmission for recurrent acute appendicitis and lost follow up are less in early exploration[20].

The short hospital stay of less than three days in 80% of the patients in Group I is comparable with another study[19].

CONCLUSION

The traditional and orthodox policy of conservative management of an appendicular mass is a well known and respected entity. The patient is put on Ochsner Sherren Regime and stays in the hospital for 7 to 10 days. All the patients do not respond uniformly. In a significant number of patients, the regimen fail and surgical intervention has to be made rather in a difficult situation. Misdiagnosis in the form of ileocaecal tuberculosis, carcinoma of caecum and intussusceptions is another enigma.

Now with the availability of better anesthesia services, good antibiotics and better surgical expertise, the appendicular mass of any duration can be explored early. It confirms the diagnosis, cures the problem, reduces the cost of management, shortens the sickness period and hospital stay with reasonably satisfactory outcome.

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The first step towards knowledge is to know that we are ignorant.

Thomas H. Huxley