



A COMPARATIVE STUDY OF EMERGENCY APPENDECTOMY VS CONSERVATIVE MANAGEMENT IN CASES OF EARLY APPENDICULAR LUMP IN A TERTIARY CARE HOSPITAL

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ABSTRACT **Background** Acute appendicitis is the most common acute surgical condition of the abdomen. The definitive treatment of acute appendicitis is appendectomy. If timely appendectomy is not done, 2 – 6% of the patients develop a mass in the right iliac fossa (Appendicular lump) as one of the early complications. The conventional conservative treatment followed by delayed appendectomy in patients with appendicular mass is well recommended. Majority of the times appendicular lump resolve after conservative management but some 15 - 20% of such patients fail to respond and require urgent and more difficult operation, often the patient ending up with a temporary diversion procedure.

Aims and objective: a comparative study of early exploration vs conservative management of appendicular lump.

Materials & Method: A total of 80 patients with appendicular lump and acute appendicitis were taken in to consideration for this study in two groups of early appendectomy and conservative management group.

Results: There was not a drastic difference observed in post-operative wound sepsis in each group. Residual abscess was seen mostly in patients of group 2 however not in group 1. One patient in group 1 developed faecal fistula that was treated successfully with conservative treatment. 3 (9.67%) patients in group 2 developed intestinal obstruction due to adhesive bands. Chest related complication were more in group 2 due to prolonged hospital stay. Eight patients (25.8%) in group 2 failed to respond to conservative treatment, thereby needing readmission where intervention was done rather in a difficult emergent situation.

Conclusion: With the modern day advancements in surgical science & post-operative care cases of appendicular lump should be taken up for early appendectomy keeping in view the uncertain prognosis if treated conservatively.

KEYWORDS : - Acute appendicitis; Appendectomy; Conservative management

Introduction:

Acute appendicitis is the one of the most common acute surgical conditions of the abdomen, the definitive treatment of which is appendectomy. If timely appendectomy is delayed, a small proportion ($\approx 2-6\%$) of the patients develop a mass/ lump in the right iliac fossa called as Appendicular lump as one of the early complications [1,2]. The conventional conservative treatment, popularized as Ochsner-Sherren regimen, followed by interval appendectomy (after 6 weeks) in patients with appendicular mass is well recommended. Most of the times an appendicular lump may resolve after conservative management however some 15 – 20% of such patients fail to respond and require urgent and more difficult operation; often the patient ending up with a diversion procedure [1].

Studies suggest that 7-46% of these patients exhibit a recurrence of acute appendicitis or appendicular mass following discharge from the hospital after successful resolution of appendicular lump. Misdiagnosis is another problem that may arise, which may be taken care of by confirming via radiological investigations. Condition such as ileo-cecal TB, caecal carcinoma, intussusceptions in paediatric age groups may mimic an appendicular mass. With the availability of modern day surgical & anaesthetic facilities and moreover to avoid the uncertain natural course and misdiagnosis, an early surgical exploration of the appendicular mass is recommended. This approach helps in evidence based management by diagnosing the disease, curing it at one go thereby ensuring minimal chances of re-admission leading to less number of days stayed at hospital with no added morbidity and mortality [1, 3, 4]. In this modern era where facilities and expertise of laparoscopic surgery is available, laparoscopic appendectomy for both complicated (appendicular lump) and uncomplicated appendicitis is recommended where possible which further lessen morbidity. Based on these studies, the present study was done with objective of comparison of early exploration versus conservative management of appendicular lump.

Materials & Methods:

A prospective study was conducted in the department of Surgery of IMS & SUM Hospital, Bhubaneswar, Odisha from 2016-2017. A total of 80 patients with appendicular lump and acute appendicitis were admitted over a period of 2 year. All age groups and both sexes were included. Patients whose diagnosis deviated away from that of appendicular lump were excluded from the study. Through clinical examination was done. Complete hemogram, ESR estimation, Urine routine & microscopic analysis, renal function parameters and serum electrolyte estimation, plain X-ray abdomen (erect) and ultrasonography of abdomen and other investigations as per the clinicians request were done. In selected patients CECT was done to confirm complicated appendicitis with lump formation in right iliac fossa.

Patients were divided equally in numbers across two groups based on randomness, each containing 40, in Group 1 patients who underwent early surgical exploration were jotted. In Group 2, patients who were managed conservatively approach as per OCHSNER SHERREN REGIMEN followed by interval appendectomy after 6 weeks were grouped. Comparison of outcome between two groups was done. The clinical characteristics of patients, type of surgery chosen, intra-operative findings & post-operative observations were all analysed based on medical records. So far the clinical characteristics are concerned, the age, gender, duration of symptoms prior to admission, pulse rate at admission, total leukocyte count, palpatory size of the lump, presence/ absence of local inflammatory signs & fluctuation were noted.

Patients who underwent surgery were scrutinized in terms of intra-operative findings, post-operative complications faced, hospital stay & need for readmission. Patients treated conservatively were analysed in terms of their documented pulse rate, temperature, palpatory lump size, presence septic features, duration hospital stay & need for re-admission for recurrent appendicitis.

Results and discussion

The traditional method of conservative management of appendicular

lump is well known and widely accepted. The patients when managed as per OCHSNER-SHERREN REGIMEN stay in hospital for 7-10 days. All the patients do not respond uniformly to intra-venous hydration & antibiotic therapy. The maximum occurrence of appendicitis and related complication was in 21-30 years of age group (47.25%) (Table-1). In this study a significant number of males are affected with 63.5% (Table-2). In a significant number of patients, the regimen fails and surgical intervention has to be done instead of awaiting further serious complications. Misdiagnosis in the form of ileo-caecal tuberculosis, carcinoma of caecum and intussusception is another enigma. The outcomes of this study are tabulated in tables mentioned below. There was not a drastic difference observed in post-operative wound sepsis in each group (Table 3). Residual abscess was seen mostly in patients of group-2 however not in group-1. One patient in group-1 developed faecal fistula that was treated successfully with conservative treatment. 3 (9.67%) patients in group-2 developed intestinal obstruction due to adhesive bands. Chest related complications were more in group-2 due to prolonged hospital stay. Eight patients (25.8%) in group-2 failed to respond completely to conservative treatment, thereby needing readmission where intervention was done rather in a difficult emergent situation. In group-1, the period of hospitalisation was less in comparison to group-2. However in group-2 patient had to stay for longer period due to intra-operative finding of extensive pathology (Table-3). In table 4 the recorded clinical parameters have been mentioned (Table-4).

Acute appendicitis is a very common surgical cause of acute abdomen. With prolonged duration of symptoms & delay in seeking treatment, in some patients appendicular lump develops which is an inflammatory mass composed of inflamed appendix, caecum, omentum, terminal ileum and mesoappendix at times sigmoid, right fallopian tubes and ovaries in females [1, 2]. This has been attributed to a protective mechanism of human body to prevent the spread of intra-peritoneal infection. In our study, we found that the incidence of the appendicular lump was 9.81% and this is comparable with other author's study varying from 2-6% [2].

Majority of our patients in this study was under 21-30 years group comprising about 47.25% of the cases (Table 1). However the age varied from 11 years to 60 years suggesting any age group prone to develop lump, but common in younger age groups. The decrease in percentage of old people developing lump can be attributed to decreased immunity as age advances. The male to female ratio of 1.74:1 is also comparable with other studies [1].

Majority of the patients who presented with lump had symptoms between 3 to 4 days. However some even presented with symptoms for as long as 14 days. The history of migration of pain in 91.94% of patients, the gastrointestinal symptoms like nausea, vomiting, decreased appetite, loose stools or constipation in 93.55% of the patients in this study is comparable with other studies [1]. Sixty percent of the patients were febrile. The presence of suppurative, gangrenous or perforated appendix with abscess in the appendicular mass concurred with other studies [5].

Conclusion:

Now with the availability of better anaesthetic equipments, better antibiotics and better surgical learning curve and expertise, the appendicular mass of any duration preferably early can be explored, keeping in mind that the chances of abscess formation & adhesions increase with delay in commencement of treatment. It confirms the diagnosis, cures the problem, reduces the cost of treatment, shortens the unproductive sickness period and hospital stay with reasonably satisfactory outcome thereby ruling out any uncertainty in diagnosis. Therefore with the modern day advancements in surgical science & post-operative care cases of appendicular lump should be taken up for early appendectomy keeping in view the uncertain prognosis if treated conservatively.

Table 1-Age frequency of the patients

Age group	Frequency (n=80)	Percentage
11 – 20	15	18.75
21- 30	38	47.25
31 – 40	21	26.33
41 – 60	6	7.67
>60	0	00

Table 2-Distribution of gender

Gender	Frequency (n=80)	Percentage
Male	51	63.5
Female	29	36.5
Total	80	100

Table 3- Complication after surgery

Post-op complications	Group I (n=40)	Group II (n=40)
Wound infection	3 (9.67%)	2 (6.45%)
Residual abscess	0 (0%)	2 (6.45%)
Faecal fistula	1 (3.22%)	0 (0%)
Adhesive bowel obstruction	0 (0%)	3 (9.67%)
Chest complication	1 (3.22%)	5 (16.12%)
Haematoma	1 (3.22%)	0 (0%)
Incisional hernia	0 (0%)	0 (0%)
Failure of treatment	0 (0%)	3 (9.67%)
Lost in follow up	0 (0%)	2 (6.45%)
Misdiagnosis	0 (0%)	1 (3.22%)
Readmission	0 (0%)	8 (25.80%)

Table 4-Comparison of groups with respect to hospital stay

Hospital Stay	Group-1	Group-2	Total
Less than 3 days	26 (83.87%)	0 (0%)	33 (41.25%)
4 – 6 days	5 (16.12%)	8 (25.80%)	18 (22.5%)
More than a week	0 (0%)	23 (74.19%)	29 (36.25%)
Total	40	40	80

Table 5-Comparison of groups with respect to clinical parameters

Clinical characteristics (mean values)	Group-1	Group-2
Body temperature (C)	38.12 (Avg)	36.7 (Avg)
Pulse rate (beats/min)	98.41 (Avg)	84.56 (Avg)
Total leukocyte count	13.24 X 10 ³	10.44 X 10 ³
Palpatory size of lump (cms)	4.12 (Avg)	4.90 (Avg)

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