

## ORIGINAL ARTICLE

### A Study of Etiology and Management of Post Appendectomy Right ILLIAC FOSSA Pain

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**KEYWORDS** : Appendectomy, right iliac fossa pain, acute appendicitis

#### ABSTRACT

**Introduction** : Appendectomy is one of the commonest abdominal operation performed during emergency hours for acute appendicitis. Acute appendicitis is essentially a clinical diagnosis supported by haematological and radiological investigation. But few patients continue to visit surgical OPD for continuous pain in right iliac fossa even post appendectomy. **Aims & objectives** : The aim was to evaluate the patients who continue to visit hospital even post appendectomy at Shardaben General Hospital affiliated with SMTNHLMM Ccollege, Ahmedabad, during the period from June 2016 to August 2018. **Materials & methods** : All patients presented with pain in right iliac fossa symptom was the criteria for selection of patients. These patients investigated to find out underlying organic cause. Functional patients were subjected for psychological counseling and evaluation. **Observation & Discussion**: In present study, we enrolled around 28 patients with complaints of pain in right iliac fossa even after appendectomy. 60% were female and 40% were male . 22 patient means 78%, were in the age group of 20 to 40 years may be due to maximum stress in life. 1 patient means 3.5% diagnosed with stump appendicitis which was confirmed radiologically. Patient was offered conservative management and responded well. In our study patient who underwent laparoscopy has better outcome than open surgery. **Conclusions** : Patients who are coming with recurrent pain in right iliac fossa after appendectomy, should not be neglected and should be thoroughly investigated.. We can prevent further complications if patient is treated in time.

#### INTRODUCTION

Appendectomy is one of the commonest abdominal operations performed during emergency hours for acute appendicitis<sup>(1)</sup>. Acute appendicitis is essentially a clinical diagnosis supported by hematological and radiological investigation. The diagnosis of appendicitis can be difficult, occasionally testing the diagnostic skills of even for the most experienced surgeon<sup>(2)</sup>. Equivocal cases usually require inpatient observation. This delay in diagnosis may increase morbidity and costs. Attempts to increase the diagnostic accuracy in acute appendicitis have included computer aided diagnosis, imaging by ultrasonography, laparoscopy and even radioactive isotope imaging<sup>(3)</sup>. If untreated can progress to appendicular perforation & peritonitis. Hence treatment of choice is appendectomy. Postoperative complications following appendectomy are relatively not uncommon and reflect the degree of peritonitis that was present at the time of operation, intra-operative spillage and intercurrent diseases that may predispose to complications<sup>(4)</sup>. Wound infection is the most common postoperative complication. Late complications include postoperative adhesive intestinal obstruction and right inguinal hernia. Pain in

right iliac fossa is the commonest presentation of acute appendicitis. But all patients are not relieved off their symptoms following surgery<sup>(5)</sup>. The large numbers of patients continue to visit surgical OPD for continuous pain in right iliac fossa even after appendectomy being performed<sup>(6)</sup>.

#### AIMS AND OBJECTIVES

The aims and objectives of this study were to confirm 1) whether wrongly diagnosed appendicitis or unnecessarily performed Appendectomy was real culprit of post appendectomy pain , 2) whether these symptoms are due to incomplete removal of appendix, 3) whether it is a complication of surgical procedure, 4) whether these patients really had and still have any organic disease or they are simple victims of psychosomatic pain and 5) to study delayed complications of appendectomy

#### MATERIALS AND METHODS

Present study was a retrospective and prospective observational study carried out at Shardaben General Hospital affiliated with SMT NHL MMC college, Ahmedabad , India from June 2016 to August 2018. The patients of both sex and of any age were studied and

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investigated to establish organic cause for pain in right iliac fossa after appendectomy. All those patients who on investigations did not show any organic causes were sent for psychological counselling and evaluation.

Exclusion criteria were:

- Pregnancy
- right iliac fossa mass
- previous history of pelvic inflammatory disease and urolithiasis.

The data collected included the patient's demographics, age and gender, the presenting symptoms.

### OBSERVATION AND RESULTS

This study included 28 cases who were operated for appendicitis, continue to visit hospital for pain in abdomen especially right iliac fossa for more than 4 weeks. Out of these patients 60% were female and 40% were male in a present study (table- 1).

**Table -1 : Gender distribution**

	Male	Female
No of patients (total =28)	11	17
Percentage (total =100%)	40%	60%

Out of 28 cases 22 patient means 78% were in the age group of 20 to 40 years (table -2).

**Table -2 : Age distribution**

Age group	No of patients (total no =28)	Percentage (%) (total -100%)
<10	1	3.5%
10-20	2	7.1%
20-30	15	53%
30-40	7	25%
40-50	1	3.5%
>50	1	3.5%

Out of total 28 patients 21 patients were operated during emergency hours and 7 patients were operated as elective cases (table -3).

**Table -3 : Emergency vs elective surgery**

Sex	Emergency	Elective
Male	6	4
Female	15	3

In our study acute appendicitis on histopathology was seen in 23 cases (82%) but chronic was found in 4 cases (14%) .1 patient (3.5%) was found to have acute on chronic appendicitis (table-4).

**Table - 4 : Distribution of appendicitis according to histopathological report**

Types	Acute appendicitis	Chronic appendicitis	Acute on Chronic appendicitis
No of patients	23	4	1
Percentage	82%	14%	3.5%

Of 28 patients studied, 19 patients (67%) had right McBurney's incision scar, 4 patients (14.2%) had right lower paramedian scar and 2 patients (7.1%) had infraumbilical midline scar. 3 patients (10%) underwent laparoscopic appendectomy (Table -5).

**Table- 5 : Distribution of incision for appendectomy**

Incisions	No of cases	Percentage
McBurney's incision	19	67%
Right lower paramedian	4	14%
Infraumbilical midline	2	7.1%
Laparoscopic	3	10%

Etiological distribution of pain is showed in table -6 and further described as below.

Urinary complaint in the form of burning micturition was associated in 6 patients (21.4%). Out of these patients 4 patients had urinary tract infection as cause for their complaint and 2 patients had a right ureteric calculus in lower third.

4 patients (14.2%) underwent diagnostic laparoscopy for persistent pain in right iliac fossa there were adhesions inside at base of appendix and adhesiolysis was done. 3 patients (10.7%) had mesenteric lymphadenitis diagnosed on Ultrasound All patients responded to antibiotics after treatment.

**Tablet -6 : Etiology wise distribution of patient**

Etiology	No of cases	Percentage
Burning micturition	6	21.4%
Adhesions	4	14.2%
Mesentric adenitis	3	10.7%
Ovarian cyst	2	7.1%
Stump appendicitis	1	3.5%
Intestinal obstruction	1	3.5%
Hypertrophic scar	2	7.1%
Right inguinal hernia	1	3.5%
Incisional hernia	3	10.7%
Ova in stool	1	3.5%
Functional	4	14.2%

2 female patients (7.1%) diagnosed with ovarian cyst on ultrasound .Both of the patients managed conservatively 1 patient (3.5%) was diagnosed with stump appendicitis

post appendectomy. Diagnosis was confirmed by radiological examination. Patient responded well to conservative management.

1 patient (3.5%) operated for acute appendicitis in emergency had intestinal obstruction which was managed conservatively.

Hypertrophic scar at McBurney's point was found in 2 patients. Both cases were treated conservatively.

Right indirect inguinal hernia was seen in 1 patient (3.5%) which may be due to segmental nerve loss. Patient underwent surgical management later on.

Incisional hernia was seen in 3 patients (10.7%) after one six month of surgery. 2 patients underwent meshplasty later on. 1 patient did not give consent for surgery till date.

1 patient (3.5%) presented with mucoid stool. On stool examination stool for ova and cyst were present. Patient responded well to medical treatment

In 4 patients (14.2%), 3 females and 1 male, no cause was identified even after several investigations and treatment and pain was considered as functional pain. These patients were offered psychological counseling and were sent for psychological evaluation.

### DISCUSSION

In present study, even after appendectomy for acute or chronic appendicitis, few patients may present repeatedly for persistent pain in right iliac fossa that should not be neglected and subjected for thorough examination and investigations to treat it. In our study we found multiple treatable causes for pain.

In our study, 60% patients were female and 40% were male which correlated with the study conducted by Yashvant R. Lamture and colleagues (7). Diagnostic accuracy for appendicitis is lower in female than male which was correlated with Piper et al study (8). The reason could be presence of gynecological cases.

Out of total 28 patients 22 patients (78%) were in age group of 20-40 years, the preponderance of patient in this age group can be explained by the fact that this is the age group in which patient are subjected to maximum stress and strain of life. In Ingram et al study only 24% of young patients got relieved of symptoms post appendectomy (9). Time interval between appendectomies and recurrent right iliac fossa pain was variable.

Post appendectomy pain was more commonly found in relation to acute appendicitis (82%) than chronic appendicitis (14%) on histopathological study. Patients of appendicitis may have associated urinary tract

pathologies which should not be overlooked. In our study we found 6 patients (21%) had urinary complaint in the form of burning micturition. The recognition of associated lesion preoperatively and its treatment can lead to decrease chances of negative appendectomy.

In our study 4 patients (14.2%) underwent adhesiolysis. Postoperative intestinal adhesions are the most common clinical entity causing recurrent pain after appendectomy or even after any pelvic surgery as per Cuadra SA (10).

In our study, 1 patient (3.5%) was diagnosed with stump appendicitis. Incomplete removal of appendix results because of failure of surgeon to locate true appendicocaecal junction due to abnormally situated ileocecal fold and inflammatory process that conceal the proximal portion of the appendix (11).

In our study 2 patients (7.1%) had hypertrophic scar as a cause of pain which correlated with the study done by Yashvant R. Lamture and colleagues.

In our study, 3 patients (10.7%) had incisional hernia out of these patients 2 patients had hernia after midline lower abdominal incision and one at Mc Burney's incision which correlated with study conducted by K Sarda and colleagues (12). 1 patient (3.5%) had right indirect inguinal hernia which correlated with Gue S study (13).

Laparoscopic appendectomy is having better results than open as in our study only 3 patients presented with postoperative pain after appendectomy as compared to open appendectomy. Laparoscopic removal of the appendix produces no added morbidity and associated with less postoperative co morbidity (14). In our study 4 out of 28 patients (14.2%) were found to have functional pain. But in study conducted by K Sarda and colleagues only 6.67% patients were found to have psychological pain in form of severe depression and anxiety disorder. This may be due to difference in the study sample.

### CONCLUSION

Patients who are coming with recurrent pain in right iliac fossa after appendectomy, should not be neglected. Many of them may have organic cause for their symptoms. We could find in our study various reasons for persistent pain in right iliac fossa those after thorough evaluation were associated with some significant pathology that required definitive management. If patient is treated in time, we can prevent further future complications.

The patient with recurrent pain in right iliac fossa after appendectomies should be subjected to psychological evaluation if no organic cause is found. Laparoscopic appendectomy has better outcome than open appendectomy with less postoperative complications.

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