

Causes of Right Iliac Fossa Mass and Outcome of Appendicular Lump

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ABSTRACT

Objective To find out the causes of lump in right iliac fossa and complications of appendicular lump.

Study design Cross-sectional descriptive study.

Place & Duration of study Department of Surgery, Jinnah postgraduate Medical Center (JPMC) Karachi, from September 2019 to September 2021.

Methodology All patients, of either gender, above twelve years of age were included. The causes of lump were investigated by history, clinical examination and investigations. Patients with appendicular lump were treated conservatively. Complications related to appendicular lump were recorded on a predesigned form. Results were analyzed by SPSS version 25.

Results A total of 90 patients with lump in right iliac fossa presented in two year period. Among them 68 (75.55%) were male and 22 (24.45%) female patients. The causes of right iliac fossa masses included appendicular lump (n=72 - 80.00%), carcinoma cecum (n=7 - 7.77%), psoas abscess (n=6 - 6.66%), ileocecal tuberculosis (n=3 - 3.33%), lymphoma (n=1 - 1.11%), and adenocarcinoma colon (n=1 - 1.11%). The appendicular lumps were resolved in 49 (68.05%) patients, ruptured in 15 (20.88%), progressed to abscess formation in 6 (8.33%) and intestinal obstruction occurred in 2 (2.77%). Mean age in cecal mass was 46 years, lymphoma 40 years, adenocarcinoma colon 38 years, ileocecal tuberculosis 34 years, appendicular lump 31 years, and psoas abscess 27 years.

Conclusion Most common cause of right iliac fossa mass was appendicular lump. Malignant conditions were found in eight patients. Most of the appendicular lumps resolved on conservative management. However, surgical interventions were needed when complications occurred.

Key words Right iliac fossa mass, Appendicular lump, COVID 19 pandemic, Adenocarcinoma colon, Abdominal tuberculosis, Psoas abscess.

INTRODUCTION:

Acute appendicitis is a common surgical emergency encountered in clinical practice. However, if the

presentation is delayed then number of complications may occur. Many patients with delayed presentation develop appendicular lump which at times poses diagnostic challenge as well as management dilemma. The classical treatment of appendicular lump is conservative management as described more than a century ago by Ochsner and Sherren. Interval appendectomy is advised after resolution of symptoms. Appendicular lumps are usually formed in 2-6% of cases if early surgery is not done.¹

About 5-10% of right iliac fossa masses are due to the tuberculosis of ileocecal junction. It is more

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common in males.² Isolated cecal tuberculosis might present as firm mass.³ Appendiceal Crohn's disease is a rare differential diagnosis of right iliac fossa mass.⁴ Stromal tumor of gastrointestinal tract can present rarely as mass in same location.⁵ Number of pathological conditions, benign and malignant in nature can present with right iliac fossa mass.^{6,7}

During COVID 19 pandemic because of lockdowns and movement restriction many patients with abdominal pain presented late to tertiary care hospitals. The fear of contracting COVID infection was also high. This study was conducted to find out the causes of right iliac fossa masses including period of COVID 19 pandemic which started during the study period and to note how the pattern was different from that reported earlier in literature.

METHODOLOGY:

This cross-sectional descriptive study was conducted in the Department of Surgery, Jinnah Postgraduate Medical Center Karachi, from September 2019 to September 2021. Institution review board approval was obtained. Patients above twelve years of age were included. All patients who presented with right iliac fossa lump were enrolled. History and clinical examination findings were recorded. In tender lump total leucocyte count and ultrasound abdomen findings were noted. Patients with the suggestion of appendicular lump on ultrasound were treated conservatively by intravenous fluids, analgesics, antibiotics and repeated examinations. Outcomes, like rupture of lump causing generalized peritonitis or persistent fever, and ultrasound abdomen suggestive of appendicular abscess were the indications of surgical intervention.

Patients with non specific history and unusual clinical findings not related to appendicular lump underwent additional investigations like ESR, Gene-Xpert test, x ray chest, CT scan abdomen, MRI spine, where indicated in addition to ultrasound abdomen. In patients with hypoechoic masses ultrasound guided

aspiration and drain placement was done. Patients underwent open drainage of abscess if response was not apparent. In case of solid masses biopsy was taken by laparoscopic approach and for accessible lymph nodes open biopsy was done. In case of carcinoma of cecum colonoscopic biopsy was taken. These patients were treated by right hemicolectomy and postoperatively referred to oncology. Lymphoma patients were sent for chemotherapy and radiotherapy. Antituberculous drug therapy was started when diagnosis of tuberculosis was made. Data were entered into SPSS version 25. Outcome of appendicular lump was presented as resolved, abscess formation, rupture with peritonitis and intestinal obstruction. Frequency and percentages were calculated and data were presented in tabulated form.

RESULTS:

A total 90 patients of lump in right iliac fossa presented during the study period. There were 68 (75.55%) male and 22 (24.45%) female patients. There were 17 patients between 12 years – 20 years of age, 54 from 21 years – 40 years, 19 from 41 years – 60 years and one patient above 60 years of age. The most common cause of right iliac fossa mass was appendicular lump found in 72 (80%) patients. Most (n=49 - 68%) of these lumps resolved on conservative treatment.

Mean age in years in patient with cecal mass was 46 years, lymphoma 40 years, adenocarcinoma colon 38 years, ileocecal tuberculosis 34 years, appendicular lump 31 years and psoas abscess 27 years. Table I shows the causes of right iliac fossa mass whereas table II shows the outcome of appendicular lump. Of the total, 15 (16.66%) patients had concomitant COVID 19 positive PCR test as well.

DISCUSSION:

Appendicular lump is usually formed in 2% - 6% of cases of acute appendicitis but in the COVID 19 pandemic its frequency has increased.⁸ In our study

Table I: Causes of Right Iliac Fossa Lump (n=90)

Causes	No. of Patients (n)	Percentage (%)
Appendicular Lump	72	80.0%
Carcinoma of Cecum	07	7.8%
Psoas Abscess	06	6.7%
Ileocecal Tuberculosis	03	3.3%
Lymphoma	01	1.1%
Adenocarcinoma of Colon	01	1.1%

Table II: Outcome of Appendicular Lump (n=72)

Outcome	No. of Patients (n)	Percentage (%)
Resolved	49	68.0%
Ruptured / Peritonitis	15	20.9%
Abscess Formation	06	8.3%
Intestinal Obstruction	02	2.8%

72 (80%) patient presented with appendicular lump. The treatment of appendicular lump is controversial as many surgeons perform appendectomy even in this condition.⁹ Laparoscopic appendectomy is the treatment of choice when lumps treated initially with antibiotics fail to resolve.¹⁰ In this study conservative treatment failed and resulted in rupture of lump causing peritonitis in 15 (20.9%) patients. However, in this study patients underwent either exploratory laparotomy or laparoscopic appendectomy.

Lump can also form in acute appendicitis when appendix perforate as reported in literature.¹¹ In this study most common complication of appendicular lump was rupture of abscess inside lump resulting in peritonitis. In a study it was reported that non operative management of complicated appendicitis like lump, has significant failure rate as compared with surgical intervention.¹² However, the complications of surgery itself can occur. Surgical exploration of the lump can cause ileal injury, cecal injury, and fecal fistula formation. In this study conservative treatment resulted in resolution of lump in 49 (68%) patients. Surgical intervention was done in patients with perforated appendix, appendicular abscess and intestinal obstruction. In another study non operative management of appendicular lump resulted in more failure rate, increased hospital stay, and increased mortality thus authors recommended surgical intervention rather than observation.¹³

It is reported that if appendectomy is not done then lump developed in only 76% patients of acute appendicitis.¹⁴ It is suggested by researchers that appendicular lump should be treated with antibiotics because surgery might disseminate infection and fecal fistula may occur. Surgery should be reserved for complications of lump and interval appendectomy was also recommended.¹⁵ Same strategy of treatment was applied in this study. The frequency of complications and types in index study are not different from those reported in literature.¹⁶

The other causes of right iliac fossa lump included number of different pathologies as reported in literature. It is important to diagnose them with laboratory investigations and radiology. Psoas

abscess is a relatively rare clinical disease.¹⁷ It is treated usually by CT guided drainage or open surgical intervention. In this study 6.66% patients had tuberculous psoas abscess. The common organisms causing psoas abscess include Mycobacterium tuberculosis, Klebsiella pneumonia, Staphylococcus aureus, Streptococcus, and Enterobacteria.¹⁸ The treatment of iliac fossa mass is thus tailored according to the cause and may include minimal invasive intervention to hemicolectomy for carcinoma followed by chemotherapy and radiotherapy where indicated, as carried out in this study.

CONCLUSION:

The most common cause of right iliac fossa mass was appendicular lump followed by psoas abscess. Malignant causes like lymphoma and cecal carcinoma were important sinister conditions. Thus high index of suspicion must be exercised. Non operative management of appendicular lump was successful in 2/3rd of the patients and is thus recommended, specially during COVID 19 pandemic and in patients who were tested COVID 19 RT- PCR.

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Mazhar Iqbal: Data analysis, drafting of manuscript.

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Muhammad Naeem: Data collection and interpretation.

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