

Mass in Right Iliac Fossa- Clinicopathological Evaluation

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Abstract

Background: To identify clinico-pathological entities presenting as mass in right iliac fossa.

Methods: In this observational study patients of mass in right iliac fossa were recruited. All patients who presented with sign and symptoms of mass in right iliac fossa were investigated and subjected to conservative or operative managements depending upon the cause and response to conservative management.

Results: Appendicular mass (33.7%) was the commonest finding, followed by cecal carcinoma(9.8%), ileocecal tuberculosis(9.8%), psoas abscess (7.6%), retroperitoneal dermoid(3.3%), worm infestation (3.3%) and lymphoma (3.3%).

Conclusion: Appendicular mass is the main cause of mass in right iliac fossa, with a wide range of other causes.

Key words: Mass in right iliac fossa, Appendicular mass, Psoas abscess.

Introduction

A mass in the right iliac fossa is a 'temple of surprises' and a common presentation at surgical floor, requiring skill and acumen to diagnose. The mass arises either from the normal structures present in the area between the symphysis pubis, umbilicus and anterior superior spine iliac.¹ Sometimes the mass arises from the structures abnormally situated in the region.² Among the multiple diagnoses of right iliac fossa mass, some are operable, some need staging, still others need conservative management and still more are initially conservatively managed with a later surgery.³ It is utmost important to differentiate each condition and have a diagnosis and a management plan due to vast variability in management.³

Female patients pose a greater diagnostic dilemma due to their different pelvic anatomy. Detailed history and examination is a key to clinch the appropriate diagnosis. A set of investigations are ordered to reach at a definite diagnosis.⁵ These include complete blood count, ultrasonography and contrast enhanced Computer tomography (CECT) which are usually done in all cases. Additional tests like ESR, pregnancy

tests, tumor markers, biopsies and spinal surveys may be needed.²

Patients with mass in right iliac fossa may be confronted by a general practitioner, a surgeon or a gynecologist and knowledge of anatomy, detailed history, clinical examination referring towards the pathological process followed by lab analysis and imaging lead to a diagnosis. The most common differential diagnosis encountered by surgeons^{4,5} are: appendicular mass, appendicular abscess, ileocecal tuberculosis, right ovarian mass, right ectopic kidney, rectus sheath hematoma, carcinoma caecum and ameboma.^{4,5}

An important differential diagnosis is often between an appendicular mass, carcinoma of the caecum and ileocecal tuberculosis.¹ In Subcontinent, tuberculosis has been the main cause of intestinal obstruction and perforation.^{4,6} Cecal carcinoma is more common in the elderly and higher socio-economic group consuming less fibrous diet.^{2,4} Crohn disease is a disease of western world.² Appendicular masses are seen in relatively younger people with both conservative and operative strategies. Other less common causes are diagnosed and managed accordingly.⁵

Patients and Methods

This study was carried out at Benazir Bhutto Hospital, a tertiary care hospital of Pakistan draining Urban, semi urban and rural areas of Northern Punjab, from January 2014 to July 2015. All patients with suggestive history of pain or mass Right iliac fossa and mass palpable on clinical examination were included. Patients who underwent emergency surgery were excluded. Upon arrival of the patients in the ward, a fluid and electrolyte resuscitation and empirical antibiotics were started according to provisional diagnosis. Patients with clinical suspicion and previous history of tuberculosis were also initially kept on conservative regime. All patients underwent complete blood count and ultrasonography. CECT scan was done in patients with unsure diagnosis and in whom mass was suspected to be other than inflammatory appendicular mass secondary to appendiceal pathology. The additional investigations included pregnancy test (done in all women of child bearing age); colonoscopy for suspected cecal

carcinomas; X ray erect abdomen for patients with obstructive symptoms; ESR , X ray lumbosacral spine and CXR for suspected tuberculosis and ultrasound to detect psoas abscess ; percutaneous ultrasound guided biopsies for tumors needing histopathological proofs and diagnostic laparoscopy and proceed for still undiagnosed cases. The variables studied included demographic details, time between onset of symptoms and arrival in ward, symptoms, investigations done, type of treatment offered and operative findings and definitive diagnosis. The data were statistically analyzed using Statistical package for social sciences (SPSS, version 16.0).

Results

A total of 92 cases were included in the study, out of which 52(56.5%) were males and 40(43.5%) were females. Patients ranged between 8 to 70 years Average age was 30.35 years (Figure 1). Commonest presentation was mass in RIF (Table 1). Appendicular mass in 33.7%,cecal carcinoma in 9.8%,Ileocecal tuberculosis in 9.8%and psoas abscess in 7.6% making the most common causes (Table 2). Twenty nine (32.7%) appendectomies for appendicular masses, all done after initial resuscitation and antibiotics. Wound infections were seen in 17.24% patients postoperatively. Operating appendicular masses with initial optimization was the strategy in our hospital. Conservative management on Oshner Sherren regimen, for delayed treatment of acute appendicitis, was done in 2 patients. 19(20.7%) right hemicolectomies for carcinoma cecum and iliocecal tuberculosis, 7 (7.6%)incision and drainage for abscesses, 3(3.3%) nephrectomies for kidney diseases, 2 (2.2%) marsupialization for right ovarian cysts, 2(2.2%) wedge resections for Meckel’s diverticulitis, 4(4.3%) enterotomies for worm infestation and phytobezoars, 2(2.2%) salpingotomies for ectopic tubal pregnancies,1 cystectomy for pseudo pancreatic cyst, 1 TAH with BSO for ovarian Ca which came out to be secondary from stomach, 1 hernioplasty for lumbar hernia 1 patient underwent orchidectomy and 1 retroperitoneal lymph node dissection(1.1%) for testicular malignancies and 9(9.8%) patients were managed conservatively including GIST, lymphomas, tuberculous psoas abscess and appendicular masses.

Table 1: Symptoms of patients with pain RIF

Symptom	No	%
Mass in RIF	43	46.7
Pain in RIF	39	42.4
Mass along with pain in RIF	7	7.6
Subacute intestinal obstruction	3	3.3

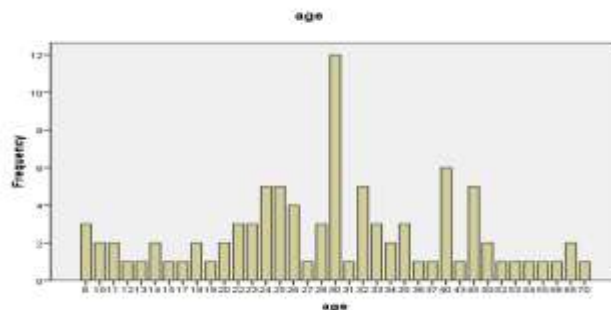


Figure 1: Age distribution

Table 2: Causes and Percentage of mass in RIF

Causes	No.	Percentage
Appendicular mass	31	33.7
Cecal carcinoma	9	9.8
Ileocecal tuberculosis	9	9.8
Carcinoid tumor	1	1.1
Retroperitoneal dermoid	3	3.
Retroperitoneal sarcoma	1	1.1
GIST involving lymphnodes	1	1.1
Worm infestation	3	3.3
Psoas abscess	7	7.6
Ectopic pregnancy	2	2.2
Right ovarian cysts	2	2.2
Phytobezoar	1	1.1
Enteric fever	1	1.1
Meckel’s diverticulum	2	2.2
Hydatid cyst	2	2.2
Rectus sheath hematoma	2	2.2
Leomyosarcoma	1	1.1
Rhabdomyosarcoma	2	2.2
Renal cell carcinoma	1	1.1
PCKD	1	1.1
Pseudopancreatic cyst	1	1.1
Lymphoma	3	3.3
Krukenberg tumor with primary in stomach	1	1.1
Undescended malignant testicular tumor	1	1.1
Metastatic testicular malignancy	1	1.1
Paraganglioma	1	1.1

Discussion

Mass in RIF poses a diagnostic dilemma for surgeons all over the world. The present study was carried out to study various clinico pathological aspects and diagnoses of mass in RIF in relation to age and sex distribution along with clinical presentations followed

by subsequent managements. There were 27 differential diagnoses for mass RIF in our study including the rarer conditions. Age group ranged from 8-75 years similar to the literature.¹⁻⁴ There was a male preponderance accounting for 56.5 % contrary to study by Anuradha⁵ where females were more than 50% but similar to Narendran who evaluated pathological nature of the right iliac fossa mass and its management and he found male preponderance in appendicular pathology.³⁻⁵

Main clinical sign was mass in RIF accounting for 46.7% followed by pain in 42.4% patients. Pain was the main symptom in literature majorly for appendicular masses done by Shetty with tenderness in 92% and mass in 100%.^{3-5,18} Mass in RIF mainly was due to appendicular pathology accounting for 33.7%, 29 underwent surgery after initial resuscitation and antibiotics and 2 were managed on Oshner Sherren regimen. 27.32% patients got wound infection in postoperative period. Surgery remained the main stay for appendicular mass management in our hospital. Appendicular abscesses were excluded from study group. The incidence was similar to literature with 50% appendicular masses in an Indian study.^{3,5} However Oshner Sherren regime was the main management strategy in various studies. Tuberculosis (9.8%) and cecal carcinoma (9.8%) ranked 2nd in incidence. Cecal carcinoma¹¹ patients underwent Right hemicolectomies after staging as in other studies¹⁷. The patients with tuberculosis were started anti tuberculous therapy (ATT), 8 patients underwent right hemicolectomy, 1 patient improved on ATT. 4 (4.4%) incision and drainage for psoas abscesses which were superinfected and ATT was given for others. Similar results were seen in other studies.⁵⁻¹⁰ Age group was also similar in these studies.^{2-5,16,18} Imatinib was started for GIST of lymph nodes and chemotherapy for lymphomas. Similar management options are valid in various studies across the world.¹³⁻¹⁶

Conclusion

1. Maximum incidence of RIF mass was the appendicular mass which was most common in the mean age of 30+/- 16.04 years and having male predominance.

2. Detailed history and thorough clinical examination can solve the enigma of RIF mass and helpful for correct clinical diagnosis.

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