Original Article

New Indian Journal of Surgery
Volume 13 Number 1/ January–March 2022
DOI: https://dx.doi.org/10.21088/nijs.0976.4747.13122.1

Clinical Study of Right Iliac Fossa Mass: A Prospective Study

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How to cite this article:
Manisha Narayan, Priyanka Khilari/Clinical Study of Right Iliac Fossa Mass: A Prospective Study /New Indian J Surg. 2022;13(1): 9–13.

Introduction

A right iliac fossa mass is a 'temple of surprises' and a common presentation at emergency department, requiring skill and keeness to diagnose. Patients with right iliac fossa mass will be dealt by a general practitioner, a surgeon or a gynecologist and knowledge of anatomy, with detailed history, clinical examination directing towards the pathological process followed by lab analysis and imaging leads to a diagnosis.

The most common differential diagnosis encountered are: appendicular mass, appendicular abscess, ileocecal tuberculosis, right ovarian mass, right ectopic kidney, rectus sheath hematoma, carcinoma caecum and ameboma, actinomycosis and crohn's disease.[1,2] An important differential diagnosis is often between an appendicular mass, carcinoma of the caecum and ileocecal tuberculosis.[3] In Subcontinent, tuberculosis has been the main cause of intestinal obstruction and perforation.[1,4]

Cecal carcinoma is more common in the elderly and higher socio-economic group consuming less fibrous diet.[1,5,6] Appendicular masses are seen in relatively younger people with both conservative and operative strategies. Other less common causes are diagnosed and managed accordingly.[7]

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Received on: 04.11.21
Accepted on: 03.12.21

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Keywords: Iliac Fossa Mass, Diagnosis, Clinical Study, Tuberculosis.

Aims and Objectives

- To Study various diseases which can present with mass in the right iliac fossa.
- To Study the modes of investigations to diagnose various diseases presenting with mass in the right iliac fossa.
- To study the various modes of management including complications and the prognosis.

Methodology

Source of data: patients presenting with right iliac fossa mass in A.J. Institute of Medical Sciences, Mangalore between October 2018 to May 2020.

Method of Collection of Data

Patient provisionally diagnosed to have mass in the right iliac fossa by clinical evaluation will be included in this prospective study. A total minimum number of 50 patients will be studied.The period of study is from October 2018 to May 2020.

Direct interview with patient and obtaining a detailed history. Thorough clinical examination. Appropriate investigations performed over the

patients. A pretested structural proforma will be used to collect relevant information for each individual patient selected.

Cases will be selected consequently with following inclusion and exclusion criteria

Inclusion Criteria

Patients presenting with right iliac fossa mass to A.J. Institute of Medical Sciences, Mangalore.

Exclusion Criteria

- Female patients with pathology related to uterus and its appendages.
- Right iliac fossa masses secondary to extra-abdominal pathology.
- Bony swellings of the region.

Observation and Results

In our study, 33 cases of "Mass in the right iliac fossa" cases were chosen over a period of two year from October 2018 to May 2020.

Table 1: Incidence of Various Conditions.

Diagnosis	No of Cases	Percentage
Appendicular Mass	17	52
Appendicular Abscess	3	9.09%
Ileocaecal Tuberculosis	3	9.09%
Carcinoma Caecum	6	18.1%
Retroperitoneal Sarcoma	1	3.03
Psoas Abscess	3	9.09%
Total	33	100

In our study of 33 cases, 61 % of cases were related to appendicular pathology either in the form of Appendicular mass (52%) or appendicular abscess (9%), 9% of cases were Ileocaecal tuberculosis, 18% of cases were carcinoma of caecum, 3% of cases were retroperitoneal sarcoma and 9% of cases were related to psoas abscess.

Table 2 : Age Distribution.

Diagnosis	No. of Cases	21-30	31-40	41-50	51-60
Appendicular mass	17	8	8	0	1
Appendicular abscess	3	2	1	0	0
Ileocaecal tuberculosis	3	1	1	1	0
Ca.caecum	6	0	0	2	4
Retroperitoneal sarcoma	1	0	0	0	1
Psoas abscess	3	1	0	2	0
Total	50	12	10	5	6

In our study group, it was observed that the youngest patient was of age 21years who presented with appendicular mass and the oldest was 60 years of age admitted with carcinoma caecum.

In our study, Appendicular mass manifested most commonly in 2nd & 3rd decade (47%) and mean age is 33 years. Appendicular abscess was common in 2nd (66.6%) followed by 3rd decade (33.3%) & mean age is 29.6 years. Ileocaecal tuberculosis was found equally in all age group & mean age is 38.3 years.

Carcinoma caecum was common in the 5th decade (66%) & mean age is 56 years. Retroperitoneal sarcoma was common in the 5th decade & mean age is 58 years. Psoas abscess was common in 4th decade (66.6%) and mean age is 40 years.

Table 3: Sex Distribution.

Diagnosis	Male		Female	
	No.	%	No.	%
Appendicular Mass	11	64.7	6	35.29
Appendicular Abscess	1	33.3	2	66.6
Ileocaecal Tuberculosis	3	100	-	
Carcinoma Caecum	3	50	3	50
Retroperitoneal Sarcoma	-	-	1	100
Psoas Abscess	1	33.3	2	66.6
Total	19		14	

In our study appendicular mass (64.7%) was predominantly seen among males whereas appendicular abscess was seen more common among females (66.6%). Ileocaecal tuberculosis was also more common in males (100%), carcinoma caecum was equally seen both in females and males (50%). others was more common in females (66.6%) as compared to males (33.3%).

In our study, all cases of right iliac fossa mass presented with pain abdomen (100%). Hence the commonest presenting symptom was pain abdomen. In our study, 21 cases(63.6%) presented with fever, 12 cases (36.36%) presented with vomiting, 18 cases (54.5%) presented with mass abdomen, 7 cases (21.21%) had weight loss, and 9 cases (27.27%) presented with altered bowel habits.

Table 4: Distribution of Symptoms.

Symptoms	Pain abdomen	Mass abdomen	Fever	Vomiting	Loss of weight	Bowel disturbance
App mass	17	2	10	7	2	2
App abscess	3	2	3	-	-	-
Ileocaecal TB	3	1	3	1	-	1
Ca caecum	6	4	2	3	3	4
Retroperitoneal sarcoma	1	-	-	1	-	-
Psoas abscess	3	2	3	-	2	2
Total	33	18	21	12	7	9
Percentage	100	54.5	63.6	36.36	21.21	27.27

Table 5: Distribution of Clinical Signs.

Clinical Signs	Mass Abdomen	RIF Tenderness	Guarding/ Rigidity
Appendicular mass	7	17	9
Appendicular abscess	2	3	2
Ileocaecal tuberculosis	1	2	-
Carcinoma caecum	1	6	2
Retroperitoneal sarcoma	-	1	-
Psoas abscess	2	3	3
Total	13	32	16
Percentage	39.39	96.96	48.48

In our study, 13(39.39%) cases had palpable mass in right iliac fossa. All cases of appendicular mass, appendicular abscess, retroperitoneal sarcoma and 66.6% cases of ileocaecal tuberculosis had tenderness in right iliac fossa. All cases of appendicular abscess, 53 % cases of appendicular mass, 33.3% cases of carcinoma caecum and all cases of psoas abscess patients had guarding on presentation. 66.6 % cases of ileocaecal tuberculosis and 50% cases of carcinoma caecum had abdominal distension.

Table 6: Haemoglobin Percentage.

Diagnosis	No of Cases	Hemoglobin (gm%)	
		<10	>10
Appendicular mass	17	6	11
Appendicular abscess	3	2	1
Ileocaecal tuberculosis	3	2	1
Carcinoma caecum	6	4	2
Retroperitoneal sarcoma	1	1	-
Psoas abscess	3	-	3
Total	33	15	18
Percentage	100	45.45	54.54

In our study, 45 % of cases of right iliac fossa mass had Hb <10 gm% and 54 % had >10 gm%, and Mean Hb in the study was 9.8 ± 1.36 gm%. In our study, mean Hb in ileocaecal tuberculosis patients was 9.93 gm% and in Carcinoma caecum patients was 9.2 gm%.

Table 7: Investigations

Findings	USG	BA. Studies	CT	C XRAY	ABD XRAY
	No.	No.	No.	No.	No.
Appendicular mass	17	-	-	2	6
Appendicular abscess	3	-	-	-	1
Ileocaecal tuberculosis	3	2	3	-	1
Ca.caecum	6	1	6	-	3
Retroperitoneal sarcoma	1	-	1	-	-
Psoas abscess	3	-	3	-	-
Total	33	3	13	2	11

In this study of 33 cases, most of the patients got abdominal xray and ultrasound abdomen done and all of them were correctly diagnosed.

In this study, X-ray chest done in 2 patients, which showed features of pleural effusion and basal lobar pneumonia in case of appendicular mass. whereas in patients with ileocaecal tuberculosis, it was found to be normal.

2 patients of ileocaecal TB and 1 patient of Ca caecum underwent barium enema study. Of these 2 patients of ileocaecal TB had features suggestive of intestinal TB. The main feature in ileocaecal tuberculosis was pulled up caecum, narrowed terminal ileum with widened ileocaecal angle (obtuse).

Serum ADA measurement done in patients of ileocaecal TB and all were having raised Sr ADA levels (>54U/L) s/o tuberculosis infection.

2 patients of Ca caecum had irregular filling defects. In carcinoma caecum main feature was irregular filling defect with shouldering sign positive. In one study, colonoscopy was done only for one patient and it showed malignant growth in the caecum.

3 Patients of ileocaecal TB, 6 cases of Carcinoma caecum, 3 patients of psoas abscess and 1 case of retroperitoneal sarcoma underwent CT scan abdomen.

Table 8: Modes of Management.

Diagnosis	No. of Cases	Conservative Treatment		Surgical Treatment	
		No.	%	No.	%
Appendicular mass	17	13	76.47	4	23.52
Appendicular abscess	3	-	-	3	100%
Ileocaecal tuberculosis	3	-	-	3	100%
Carcinoma caecum	6	2	33.33	4	66.6%
Retroperitoneal sarcoma	1	-	-	1	100%
Psoas abscess	3	-	-	3	100%
Total	33	15	45.45	18	54.54

In our study of 33 cases 15 cases were managed conservatively and 18 cases were managed surgically. Out of 17 cases of appendicular mass, 3 cases managed surgically by Immediate appendicectomy. Whereas 14 cases were managed initially by Oschner- sherren regimen followed by interval appendicectomy, and 2 cases lost to follow up after Oschner-sherren regimen and did not come for interval appendicectomy.

Of 3 cases of appendicular abscess, 2 were managed surgically by extraperitoneal drainage and one case underwent immediate appendicectomy. Of 3 cases of ileocaecal TB, all were managed surgically. Among them 2 cases under went limited local resection with end to end anastomosis and 1 case under went right hemicolectomy with ileotransverse anastomosis as they presented with symptoms and signs of intestinal obstruction.

Among 6 cases of Ca caecum, 2 was managed with palliative chemotherapy because it was inoperable and others were managed surgically as it was operable. A case of retroperitoneal sarcoma was managed surgically by wide local excision followed by radiotherapy. 3 cases of psoas abscess were reported, which were managed conservatively with extraperitoneal drainage.

Table 9: Types of Surgical Treatment.

Types of Surgery	No. of Cases	Percentage
Interval appendicectomy	13	39.39
Emergency appendicectomy	5	15.15
Extraperitoneal drainage (EPD)	5	15.15
Limited local resection with end to end anastomosis (LLR)	2	6
Right hemicolectomy with Ileotransverse anastomosis	5	15.15
Wide local excision	1	3

In this study, among 17 cases of appendicular mass, 3 underwent immediate appendicectomy and 14 cases were managed by OS regimen initially followed by interval appendicectomy at a later date, and 2 cases were lost to follow up, did not come for interval appendicectomy. 2 cases of appendicular abscess were managed by extraperitoneal drainage followed by delayed appendicectomy, and 1 case was managed by emergency appendicectomy.

Among 3 cases of ileocaecal tuberculosis managed surgically, 2 cases underwent limited local resection with end to end anastomosis, 1 case underwent right hemicolectomy with ileotransverse anastomosis.

Among 6 cases of Carcinoma caecum, 4 cases were managed surgically by right radical hemicolectomy with ileotransverse anastomosis followed by chemotherapy, and remaining were managed conservatively by chemotherapy. A case of retroperitoneal sarcoma was managed surgically by wide local excision followed by radiotherapy. Among 3 cases of psoas abscess, all underwent extraperitoneal drainage followed by antitubercular therapy and two among them reported with wound infection on follow up.

Table 10: Complications and Follow UP.

Post op Complications	No. of Cases	Percentage
Wound infection	6	33.33
Mortality	4	22.22
Total	10	55.5

Table 11: Post Operative Follow UP.

	No. of Cases 25	Percentage 25%
Surgery done	14	56
ATT	4	16
Chemotherapy	2	8
Normal	2	8
Radiotherapy	1	4
Loss to follow up	2	8

Discussion

The aim of the study was to evaluate the clinical features and management of RIF masses presenting to a General Surgeon. This is a study of 33 cases of mass in the right iliac fossa who were admitted to A. J. Institute of medical sciences, mangaluru during the period of October 2018 to May 2020.

Mass in right iliac fossa is one of the most common clinical condition we come across with. Among them, in our study, 61% of cases were related to the appendicular pathology either in the form of appendicular mass (52%) and appendicular abscess.[9] 9% cases were due to ileocaecal tuberculosis, 18% cases were related to carcinoma caecum and remaining 3% cases were of retroperitoneal sarcoma.

In our study Right iliac fossa mass cases presented in varied age group, the youngest patient was of 21 yrs who presented with appendicular mass and oldest was 60 yrs of age who presented with carcinoma caecum.

Overall incidence was more common among males than females with respect to right iliac fossa mass. It was more common among low socio economic group. Pain abdomen being the most common presenting symptom. Fever, mass per abdomen, vomiting, altered bowel habits, abdominal distension, and history of weight loss were the other symptoms.

13% palpable mass in right iliac fossa. Other signs were pallor, icterus, tenderness, rigidity, guarding, abdominal distension and increased bowel sounds.

First investigation of choice was usg abdomen and with sensitivity of 100%. Other specific investigations that were done are barium enema, serum ADA, Colonoscopy, and chest x ray, abdominal xray, CT scan abdomen for evaluation. 45% patients were managed conservatively and 55 % of cases underwent surgery.

Patients with Ileocaecal tuberculosis received category-I ATT regimen for 6 months. Carcinoma caecum and retroperitoneal sarcoma were managed surgically followed by adjuvant chemotherapy and radiotherapy respectively.

Most of the patients had uneventful postope rative period and majority of patients were followed up during course of study period and it was normal in most of the patients.

References

1. Howell JS, Knapton PJ. Ileo-caecal tuberculosis. Gut. 1964 Dec;5(6):524.
2. Dnyanmote AS, Sinha N, Chavan S, Sable S. Clinico-pathological study of right Iliac Fossa Mass.
3. Panarese A, Pironi D, Pontone S, Vendettuoli M, De FC, Antonelli M, Romani A, Filippini A.A case of symptomatic mass in the right iliac fossa: a Bermuda Triangle which often lies the right diagnosis. Annali italiani di chirurgia. 2014;85(ePub).
4. Bakhshi GD, Deshpande S, Jadhav KV, Shenoy SS, Yadav Rb J, Kavitha T. MB Abdominal Koch's: An Analysis-An Indian Perspective. International Journal of Medical And Applie Sciences. 2013;2(3):248-54.
5. Shankar M. A clinical study of right iliac fossa mass. The internet journal of surgery. 2013 Oct 12;30(4):1-36.
6. Shashikala V, Victor AJ, Sonia Rani PB. Right iliac fossa mass: A prospective study. Int J Biomed Adv Res. 2016;7(8):388-92.
7. Dnyanmote AS, Sinha N, Chavan S, Sable S. Clinico-pathological study of right Iliac Fossa Mass.