

Original Research Article

A CLINICAL STUDY OF RIGHT ILIAC FOSSA MASS

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ABSTRACT

Background: Aim: To evaluate various conditions that present as mass in the right iliac region.

Materials and Methods: This study was done in Osmania General Hospital, Hyderabad. The main object of which was to assess the relative frequency of various diseases that can present as a mass in the right iliac fossa, in a group of 50 patients. The other objectives were to study the relationship, if any between age, sex, occupation, geographical distribution or any other etiological factor.

Results: Among the right iliac fossa masses, the disease of highest incidence was appendicular mass constituting 46% of the incidence. Maximum incidence was seen in second and third decades with male preponderance. Regarding occupation and geographical distribution no definite conclusions could be drawn. All the patients presented with pain abdomen of 3-4 days duration. Other prominent symptoms were vomiting, fever and anorexia. All patients had a tender mass in the right iliac fossa, with guarding of overlying musculature. The diagnosis was straight forward. All the cases were treated conservatively without any complications, except patients who had to be taken up for surgery. The second commonest condition presenting with a mass in the RIF was appendicular abscess constituting 18% of the incidence. Maximum incidence was seen in the second decade with female preponderance. All the patients presented with pain abdomen, fever, vomiting and impaired appetite. All the cases had increased body temperature and tender mass. Ultrasonogram had confirmed the diagnosis. Four cases were treated with Open Drainage alone and five cases were treated with Drainage and Appendectomy. The third commonest condition presenting with a mass in the right Iliac region was Ileocaecal tuberculosis, constituting 12% of the incidence. Fourth frequent condition presenting with a mass in Carcinoma caecum, constituting 8% of the incidence. Maximum incidence was seen in the fifth decade with female preponderance. Main symptoms were pain abdomen, loss of weight and mass per abdomen. On examination main signs detected were anaemia and firm to hard mass in the RIF. Ultrasound abdomen, barium enema were helpful in preoperative diagnosis. Two patients were treated surgically with Hemicolectomy and two werereferred to MNJ Institute of Oncology, Hyderabad.

Conclusion: The common cause of right iliac fossa mass is of appendicular pathology followed by Ileocaecal TB, Carcinoma caecum and psoas abscess in that order, with male preponderance and most of cases falling in 3rd decade.

Keywords: Appendicular mass, ileo-caecal tuberculosis, carcinoma caecum, Crohn's disease, amoebic typhlitis, cold abscess.

INTRODUCTION

Over the years, the abdomen has remained an element of fascination, offering an intriguing diagnostic challenge. The various names like "The Temple of Surprises", "The Tomb of Mysteries", "The Magic

Box of Pandora" precisely describes the enigma it holds for the surgeon. Despite the advancement in the field of diagnosis, the surprises never cease.

A lump in the abdomen has always held a fascination for the clinician. The challenge it offers in its diagnosis is not often surpassed by any other disease.

Among the various quadrants of the abdomen, the right fossa enjoy the pride of a place as far as the incidence of mass per abdomen is concerned.^[1,2]

Although an extensive subject the study was undertaken to unravel some of the mystery of a mass in the right iliac region. The common conditions met with are appendicular mass, appendicular abscess ileocaecal tuberculosis, carcinoma caecum, iliac lymphadenitis, tubo ovarian masses, etc.^[3]

This challenging task of recognising certain well defined clinico-pathological aspects of mass in the right iliac fossa has stimulated me in undertaking this study. The purpose of the present study is to recognise these aspects of mass in the right iliac fossa, their relative incidence as seen in Osmania General Hospital, Hyderabad, in the overall endeavour to reduce morbidity and in a few instances mortality.

Aims and objectives of the study

1. To evaluate various conditions that present as mass in the right iliac region.
2. To know the modes of presentation, age and sex distribution and diagnosis of various conditions.
3. To study various modalities of treatment and outcome at Osmania General Hospital, Hyderabad.

MATERIALS AND METHODS

50 cases of mass in the right iliac region which were selected on purposive sampling basis, were admitted, investigated and who underwent various treatments in the institute between NOV 2013 to NOV 2015 were studied. Patients having the mass in the right iliac region extending from other regions were excluded. Patients of both sex and which have also been found accidentally on examination and investigations were included. The cases collected on sampling were subjected to detailed history and complete physical examinations, laboratory investigations and radiological studies.

During this study period a total number of 23 cases of Appendicular Mass and 9 cases of Appendicular Abscess were encountered. These patients were treated at Osmania General Hospital, Hyderabad.

Pain abdomen, Fever, vomiting and impaired appetite were the presenting features and in all the patients these were present for more than 3-4 days. On clinical examination mass was palpable in the right iliac region. The clinical diagnosis was based on symptoms and signs. The patients were hospitalised for further management. A total of 21 patients were treated conservatively with bed rest, IV fluids and antibiotics. These patients were closely observed with regard to rise in pulse, temperature and change in size of mass. The patients stayed in hospital until the mass was reduced to a small non tender lump. As a rule interval appendectomy was contemplated to take place six weeks after the end of primary hospitalizations. The remaining two patients underwent surgical intervention, and specimens were

sent to pathology department for confirmation of diagnosis.

In this study 9 cases of Appendicular Abscess were encountered in the age of 11-50 years. 4 cases were treated with Open Drainage and antibiotics and underwent interval appendectomy later, 5 cases were treated with drainage and appendectomy.

In this study 6 cases of ileocaecal Koch's were encountered. In this efforts were made to elicit any history of contact with a tuberculous patient or a previous anti tubercular chemotherapy. Malnourished or anaemic patients with constitutional symptoms like pain, fever, weight loss, or any other evidence of activity of disease process were given pre operative appropriate treatment. All cases were kept under close supervision and treated according to requirement. In this study 3 cases had undergone surgical intervention (Ileo transverse anastomosis) and 3 cases had undergone conservative treatment. Specimens after operated procedures were examined microscopically and according to the strict histological characteristics the pathological diagnosis was made and the postoperative anti tubercular chemotherapy was given.

In this study a total number of 4 cases of Carcinoma of Caecum were encountered. Pain abdomen, loss of appetite, loss of weight, mass per abdomen were the presenting features. Barium enema was positive in all cases with the filling defect and mucosal irregularities. The patients were hospitalised for further management. In this total number,^[2] cases underwent surgical intervention (Right Hemicolectomy) and other 2 patients were referred to MNJ Cancer Hospital. The patient who underwent surgery was also referred later to MNJ Hospital.

In this study 3 cases of Tubo ovarian mass have been encountered. They presented with pain abdomen, loss of weight and mass in right iliac region. Ultrasonography was positive for all three patients.^[1] patient underwent Right Ovarian Cystectomy and the other 2 patients underwent Ovariectomy.

Other cases encountered in this study were 2 cases of parietal lipomas, with mass in right iliac fossa which were excised after confirming the diagnosis with FNAC.

In this study other cases were encountered such as retro peritoneal tumour (liposarcoma), iliac lymphadenitis and parietal abscess of tubercular origin. All these were confirmed clinically, radiologically and pathologically and the respective treatment and post operative management were done.

RESULTS

Total number of 50 patients presented as masses in right iliac Fossa. These patients who were admitted into various units of Osmania General Hospital were selected according to the signs and symptoms and studied in detail.

Table 1: The Relative incidence of various masses in Right iliac region

S.No	Disease	No of Cases	%
1	Appendicular Mass	23	46
2	Appendicular Abscess	9	18
3	Ileocaecal Koch's	6	12
4	Carcinoma Caecum	4	8
5	Ovarian Tumours	3	6
6	Parietal Lipoma	2	4
7	Retroperitoneal Tumour	1	2
8	Parietal Abscess	1	2
9	Ileocaecal Lymphadenitis	1	2
Total		50	100

Appendicular mass, Appendicular abscess and Ileocaecal Koch's being the most commonly encountered cases in this study, were studied in greater detail.

Table 2: Age Incidence

App mass	23	1	9	8	3	2	0
App abscess	9	5	2	0	2	0	0
Ileocaecal koch's	6	0	0	0	2	4	0
Ca caecum	4	0	0	0	1	2	1
Ovarian mass	3	1	0	2	0	0	0
Parietal lipoma	2	0	0	2	0	0	0
Retrper tumor	1	0	0	0	1	0	0
Parietal abs	1	0	1	0	0	0	0
Iliac lymph	1	0	1	0	0	0	0

Table 3: SEX INCIDENCE OF DIFFERENT CONDITIONS PRESENTING AS MASS IN RIF

Diagnosis	Sex	
	Male	Female
Appendicular mass	14 (60.9%)	9(39.1%)
Appendicular abscess	2 (22.2%)	7(77.8%)
Ileocaecal koch's	3 (50%)	3(50%)
Carcinoma caecum	3 (75%)	1(25%)
Ovarian tumours	0	3(100%)
Parietal lipomas	2 (100%)	0
Retroperitoneal tumour	0	1(100%)
Parietal abscess	1(100%)	0
Ileocaecal lymphadenitis	1(100%)	0

In the present study Appendicular mass was predominantly seen in males (60.9%) and appendicular abscess in females (77.8%). Ileocaecal koch's was found to have equal incidence.

Carcinoma caecum, parietal lipomas, parietal abscess and ileocaecal lymphadenitis had a male preponderance whereas retroperitoneal tumours had a female preponderance.

Table 4: Symptoms

Symptoms	No of Cases	% of cases
Pain Abdomen	23	100
Fever	17	73.91
Vomiting	15	65.21
Impaired appetite	14	60.86
Altered bowel habits	3	13.04

Three patients presented with associated altered bowel habits, one with constipation and the other two with diarrhoea. The main signs were a tender fixed mass in the right iliac region with guarding of abdomen. The diagnosis in case of appendicular mass was straight forward in all the cases.

Table 5: Symptoms

S.No	Symptoms	No of Cases	% of cases
1	Pain Abdomen	9	100
2	Fever	9	100
3	Vomiting	4	44.4
4	Decreased appetite	3	33.3

Principal signs were increased body temperature, mass and tenderness in the right iliac region. Diagnosis was confirmed by Ultrasonogram

Table 6: Symptoms

S.No	Symptoms	No of Cases	% of cases
1	Pain Abdomen	6	100
2	Fever	2	33.3
3	Loss of weight	6	100
4	Vomiting	4	66.6
5	Cough	4	66.6
6	Loss of appetite	3	50

Table 7: Treatment

Treatment	No of cases	% of cases
Conservative	3	50
Ileo-transverse anastomosis	3	50

All 6 patients were discharged with anti tubercular treatment.

Table 8: Symptoms

S.No	Symptoms	No of Cases	% of cases
1	Pain Abdomen	4	100
2	Loss of appetite	4	100
3	Loss of weight	4	100
4	Altered bowel habits	2	50
5	fever	1	25

In Carcinoma caecum pain abdomen, loss of appetite, loss of weight and altered bowel habits dominated the symptoms. Examination revealed anaemia, with a firm to hard mass in the right iliac region and with a cachexic picture. Investigations revealed anaemia. Ultrasonography of abdomen was performed in four cases which revealed presence of bowel mass in all four cases.

Table 9: Treatment

S.No	Symptoms	No of Cases	% of cases
1	Rt Hemicolectomy	2	50
2	Referred to MNJ	2	50

OVARIAN MASSES:

Number of cases studied were three.

Investigations revealed a anemia and ultrasonogram of the abdomen revealed tubo ovarian mass in all the three cases.

Treatment:

All the three patients underwent surgery. Laparoscopic Right Ovarian Cystectomy was done in one patient and two patients underwent Right Ovariectomy.

Table 10:

S.No	Symptoms	No of Cases	% of cases
1	Rt Ovarian Cystectomy	1	33.33
2	Rt Ovariectomy	2	66.66

PARIETALLIPOMAS

Parietal lipomas were found in two cases. Both were found to be in the age group of 30-40 years. One patient presented with mass in right iliac region for duration of 2 yrs and the other patient had a history of having the mass for three years which was gradually increasing in size. On examination a firm, non tender, well defined mass was palpated with

slippery edges, which was found to be in the parietal wall, with restricted mobility on muscle contraction, in both the cases. Clinical diagnosis was lipoma of the anterior abdominal wall which was confirmed on FNAC. Wide Excision was done under General Anaesthesia. Histopathological diagnosis was Lipoma.

Table 11: Symptoms

S.No	Symptoms	No of Cases	% of cases
1	Appendicular mass	23	46
2	Appendicular abscess	9	18
3	Ileocaecal Koch's	6	12
4	Ca caecum	4	8
5	Ovarian tumors	3	6
6	Parietal Lipoma	2	4
7	Retroperitoneal tumor	1	2
8	Parietal abscess	1	2
9	Iliac Lymphadenitis	1	2

Table 12: Status of Disease

S.No	Disease	Present Study OGH (%)
1	Appendicular mass	46
2	Appendicular abscess	18
3	Ileocaecal Koch's	12
4	Carcinoma caecum	8
5	others	16

DISCUSSION

A total number of 50 patients, presenting with a mass in right iliac regions, during the period from NOV 2013 to NOV 2015, were selected on purposive sampling basis and studied.

As there are few similar studies, the results of the present study are discussed in comparison with the results of the studies of various diseases presenting as a mass in the right iliac region.

The most common disease presenting as right iliac fossa mass was Appendicular mass followed by Appendicular abscess, Ileocaecal Koch's and Carcinoma caecum, in that order.

Similar results were obtained in a study conducted by Junior sundresh et al (2009).^[4]

In case of appendicular mass the maximum number of cases were found to be in second and third decades of life. There were nine cases in 16-25 years of age and 8 cases in 26-35 years of age group, with 39.13% in 16-25 years of age and 34.78% in 26-35 years of age.

In other series (Juniors undresh et al,2009,^[4] J.S. Jordan et al,^[5] and ErikSkoubo-Kristensen et al,^[6] the greatest incidence was in the second and third decades of life which were comparable with the present study.

There were 14 male and 9 female patients in this series, i.e., with the male and female ratio being 1.55:1. In the study of Junior sundresh et al,2009,^[4] the ratio of male and female was 1.5:1. In the study conducted by Malik Arshad et al 7 the male to female ratio was found to be 1.8:1. In the other series (J.S.Jordan et al,^[5]) the male and female ratio was 2:1.

The main symptoms were pain abdomen (100%), fever (73.91%), Impaired appetite and vomiting (65.21%). All the patients had a vague, tender, fixed mass in the right iliac region with local guarding.

The diagnosis in cases of appendicular mass was straight forward in all cases. Investigations were inconclusive for diagnosis, but were useful for indicating sepsis. All the cases were treated conservatively with antibiotics, IV Fluids, bed rest and observation. Except two patients all of them responded well on an average of 6-8 days. Two patients had to be taken up for surgery as they did not respond for the conservative line of management. Laparotomy was done and continued with appendectomy. All the other patients were advised interval appendectomy after 6 weeks and 18 of them underwent interval appendectomy and recovered well.

Adalia SA,^[8] et al says that in his study of 30 patients, 3 needed emergency appendectomy and remaining 83% were managed conservatively.

MANAGEMENT OPTIONS FOR APPENDICULAR MASS APPENDICULARABSCESS:

There were 9 cases of which appendicular abscess in this series, who presented as a mass in right iliac fossa. Highest incidence was seen in 11-20 yrs age group (initially presented as mass, later on ultrasound it showed to be abscess presenting as mass). In other series the incidence was highest in second decade (Junior sundresh et al; 4 J.S.Jordan et al,^[7]). But in the study by Sunil Kumar et al the incidence was highest in 4th decade. According to Edward L Bradley III et al mean age at which appendicular abscess occurred was 40.7 ± 2.7 .

Pain abdomen (100%), fever (100%), vomiting (50%) and impaired appetite (50%) were predominant symptoms. All the cases had increased body temperature, vague mass and tenderness in the right iliac fossa. Ultrasound abdomen was confirmatory.

Four cases were treated with drainage alone through anterior approach and the rest of the five cases where the appendix was identified to lie free in the abscess cavity underwent abscess drainage and appendectomy.

According to HurmeT et al,^[53] in his study of 147 patients 47% were primarily treated conservatively, of them 9% had to be operated on in acute phase because of worsening of symptoms. Rest 53% were operated on primarily of which 28% had complications. In 31% of conservatively managed patients, interval appendectomy was done and 12% were treated conservatively only.

In the Present study the incidence of ileocaecal Koch's was six. Highest incidence was seen in 51-60 years age group (66.67%). In other series (M.J.Joshi,1976) over two thirds of the patients were in fifth decade. In other series (Junior sundresh et al;) highest incidence was found in third and fourth decades.

Clinical Presentation:

The main symptoms were pain abdomen (100%), loss of weight (1100%), vomiting (66.6%) and fever (333.3%). In other series (Junior sundresh et al) pain abdomen was the most common presentation (98%) and other symptoms being fever (72%%), tenderness (70%), vomiting (56%%) and weight loss (36%).

In other series (ATM Prakash et al,^[10]1978) common presentations were pain Abdomen (95%), loss of weight (88.66%), vomiting (63.66%), fever (8%).8 patients had previous history of pulmonary TB.

CARCINOMACAECUM

In the Present study the incidence of Carcinoma caecum was four. Highest incidence was seen in 41-50 years age group (50%). Male to Female ratio was 1:3 which showed female preponderance.

According to Crerand S et al,^[11] in the series of 1553 patients who presented with primary colorectal cancer, over a period of 30 years at Mater Misericordiae hospital, Dublin 39% patients were aged over 30 years and 51% were between 50-69 years. 70% carcinomas were left sided, 22% carcinomas were right sided and carcinoma caecum accounted for 18%. According to their study carcinoma caecum was more common in patients over 69% and in elderly females and 30% of colorectal carcinomas occurred in caecum.

OVARIAN TUMORS:

In the present study we had three cases of tubo ovarian mass. Pain abdomen, mass in RIF and loss of weight were predominant symptoms. Ultrasonographic examination of the abdomen revealed tubo ovarian mass in all the three cases. All the patients were advised and underwent surgery. The surgical modalities given were

1. Right Ovarian Cystectomy-1
2. Right Oophorectomy-2

In the present study there was one case of iliac lymphadenitis belonging to the age group of 20-30 years. Patient presented with tender, fixed mass in RIF.

Diagnosis was confirmed by ultrasonogram and USG guided FNAC which was found to be tubercular origin and treated with anti tubercular treatment.

In this series we had one case of retroperitoneal tumour (liposarcoma). A lady aged 50 years presented with pain abdomen, loss of weight and mass per abdomen. Diagnosis was confirmed by USG guided FNAC in the RIF. This was treated surgically with excision biopsy.

In this series we had two patients with parietal lipomas. These patients had undergone wide local excision.

In the present study, we had a case of parietal abscess presented with pain abdomen and fever. Ultrasonogram guided FNAC showed it to be of

tubercular origin. This was treated with ultrasound guided aspiration and discharged with anti tubercular treatment.

CONCLUSION

Appendicular pathology continues to be the most common cause of right iliac fossa masses followed by ileocaecal TB, Carcinoma caecum and psoas abscess in that order, at least in this geographical location. Majority of the patients involved are in 3rd decade followed by 4th decade with slight male predominance. conservative treatment for appendicular masses and extra peritoneal drainage for appendicular abscesses are found to be effective procedures.

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