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Short Communication

Management of Right Iliac Fossa Mass - Our Experience

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Abstract

Background: A mass in the right iliac fossa is one of the commonest problems encountered in surgical practice, requiring skill to diagnose. A clinical diagnosis is often difficult due to other conditions like obesity and guarding, with the mass being palpable only when the patient is on operating table.

Methods: Fifty patients with signs and symptoms of right iliac fossa mass admitted under Osmania General Hospital were identified and were studied by taking detailed clinical history, physical examination and were subjected to various investigations like x ray erect abdomen, chest X-ray, contrast X-ray, ultrasonogram and colonoscopy.

Results: In the present study appendicular mass constituted 46%, appendicular abscess 18%, ileocecal tuberculosis 12%, carcinoma cecum 8%, ovarian tumors 6%, parietal lipoma 4%, and retroperitoneal tumor, parietal abscess and ileocecal tuberculosis all constituting 2% each.

Conclusion: Appendicular lump remains the most common cause for right iliac fossa mass. Ileocecaltuberculosis is one of the most important differential diagnoses for pain abdomen in rural population. (Though Hyderabad is a metro city, it covers surrounding 10 districts and Osmania General Hospital is a tertiary care centre where cases from these districts are referred.)

INTRODUCTION

Mass in the Right Iliac Fossa (RIF) is said to be the temple of surprises, a common condition with diagnostic dilemma to the surgeon. Patients with a mass in the right iliac fossa are often admitted in surgical departments. The mass can be due to intra- or extra-abdominal causes. The common conditions met with are appendicular lump, ileocecal tuberculosis, carcinoma cecum, iliac lymphadenitis, tuboovarian mass.

This challenging task of recognising certain well defined clinic 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 and an overall endeavour to reduce morbidity and in a few instances mortality.

MATERIALS AND METHODS

Source of data (sample)

Fifty patients with signs and symptoms of a right iliac fossa mass admitted in Osmania General Hospital are included in this study. This is a prospective study done from June 2012 to May 2014.

Method of collection of data

All patients with signs and symptoms of a right iliac fossa mass satisfying in the inclusion criteria were included in this study. A detailed clinical history was elicited and a careful general physical and systemic examination was carried out along with the necessary investigations.

Inclusion criteria

1. All the patients who presented with mass in right iliac fossa with or without pain.
2. Cases included both male and female patients.
3. Cases which were found incidentally of examination and investigations.

Exclusion criteria

1. Masses arising from other regions and extending into the right iliac region were excluded.
2. Masses from structures which abnormally present in right iliac fossa.
3. Bony swellings of the region.

Methods

All the cases were subjected to physical examination and various investigations like x ray erect abdomen, chest x-ray, contrast x-ray, ultrasonogram and colonoscopy to establish

diagnosis. Adequate bowel preparation with appropriate antibiotics and mechanical bowel wash was done wherever required. During laparotomy, intra-abdominal examination of all organs was made in addition to specific pathology.

Relevant surgical procedures were done depending on the type of pathology. The postoperative period was monitored, intake-output charts and vital charts were maintained. Diagnosis was confirmed by histopathology reports. Patients were followed up for a variable period from six months to two years.

RESULTS

Total numbers of 50 cases were included in our study who were assessed and treated.

The data was collected, analysed and the following observations were made and inferences were drawn.

In our study majority of the cases(46%) presented with appendicular mass, 18% appendicular abscess, 15% ileocecal tuberculosis, 8% carcinoma cecum, 6% ovarian tumors, 4% parietal wall lipomas, 2% each with retroperiotoneal tumor, parietal wall abscess and ileocecal lymphadenitis (Table 1).

In the present study, youngest patient was 12 years old, diagnosed with appendicular mass and the oldest patient was 64 years old with carcinoma cecum. Appendicular mass was seen more commonly seen in 3rd decade followed by 4th, 5th and 6th decades, appendicular abscess was more common in second decade, ileocecal tuberculosis was more common in 4th decade, carcinoma cecum was common in 5th, 6th and 7th decades, ovarian tumors and parietal lipomas were more common in 4th decade, retroperitoneal tumor was common in 5th decade and parietal abscess and iliac lymphadenitis was common in 3rd decade (Table 2).

In the present study appendicular mass was predominantly seen in males (60.9%) and appendicular abscess in females (77.8%). Ileocecal tuberculosis was found to have equal incidence. Carcinoma cecum, parietal lipomas, parietal abscess and ileocaecal lymphadenitis had a male preponderance whereas retroperitoneal tumours had a female preponderance. P values calculated for sex distribution for various right iliac fossa masses were found to be significant (p value<0.05) for all the diseases except ileocecal koch's (Table 3).

Table 1: Incidence of various conditions.

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

Table 2: Age incidence.

Diagnosis	No of cases	11-20	21-30	31-40	41-50	51-60	61-70
Appendicular mass	23	1	9	8	3	2	0
Appendicular abscess	9	5	2	0	2	0	0
Ileocecalkoch's	6	0	2	4	0	0	0
Cacecum	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
Retroperitoneal-tumor	1	0	0	0	1	0	0
Parietal abscess	1	0	1	0	0	0	0
Iliac lymphadenitis	1	0	1	0	0	0	0

Table 3: Sex incidence.

Diagnosis	Sex		
	Male	Female	P value
Appendicular mass	14 (60.9%)	9 (39.1%)	Significant
Appendicular abscess	2 (22.2%)	7 (77.8%)	Significant
Ileocecal koch's	3 (50%)	3 (50%)	Not significant
Carcinoma cecum	3 (75%)	1 (25%)	Significant
Ovarian tumors	0	3 (100%)	Significant
Parietal lipomas	2 (100%)	0	Significant
Retroperitoneal tumor	0	1 (100%)	Significant
Parietal abscess	1 (100%)	0	Significant
Ileocecal lymphadenitis	1 (100%)	0	Significant

In our study, in patients with appendicular mass (23 cases) predominant symptoms were pain abdomen (23 cases), fever (17 cases), vomiting (15 cases) and diarrhoea (3 cases) (Table 4).

In the present study, in 23 cases of appendicular mass total leucocyte counts were raised (>10,000) in all the cases. USG abdomen and pelvis and CECT abdomen was done in all the cases to confirm the diagnosis. Similarly in all the 9 cases of appendicular abscess total counts were raised and USG abdomen and pelvis was done for confirming the diagnosis. In ileocecal kochs, total counts were normal in all the 6 cases. 2 patients came positive for sputum AFB and USG abdomen and pelvis, CECT abdomen/pelvis and colonoscopy were done in all the cases. Out of 4 cases of carcinoma cecum total counts were raised in two. Ultrasound abdomen was able to diagnose all the cases with appendicular mass and appendicular abscess but confirmation was by CECT abdomen. The diagnosis of ileocecal tuberculosis was confirmed by colonoscopy guided biopsy of the cecum and terminal ileum (Table 5).

In all cases of appendicular mass, conservative treatment as outlined by Oschner Sherren Regime (bed rest, IV fluids, antibiotics, observation) was tried. Except for two patients all of them responded well on an average of 6-8weeks. Those two patients developed abscess and had to be taken up for surgery

(abscess drainage and appendectomy). Post operative recovery was good. Out of 6 patients with ileocaecal tb 3 were managed conservatively and 3 underwent laparotomy (ileo-transverse anastamosis). All 6 patients were discharged on anti kochs regimen. Two patients with carcinoma cecum underwent right hemicolectomy and were later referred cancer institute for further management.The other four cases underwent laparotomy and the appendicular abscess was drained (Table 6).

DISCUSSION

The most common disease presenting as right iliac fossa mass was appendicular mass followed by appendicular abscess, Ileocecal koch's and Carcinoma cecum, in that order. Similar results were obtained in a study conducted by Juniorsundresh et al and Sunil Kumar et al [1,2].

Appendicular mass

In our study, appendicular masses accounted for 46% of cases. All patients came to the hospital for abdominal pain lasting less than one month. Fever was another prominent symptom (74%) and there was vomiting in about 65% of cases. The mean age for appendicular masses was 53.6 years. In the present study, the maximum age incidence was in the 3rd decade (39%), followed by the 4th, 5th and 6th decades. The difference in the mean age in the present study is significant. P value is 0.01. Appendicular masses were more common in males than in females (1.55:1). The sex incidence in the present study is not significant as compared to Jordan et al (2:1). P value is 0.1. Only 2 patients complained of mass per abdomen. But on examination, all cases were found to have a mass in the right iliac fossa. According to Mann [3], on the third day (rarely sooner) after the commencement of an acute appendicitis, a tender mass can frequently be felt in the right iliac fossa beneath some rigidity of the overlying musculature, with the other quadrants of the abdomen being free from rigidity or tenderness. In the present study, all patients had masses which were tender and firm. According to Skoubo-Kristensen [4], 55% of his cases experienced febrile episodes with a temperature >39 °C. In the present series, 74% presented with fever and 65% with vomiting. In this study, 62% had hemoglobin values above 10g%. According to Gahukamble [5], "*in situ*" delayed appendicectomy seems beneficial for all the patients who respond well to the initial management of appendicular mass. Skoubo [4] say that conservative management of appendicular masses is successful in most cases and complication rates seem lower than with early operative treatment. Appendicular abscesses formed 20% of the present study group. Most of the cases were in the 2nd decade and 77% were females. All patients presented within one month of symptoms. According to Bradley [6], the mean age at which appendicular abscess occurred was 40.7+/- 2.7. All patients with appendicular abscess in this study group had abdominal pain and fever; 45% presented with vomiting. According to Way et al., when the surgeon encounters an unsuspected abscess during appendicectomy, it is usually best to proceed and remove the appendix. In the present study there were no unsuspected abscesses discovered.

Table 4: Symptoms.

Diagnosis	No of cases	Fever	Vomiting	Wt loss
Appendicular mass	23	17	15	-
Appendicular abscess	9	9	4	-
Ileocecal koch's	6	3	4	6
Carcinoma cecum	4	1	-	4
Ovarian tumors	3	-	-	2
Parietal lipoma	2	-	-	-
Retroperitoneal tumor	1	-	-	-
Parietal abscess	1	1	-	-
Ileocecal lymphadenitis	1	1	-	1

Table 5: Mode of treatment.

Diagnosis	No of cases	Conservative t/t	Surgical t/t
Appendicular mass	23	-	23 (100%)
Appendicular abscess	9	-	9 (100%)
Carcinoma cecum	4	2 (50%)	2 (50%)
Ileocecaltb	6	3 (50%)	3 (50%)
Ovarian tumors	3	-	3 (100%)
Parietal lipoma	2	-	2 (100%)
Retroperitoneal tumor	1	-	1 (100%)
Parietal abscess	1	-	1 (100%)
Ileocecal lymphadenitis	1	1 (100%)	-

Table 6: Types of surgical treatment.

Type of surgery	No of cases	Percentage
Oshner Sherren Regime f/b appendectomy	21	42%
Extraperitoneal drainage with appendectomy	7	14%
Right hemicolectomy	4	8%
Laparotomy and drainage of abscess	4	8%
Right ovarian cystectomy	3	6%

According to Bradley [6], the complication rate was significantly lower and the hospital stay shorter in patients managed expectantly than in those undergoing immediate appendicectomy. Patients who had diffuse peritonitis must undergo immediate appendicectomy, but other patients can be managed with intravenous antibiotics and percutaneous drainage of the abscess if suitable.

Ileocecal tuberculosis

Elhence [7] said, gastrointestinal tuberculosis, though rare in industrialized countries, continues to be a problem in developing countries. In this study, 12% of masses in the right iliac fossa are due to tuberculosis. Most cases belong to the rural area. According to Prakash [8], the highest incidence of this disease was found in the age group of 20-40 years. In our study, the maximum age incidence was in the 4th decade (67%). Male to female ratio was 1:1. The difference in age incidence in the present study is not significant. P value is 0.5. The sex incidence in the present study is also not significant. P value is 0.9.

In this study, all patients complained of abdominal pain and weight loss, and 50% complained of fever. According to Kelly [9], a high index of suspicion should be maintained for ileocecal

tuberculosis in patients with appropriate clinical features, even if classical risk factors for tuberculosis are absent. According to Prakash [8], more than 50% of cases had hemoglobin values below 10g% and an ESR >30mm/hour was noted in more than 50% of cases. In the present study, in 70% of cases hemoglobin was less than 10g% and in 83% ESR was >40mm/hour.

According to Malik [10], ultrasound findings in proper clinical settings are diagnostic of tuberculosis. In this study, abdominal ultrasonography was done in all cases. The standard drug regimen used was: first 2 months of 4 drugs (which included Isoniazid, Rifampicin, Pyrazinamide and Ethambutol in the intensive phase), followed by 4 months of continuation phase with 2 drugs, which comprised Isoniazid and Rifampicin. Tuberculosis was confirmed by colonoscopy guided biopsy. Bharati [11] performed a study of the pattern of surgical emergencies of abdominal tuberculosis, and they did right hemicolectomy in 4.5% of cases, limited resection in 6%, and stricturoplasties in 36%. In this study, 50% were managed surgically by right hemicolectomy. All resected specimens were proved histopathologically.

Carcinoma cecum

In the present study, carcinoma of the cecum formed 8% of cases; all were more than 40 years old. According to Amin [12], in study of 20 cases, most of the patients were between the age of 45 and 65 years, the oldest patient being 80 years and youngest only 30 years old. In our study, the incidence was higher in males (75%). In the series done by McDermott [13], 51% were males and 49% were females.

According to Goligher [14], in the majority of cases of cecal carcinoma, constant but not very severe abdominal pain was experienced in right iliac fossa, subcostal region or epigastrium, often associated with local tenderness.

Richardson [15] said that sensitivity, specificity and accuracy of abdominal ultrasonography in colonic tumours considered to be consistent with colonic carcinoma were 96%, 67% and 91%, respectively.

In the present study, all patients were diagnosed accurately on ultrasonography. Colonoscopy was done and biopsy was taken. According to Goligher's experience [14] with regard to growths of the cecum and ascending colon, he prefers to practice the more extensive right hemicolectomy except when the patients general condition is such as to compel restriction to the minimum that offers reasonable chance of cure.

Ovarian tumours

In patients with ovarian mass the predominant symptoms were right iliac fossa mass and loss of weight. The diagnosis was confirmed on ultrasound. Right ovarian cystectomy was done and the specimen sent for histopathological examination. Two of them revealed dysgerminoma.

The other cases were parietal lipoma and retroperitoneal tumour for which excisional biopsy was done and the diagnosis was confirmed on histopathological examination; parietal abscess which was drained externally and iliac lymphadenitis which was confirmed on ultrasonography guided FNAC to be of tubercular origin for which anti-tubercular treatment was started.

CONCLUSION

Diseases presenting as a mass in the right iliac fossa were common in the age group of 20 to 40 years. The overall incidence seems to be higher in males. Females had an increased incidence of appendicular abscess. These diseases are more common in patients with low socioeconomic status. The commonest symptom was abdominal pain. The commonest presenting symptoms were pain in the right iliac fossa, fever, vomiting and loss of weight. Only 22% of patients complained of a mass in right iliac fossa. Tenderness was the prominent clinical sign (92%). Appendicular pathology (mass/abscess) was the most common condition presenting as mass in the right iliac fossa. Ileocecal tuberculosis is the most common pathology in patients who present with chronic abdominal pain within the rural population, according to this study. All parietal wall abscesses turned out be of tubercular etiology. There was no mortality in our study. Abdominal ultrasonography is the imaging modality of first choice in patients presenting with a right iliac fossa mass.

Surgery is the mainstay of treatment and, when done with adequate preparations, has good prognosis. Ileocecal tuberculosis is one of the most important differential diagnoses for chronic abdominal pain in the rural population.

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