

A Hospital-Based Study to Assess the Clinic-Etiologic Spectrum of Right Iliac Fossa Lesions: An Observational StudyAshutosh Kumar Singh¹, Lalan Kumar², Rajesh Narayan³¹Assistant Professor, Department of Surgery, BMIMS, Pawapuri, Nalanda, India²Assistant Professor, Department of Surgery, BMIMS, Pawapuri, Nalanda, India³Professor, Department of Surgery, BMIMS, Pawapuri, Nalanda, India

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Conflict of interest: Nil

Abstract**Aim:** The aim of the present study was to assess the clinical profile and various causes of right iliac fossa lesions.**Methods:** A hospital based prospective study was done with 50 patients to evaluate right iliac fossa lesions - its clinical profile and it's Management at department of General surgery. Duration of the study was 2 years.**Results:** The most common disease in our study was appendicular mass (42%) followed by appendicular abscess (28%), iliopsoas abscess (12%), Ileocaecal tuberculosis (6%) and carcinoma cecum (6%). There was 1 case each of right undescended testis with malignant change, right ectopic kidney and Non-Hodgkin's lymphoma of ileum, each of these cases accounting for 2% of the total cases in our study. The highest number of cases (46%) was in the 21–30 years age group. The youngest patient was 14 years old and oldest was 75 years old. There were 30 male and 20 female patients in our study. It was observed that there was preponderance of male patients. 17 patients gave history of nausea and vomiting. 17 patients gave history of fever, it was usually mild degree and intermittent. Loss of appetite was present in all the patients (100%) of appendicular mass. Diarrhoea was seen in 1 patient. One patient presented with the mass per abdomen as one of his complaint.**Conclusion:** Diseases presenting as a mass in the right iliac fossa were normal, in the age range of 20 to 40 years. In males, the average occurrence tends to be greater. Pressure in the right iliac fossa, fever, vomiting and lack of weight were the most common presentation symptoms. Abdominal tuberculosis is a significant health issue in our nation and, due to varying appearances of patients with ambiguous abdominal pain and non-specific medical symptoms, poses a diagnosis difficulty and obstacle.**Keywords:** Lymphadenitis; right iliac fossa; lesions; appendix; abdomen; right ectopic kidney; carcinoma cecumThis is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.**Introduction**

A mass per abdomen has always been considered to be a temple wonders or Pandora's magic box. [1] Despite the advancement in the field of diagnosis, the surprises never ceases, hence the abdomen has been rightly called temple of surprises. Mass in the right iliac fossa is one of the most common problems faced in surgical practice, which has various differential diagnosis. Most of the cases need surgical intervention and most of them are curable. The varied etiology of these conditions presents a diagnostic challenge to the surgeon, as appropriately said by Sir Hamilton Bailey "A correct diagnosis is the handmaiden of a successful operation".

The mass in the right iliac fossa arises mainly from the appendix, caecum, terminal part of the ileum, lymph nodes, ileopsoas sheath and retroperitoneal connective tissue. An inflammatory mass in this region is most commonly associated with an appendicular pathology and rarely inflammatory

swelling may arise in connection with suppurating iliac lymph nodes or a psoas abscess. The management of appendicular mass seems to take turn with the availability of better antibiotics, intensive care and anesthesia. [2] When the surgeon encounters an unsuspected abscess during appendectomy it is usually best to proceed and remove the appendix. If the abscess is large and further dissection would be hazardous, drainage alone is appropriate. [3] In India, tuberculosis has been reported to be the cause in 3 to 20% of patients with intestinal obstructions. [4]

In right iliac fossa mass most commonly involved organ is appendix. Appendicular mass is one of the most common complications of acute appendicitis. Traditionally it was believed that surgery during acute appendicitis with mass was potentially dangerous and could lead to life threatening complications, surgeons do more harm than good,

considering the fact that the problem was contained and resolution might follow. [5] Appendicular pathology continues to be the most common cause of right iliac fossa mass appendicular mass need not necessarily be conservatively treated, as they had not found increase in morbidity or hospital stay following immediate surgical intervention. In appendicular abscess, appendectomy and drainage can be attempted. In ileocaecal tuberculosis, pulmonary lesion is an uncommon presentation. Extensive ileocaecal tuberculosis can present without much of symptoms or can present with signs and symptoms of appendicitis. Incidence of abdominal tuberculosis has reduced due to generous use of antitubercular drugs. Carcinoma caecum can also present in association with caecal tuberculosis. Psoas abscess could also be pyogenic in origin. Laparoscopy has very good diagnostic value and is useful in avoiding unnecessary laprotomy. [6]

The aim of the present study was to assess the clinical profile and various causes of right iliac fossa lesions.

Materials and Methods

A hospital based prospective study was done with 50 patients to evaluate right iliac fossa lesions - its clinical profile and its Management at department of General surgery, BMIMS, Pawapuri, Nalanda, India. Duration of the study was 2 years.

Inclusion Criteria: All patients having right iliac fossa lesions either clinically or on Ultrasonography of the abdomen.

Exclusion Criteria: All patients having right iliac fossa lesions who are not admitted to our centre. Patients less than 12 years and more than 75 years.

Methodology: The study dealt with 50 consecutive cases of mass in right iliac fossa fulfilling the inclusion and exclusion criteria. The inclusion criteria included all patients admitted in surgical wards who are more than 12 years of age with a mass in right iliac fossa on clinical examination, including benign and malignant conditions. The study excluded patients who were less than 12 years, patients with gynecological disorders (such as ovarian cyst, tubo ovarian masses) as these patients were admitted in pediatric surgical and gynecological wards respectively. The proforma was drafted for the study of all patients presenting as mass in the right iliac fossa who were admitted in the surgical wards. A detailed history was taken from each patient with more importance given to pain abdomen, mass, fever, vomiting, loss of weight, loss of appetite and duration of symptoms. A thorough examination was done on each of them noting the size, site, extent, plane of mass consistency, mobility and other associated signs. The patients then were subjected to relevant investigations to help in the diagnosis, like hematological examination, stool examination, X-rays, USG, CT scans and colonoscopy. Ultrasound with or without guided FNAC was confirmatory in most of the cases.

Results

Table 1: Distribution of patients according to disease

Disease	N	%
Appendicular mass	21	42
Appendicular abscess	14	28
Iliopsoas abscess	6	12
Ileocaecal tuberculosis	3	6
Carcinoma caecum	3	6
Undescended testis	1	2
Ectopic kidney	1	2
Lymphoma of intestine	1	2
Total	50	100%

The most common disease in our study was appendicular mass (42%) followed by appendicular abscess (28%), iliopsoas abscess (12%), ileocaecal tuberculosis (6%) and carcinoma caecum (6%). There was 1 case each of right undescended testis with malignant change, right ectopic kidney and Non-Hodgkin's lymphoma of ileum, each of these cases accounting for 2% of the total cases in our study.

Table 2: Distribution of patients according to age

Diseases	Age in years						
	12-20	21-30	31-40	41-50	51-60	61-70	>70
Appendicular mass	3	11	2	0	2	0	3
Appendicular abscess	3	6	1	2	0	1	1
Iliopsoas abscess	1	3	0	0	0	0	2
Ileocaecal tuberculosis	1	1	1	0	0	0	0
Carcinoma caecum	0	0	1	0	1	0	1
Undescended testis	0	1	0	0	0	0	0
Ectopic kidney	0	0	1	0	0	0	0
Lymphoma of the intestine	0	1	0	0	0	0	0
Total	8	23	6	2	3	1	7

The highest number of cases (46%) was in the 21–30 years age group. The youngest patient was 14 years old and oldest was 75 years old.

Table 3: Distribution of patients according to gender

Diseases	SEX	
	Male	Female
Appendicular mass	14	7
Appendicular abscess	8	6
Psoas abscess	4	2
Ileocaecal tuberculosis	1	2
Carcinoma caecum	2	1
Undescended testis	1	0
Ectopic kidney	0	1
Lymphoma of the intestine	0	1
Total	30	20

There were 30 male and 20 female patients in our study. It was observed that there was preponderance of male patients.

Table 4: Symptoms of the appendicular mass

Symptoms	N
Pain in abdomen	21
Loss of appetite	21
Nausea and vomiting	17
Fever	17
Mass per abdomen	1
Diarrhoea	1

17 patients gave history of nausea and vomiting. 17 patients gave history of fever, it was usually mild degree and intermittent. Loss of appetite was present in all the patients (100%) of appendicular mass. Diarrhoea was seen in 1 patient. One patient presented with the mass per abdomen as one of his complaint.

Discussion

Over the years, the abdomen has retained an element of fascination, offering an intriguing diagnostic challenge. The Temple of surprises, the tomb of mysteries, the magic box of Pandora these various names precisely describe the enigma it holds for the surgeon from the ancient time till date. Despite the advancements in field of diagnosis surprises never cease. A meticulous examination of abdomen is one of the most rewarding diagnostic procedures available to the surgeon. A mass in the right iliac fossa is a common diagnostic problem encountered in clinical practice, requiring skill in diagnosis. A swelling in the right iliac fossa may arise from the structures normally present in that region or from structures, which are abnormally situated in the region. [6]

The most common disease in our study was appendicular mass (42%) followed by appendicular abscess (28%), iliopsoas abscess (12%), Ileocaecal tuberculosis (6%) and carcinoma cecum (6%). There was 1 case each of right undescended testis with malignant change, right ectopic kidney and Non-

Hodgkin's lymphoma of ileum, each of these cases accounting for 2% of the total cases in our study. Shetty SK et al reported 30% cases with Oschner-sherren regimen followed by interval appendicectomy after 6 to 8 weeks. [7] Muhammad Ayub J at et al reported 50% rate of early appendicectomy in appendicular lump, where 30 patients underwent the procedure out of 60; whereas the rate of early appendicectomy in our study was 22.22%; i.e. 16 out of 52 cases. [8] This difference can be attributed to the small sample size and subjective clinical findings of the two studies. According to Erdog D et al, the choice of management in patients with appendicular mass is conservative followed by elective appendicectomy. [9]

The highest number of cases (46%) was in the 21–30 years age group. The youngest patient was 14 years old and oldest was 75 years old. There were 30 male and 20 female patients in our study. It was observed that there was preponderance of male patients. 17 patients gave history of nausea and vomiting. 17 patients gave history of fever, it was usually mild degree and intermittent. Authors encountered 50% of the cases of appendicular abscess in the 3rd decade with the mean age at 44.50±19.68 years, which is consistent with results of Jeong-Ki K et al where mean age of the patients was 50.8 years. [10] Hornez E et al stated that USG has enabled the diagnosis of appendiceal abscess with a high rate of accuracy (72.7%), when the

sonographic examiner is a surgeon or an emergency physician, the sensitivity rate is better (98.4%). [11] Loss of appetite was present in all the patients (100%) of appendicular mass. Diarrhoea was seen in 1 patient. One patient presented with the mass per abdomen as one of his complaint. The mean age of the patients in the study by Kishore P et al was 39.62 ± 21.18 years. [15] In present study IC tuberculosis was more common in females, with M:F ratio being 1:2 while Kishore P et al reported, M:F ratio being 1:1.1. [12] Sharma YR concluded in their study that, strongly suggestive clinical features with positive non-specific investigation findings are also an indication for antitubercular treatment in all endemic countries like Nepal, Bangladesh and India. [13]

David A et al, in his study of 3121 eligible persons conducted colonoscopy of 2885 patients for complete evaluation of colon up to the caecum and concluded that it is the important tool for diagnosis of malignancy in colon in the form of diagnostic and screening procedure for the disease.

Conclusion

Diseases presenting as a mass in the right iliac fossa were normal, in the age range of 20 to 40 years. In males, the average occurrence tends to be greater. Pressure in the right iliac fossa, fever, vomiting and lack of weight were the most common presentation symptoms. Abdominal tuberculosis is a significant health issue in our nation and, due to varying appearances of patients with ambiguous abdominal pain and non-specific medical symptoms, poses a diagnosis difficulty and obstacle.

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