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A Clinical Study on Right Iliac Fossa Mass in Tertiary Care Hosp ital

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Abstract
Backgound: *Right Iliac Fossa Mass is a common clinical entity encountered in surgical practice. The mass has varied anatomical and etiological origin and requires versatility in its management.*
Methods: *A prospective study was done including 100 patients admitted in Sri Venkateswara Medical College, Tirupatibetween August 2018 to September 2019. After taking detailed history and clinical examination; relevant blood, radiological investigations and colonoscopy were done. The patients were managed appropriately based on the diagnosis and surgical indications.*
Results: *In 100 patients, 46 patients (46%) diagnosed to have Appendicular mass Ileocaecal TB (20 cases, 20%), Appendicular abscess (16 cases, 16%), CA Caecum (12 cases, 12%), psoas abscess (6 cases, 6%). Appendicular pathology-3rd decade, Ileocaecal TB-4th decade, CA Caecum and Psoas abscess-6th decade. In 100 patients, 56 (56%) were males, and 44 (44%) were females. Commonest symptom of presentation seen in all cases, fever-78%, vomiting 42%, loss of weight and appetite-24%, constipation-16%, diarrhoea-8%, mass per abdomen-26%, Leucocytosis-60%. Usg abdomen is done in all cases. Colonoscopy is done in all cases of CA Caecum. Diagnostic laparoscopy is done in 4 cases (20%) of Ileocaecal TB.*
Conclusion: *The most common diseases are of appendicular pathology followed by ileocaecal TB, Carcinoma caecum and psoas abscess. Majority of the patients involved are in 3rd decade followed by 4th decade with male predominance. Patients with ileocaecal tuberculosis were common in the age group of 30-50 years, and showed a male to female ratio of 4:1. Twelve cases of carcinoma caecum are diagnosed. Six cases of psoas abscess are presented with pain and fever, are found to be more than 40 years of age, all the cases are treated with extraperitoneal drainage.*
Keywords: *Right iliac fossa mass; appendicular, ileocecal TB.*

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I. Introduction

Right Iliac Fossa Mass is a common clinical entity encountered in surgical practice.The mass has varied anatomical and etiological origin and requires versatility in its management. This is because the mass may range from benign to most aggressively malignant lesion and touch upon various specialities of surgery like genitourinary surgery, vascular surgery, gynaecological surgery and colorectal surgery. Right, Iliac Fossa has eight anatomical entities and six other organs in the neighbourhood whose pathology may extend into this region. Right Iliac Fossa region has Appendix, Caecum, Terminal Ileum, Lymph nodes, Iliac artery and vein, Retroperitoneal connective tissues, Iliopsoas muscle, and Iliac bone.Neighbouring organs and their pathologies which might extend into this region are Kidney, Gallbladder, Uterus, Ovaries,Urinary Bladder and Testis.Hence, this study has been initiated to analyse the causes of different types of Right iliac fossa masses. To study clinical presentations,underlying pathologies and investigations,most helpful for each case and their management.

II. Materials And Methods

The total number of cases considered in this study are 100, admitted in the Department of General Surgery, S.V.R.R.Govt. General Hospital, Tirupati
Study Design: Prospective study.
Study Duration: August 2018 to September 2019.
Study Location:SVVRR Government General Hospital, Tirupati.
Sample size: Hundred cases of mass in RIF were included in the study.
Subjects and Selective Methods: The total number of cases considered in this study are 100, admitted in the Department of General Surgery, S.V.R.R.Govt. General Hospital, Tirupati
Inclusion Criteria:
All cases of age more than 12 years that presented during the study period having mass in RIF.
Patients of both Sex.

Patients who have also been found to have mass in RIF incidentally on examination and by investigations are included in the study.

Exclusion Criteria:
Patients having mass in RIF due to gynaecological conditions are excluded.
Patients with a debilitating illness like CRF, ARF, CAD, Liver failure etc. are excluded from the study.

Procedure Methodology:
Detailed clinical history.
Physical examination.
Investigations:
Blood and urine routine.
Urea and electrolytes.
Stool for occult blood, ova and cyst.
Plain X-Ray of chest and abdomen.
USG Abdomen.
CT scan.
Colonoscopy and biopsy.
Diagnostic laparoscopy and biopsy.
Surgical interventions in the form of:
Interval appendectomy.
Right radical hemicolectomy and ileo transverse colon anastomosis.
Limited resection and ileo ascending colon anastomosis.
Extraperitoneal drainage of the abscess.
Intraperitoneal drainage of the abscess.
These interventions are done as per need in each case.
Histopathological examination of resected specimens.

Statistical Analysis:
The data was entered into Microsoft excel data sheet and was analysed using SPSS 22 Version Software. Catogorical data was represented in the form of frequencies and proportions.

III. Results

The total number of cases considered in this study are 100, admitted in the Department of General Surgery, S.V.R.R.Govt. General Hospital, Tirupati.
The results of the study are discussed as follows

Table 1: Causes of Right iliac fossa swellings

DIAGNOSIS	No. OF CASES	PERCENTAGE
Appendicular Mass	46	46%
Ileocaecal TB	20	20%
Appendicular Abscess	16	16%
CA Caecum	12	12%
Psoas Abscess	6	6%
Total	100	100%

In this series out of 100 patients, 46 patients (46%) diagnosed to have Appendicular mass followed by Ileocaecal TB (20 cases, 20%), Appendicular abscess (16 cases, 16%), CA Caecum (12 cases, 12%), psoas abscess (6 cases, 6%).

Graph-1: Causes of Right iliac fossa swellings

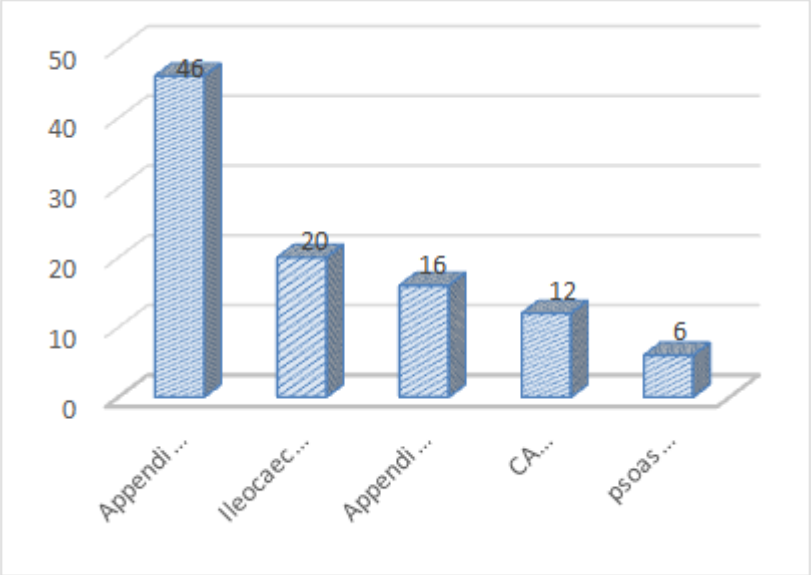
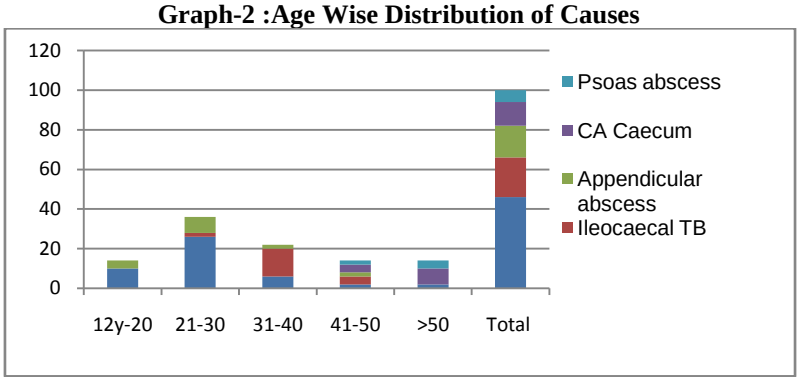


Table 2: AgeWise Distribution of Causes

Age in years	Appendicular mass	Ileocaecal TB	Appendicular abscess	CA Caecum	Psoas abscess	Total no cases	Percentage
12-20	10	0	4	0	0	14	14%
21-30	26	2	8	0	0	36	36%
31-40	6	14	2	0	0	22	22%
41-50	2	4	2	4	2	14	14%
>50	2	0	0	8	4	14	14%
Total	46	20	16	12	6	100	100%

In this series, age varies from 14 years to 60 years. Appendicular pathology is more common in 3rd decade, Ileocaecal TB in the 4th decade, CA Caecum and Psoas abscess in the 6th decade.

Graph-2 :Age Wise Distribution of Causes



In the total of 100 patients, 56(56%) were males, and 44(44%) were females.

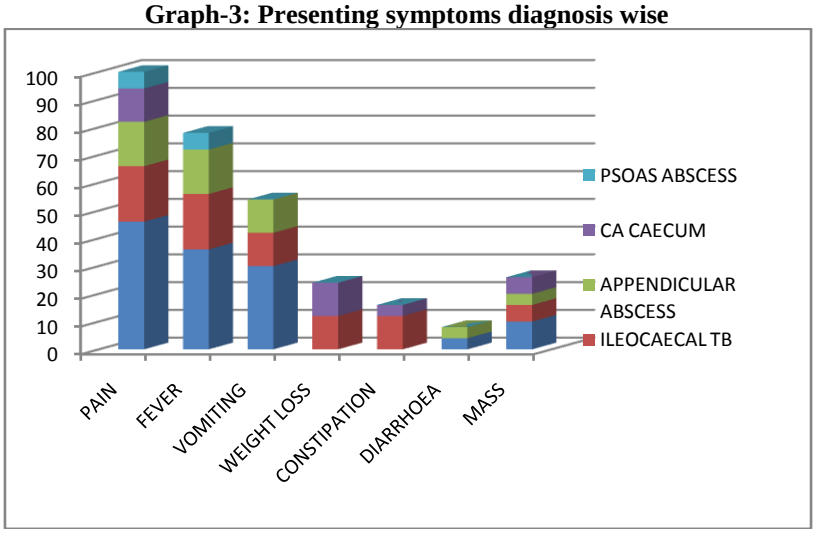
Table 3: Presenting symptoms diagnosis wise

Sl No	Diagnosis	Pain	Fever	Vomi-ting	Loss of appetite and weight loss	Constipation	Diarrhoea	Mass
1	Appendicular mass	46	36	30	0	0	4	10
2	Ileocaecal TB	20	20	12	12	12	0	6
3	Appendicular abscess	16	16	12	0	0	4	4

4	CA caecum	12	0	0	12	4	0	6
5	Psoas abscess	6	6	0	0	0	0	0
	TOTAL	100	78	42	24	16	8	26

In the present study pain was the commonest symptom of presentation seen in all cases, fever was present in 78% cases, vomiting was present in 42% cases, loss of weight and appetite was present in 24% cases, constipation was present in 16% cases, diarrhoea was present in 8% cases, mass per abdomen was present in 26% cases

Graph-3: Presenting symptoms diagnosis wise



In the present study Hb< 10 mg/dl present in 42% cases. Anaemia was present in all cases of CA Caecum.

Table 4: Endoscopy and imaging as per diagnosis

Sl.No	DIAGNOSIS	USG	COLONOSCOPY	CT SCAN	DIAGNOSTIC LAPAROSCOPY
1	Appendicular Mass	46	0	0	0
2	Ileocaecal TB	20	0	0	4
3	Appendicular Abscess	16	0	0	0
4	CA Caecum	12	12	12	0
5	Psoas Abscess	6	0	0	0
	TOTAL	100	12	12	4

In the present study, Usg abdomen is done in all cases. Colonoscopy is done in all cases of CA Caecum, and multiple biopsies are taken. CECT Abdomenis done in all case of CA Caecum for tumour staging. Diagnostic laparoscopy isdone in 4 cases (20%) of Ileocaecal TB.

Graph 4: Endoscopy and imaging as per diagnosis

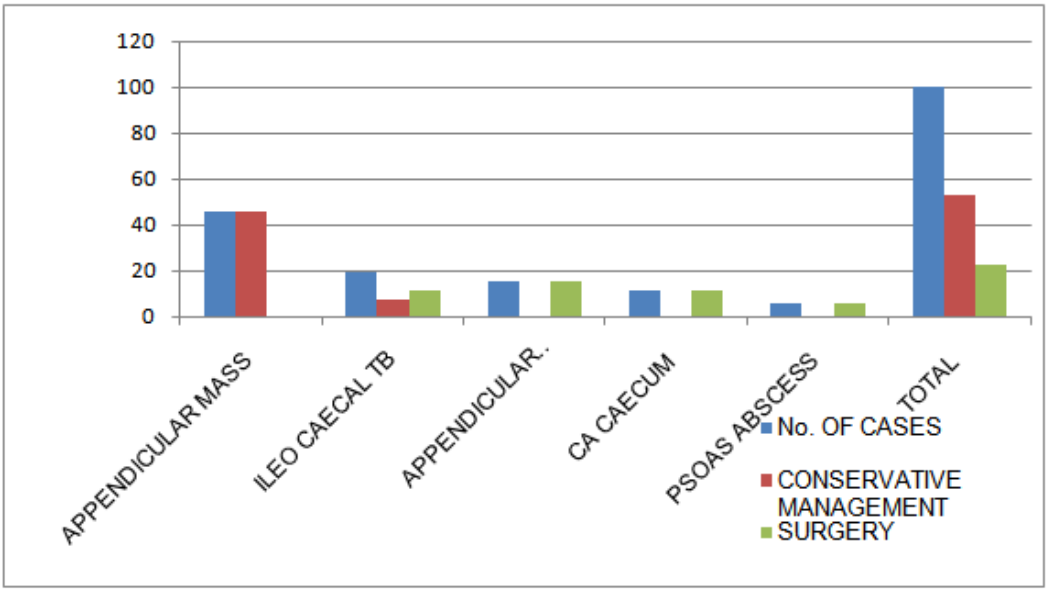


Table 5: HPE REPORT OF THE RESECTED SPECIMENS

Pre-op diagnosis	**No of surgeries**	**Surgery**	**HPE report**
Appendicular pathology	30	Interval appendectomy	Appendicitis
Ileocaecal TB	12	Limited resection with ileo-ascending colon anastomosis	Ileocaecal TB
CA. Caecum	12	Right radical hemicolectomy	Well-differentiated adenocarcinoma

All patients who underwent interval appendectomy, HPE report came as chronic appendicitis. All patients of CA Caecum underwent right radical hemicolectomy, and HPE report came as well-differentiated adenocarcinoma. Six cases of Ileocaecal TB underwent limited resection ileo- ascending colon anastomosis, and HPE report of resected specimens are suggestive of Ileocaecal TB.

IV. Discussion

In this study, 100 cases of Right iliac fossa mass who are admitted in Department of General Surgery,SVRR Government General Hospital, Tirupati, during the period from August 2018 to September 2019 are taken up.

In a study conducted in Mahatma Gandhi Medical College and hospital, Jaipur.100 patients with signs and symptoms of RIF mass were included, among which 62% of cases were related to appendicular pathology either in the form of appendicular mass: 48% or appendicular abscess: 14%,ileocaecal TB: 16 %, CA caecum: 12%, other: 10%.[3]

1) APPENDICULAR PATHOLOGY :Appendicular Mass:

In the present study, only 10 cases (21.7%) out of 23 patientspresented with Mass Abdomen to the hospital.

According to Ali S et al.,gastrointestinal upset in different forms was found in 57 (95%) 0f the patients, 36 (60%) patients gave a history of fever at the time of admission.[5]According to Bailey and Love,on the third day (rarely sooner) after the commencement of an attack of acute appendicitis, a tender mass can frequently be felt in right iliac fossa beneath some rigidity of the overlying musculature.[1]

Ultrasonography identified the mass in all the patients (100%), and also identified the mass to be originating from the bowel in all cases (100%).Thus OchsnerSherren regimen is the treatment plan to be adopted in the management of appendicular mass which has been recommended by other studies also.[6]

In the present study, the treatment of appendicular mass was conservative and no mortality rate and no morbidity rate. At subsequent elective operation, all the appendices removed showed histological evidence of previous appendicitis.

Appendicular Abscess: In the present study, 16 cases (16%) are diagnosed as appendicular abscess. The highest number of cases are found in the third decade (50%). The patients' age ranged from 14 to 41 years, with male to female ratio being 1:1.
According to J .SJordon, the highest incidence was seen in the 2nd and 3rddecade.[5] In the present study all the patients presented with abdominal pain(100%), fever(100%), nausea with vomiting was present in 12 cases (75%), 4 cases (25%) presented with mass per abdomen.
In the present study, WBC counts raised in 16 patients (100%).
USG abdomen identified peri-appendiceal fluid collection in retrocaecal region suggestive of appendicular abscess in all cases (100%).According to the study of Edward J. Bradley and James Isaacs,open drainage was performed in most of the patients.[7]

ILEOCAECAL TUBERCULOSIS

In the present study, 20 cases (20%) are diagnosed as Ileocaecal Tuberculosis. The highest number of cases are found in the third decade (70%), with male to female ratio being 4:1.

According to S.K.Bhansali,2/3rd of patients were in 4th -5th decades.[2] According to Prakash et al.,the highest incidence of this disease was found in the age group of 20-40 years.[6]In the present study, all the patients complained of pain in the RIF, and all of them had associated fever of mild degree and history of evening rise of temperature is present.

Constitutional symptoms like a low-grade fever, anorexia, weight loss were present in 71% of patients, and abdominal pain was the most common symptom found in 70-90% of patients.[9] There was a tender, right iliac fossa mass in all patients averaging 6 x 4 cms, in two patients, it was extending into the right lumbar region, and it was associated with ascites in one patient.

CARCINOMA CAECUM

In the present study all the caecal carcinomas presented with dull aching pain, loss of weight and appetite, but only 6 out of 12 cases (50%) presented with the mass abdomen, 4 cases (33.3%) complained of constipation, and all the patients were anaemic (100%).
According to Golighar J.C.(1992), in the majority of cases of carcinoma caecum, constant but not severe abdominal pain was experienced in RIF, often associated with local tenderness.[11]
In the present study, USG was done in all cases, which showed hypoechoic mass with concentric asymmetrical thickening of the bowel wall.According to N.G.B. Richardson et al., the sensitivity, specificity and accuracy of abdominal ultrasound in colonic tumours considered being consistent with colonic carcinoma was 96,67 and 97% respectively.[12]
In the present study, colonoscopy is done in all cases, and biopsies were taken, which shows adenocarcinoma.CECT Abdomen was done in all cases to determine the staging of the tumour. The histopathological diagnosis is correlated with the clinical diagnosis.

PSOAS ABSCESS

Three patients are met, withinthis study, the highest number of cases are found in the 6th decade, four patients (66.6%) are males, and two patients (33.3%) arefemale.
According to S K Shetty et al.,75% of cases presented in the 4th decadeand found predominantly in males.[10]

V. Conclusion

Hundred cases of right iliac fossa mass are studied, with analysis of the clinical picture, pathology and its management.The most common diseases encountered in this study are of appendicular pathology followed by ileocaecal TB, Carcinoma caecum and psoas abscess. Majority of the patients involved are in 3rd decade followed by 4th decade with slight male predominance.
All patients of appendicular mass are initially managed conservatively, and who responded well, are advised to undergo interval appendectomy.
All Cases of appendicular abscess are treated by open drainage, extraperitoneal drainage in 12 cases (75%) and intraperitoneal drainage in 4 cases(25%).
Patients with ileocaecal tuberculosis were common in the age group of 30-50 years, and showed a male to female ratio of 4:1. 6 (60%) patients diagnosed to have an intestinal obstruction and are managed by limited resection with ileo-ascending colon anastomosis.
ATT was given to all patients.
Twelve cases of carcinoma caecum are diagnosed in the present study, which presented with pain and mass per abdomen and was found to be of more than 40 years of age. All the cases are treated by radical right hemicolectomy with ileo-transverse colon anastomosis, followed by chemotherapy.

Six cases of psoas abscess have come across, which presented with pain and fever, are found to be more than 40 years of age, all the cases are treated with extraperitoneal drainage.

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