

## A Study on Management of Mass in Right ILIAC Fossa

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### Abstract

Colonoscopy has the advantage of not only picking up a primary cancer but also having the ability to detect synchronous polyps or even multiple carcinomas, which occur in 5% of cases. Colonoscopy enables a more detailed study of the mucosa, visualising lesions of less than 0.5cm. The principle advantage over radiology is that lesions can be biopsed, or removed by snare, cautery if they proved to be adenomatous polyps or a small polypoid carcinoma. A minimum of 30 cases with the following inclusion and exclusion criteria will be selected for the study. A presented proforma will be used to collect relevant information (Patient data, Clinical findings, Lab investigations, operative findings, procedure performed and postoperative complications) from all the selected patients. In present study, 29 patients were managed surgically and one patient managed conservatively. All patients of Appendicular abscess and mass were managed surgically. Out of 7 cases of Ileocaecal tuberculosis 6 cases were managed surgically followed Anti-tubercular treatment. One patient managed conservatively with ATT. All cases of Carcinoma caecum managed surgically followed by chemotherapy. Non-Hodgkin's lymphoma managed surgically but patient expired. Retroperitoneal sarcoma managed surgically followed radiotherapy.

**Keywords:** Colonoscopy; Mass in Right Iliac Fossa; Non-Hodgkin Slynphoma.

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### Introduction

Acute appendicitis recognized as a clinical entity is attributed to Reginald Fitz, who presented a paper to the first meeting of the Association of American Physicians in 1886 entitled Perforating inflammation of the vermiform appendix. Charles McBurney described the clinical manifestations of acute appendicitis including the point of maximum tenderness in the right iliac fossa [1].

Acute appendicitis is relatively rare in infants, and becomes increasingly common in childhood and early adult life, reaching a peak incidence in the teens and early 20s. After middle age, the risk of developing appendicitis is quite small. The incidence of appendicitis is equal among males and females before puberty.

In teenagers and young adults, the male-female ratio increases to 3:2 at age 25; thereafter, the greater incidence in males declines [2].

Tuberculosis was first recognized in the fourth century BC Hippocrates described a condition resembling tuberculosis in a patient with pulmonary lesions and intestinal disease. Tuberculosis was widely prevalent in most parts of the world and was the major cause of intestinal strictures and bowel obstruction. It is believed that French Emperor Louis XIII succumbed to severe intestinal tuberculosis with ulcerations, perforation and peritonitis [3].

The modern era in tuberculosis began in 1882 with the identification of the causative organism, Mycobacterium tuberculosis by Robert Koch. In 1998 the complete genetic sequence of M. tuberculosis was identified. Intestinal tuberculosis is seen more frequently in people of poor socioeconomic circumstances [4].

Mycobacterium tuberculosis is responsible for nearly all cases of abdominal tuberculosis, other pathogenic organisms such as M. bovis are rarely encountered today. The tubercle bacillus is a gram positive aerobic non motile, non-spore-bearing organism that is identified by the Ziehl-Neelson acid fast differential staining method [5].

Carcinoma of caecum usually occurs in patients over 50 years of age but it is not rare earlier in adult life. Right sided tumours are remarkably silent and many patients present with only the symptoms and signs of iron deficiency anaemia from protracted occult blood loss.

The feces entering the caecum are liquid and obstruction is a relatively late presentation. As the lumen becomes narrowed the patient complains of intermittent colic centrally or in the right iliac fossa which is often post prandial, stimulated by the gastrocolic reflex.

Typical distal ileal obstruction occurs if the tumour blocks the ileocaecal valve. Waves of central abdominal colic occur, with progressive central abdominal distension and borborygmi. Visible peristalsis, feculent vomiting and dehydration are late features [6].

Patients occasionally present with symptoms and signs of acute appendicitis when the carcinoma occludes the appendicular orifice and produce acute inflammation or from a perforated carcinoma. The presence of mass in the right iliac fossa colonoscopy may be needed to confirm the diagnosis.

The tumor may penetrate the bowel wall posteriorly, producing a sealed perforation and an abscess in the psoas muscle. Such patients present with the symptoms and signs of infection accompanied by a painful mass in the right iliac fossa.

Occasionally, patients present with general symptoms of malaise and lack of wellbeing, sometimes with a pyrexia of unknown origin. Caecal carcinoma is sometimes discovered unexpectedly at operation for acute appendicitis or for an appendix abscess failing to resolve on rare occasions, the appendix is inflamed or even gangrenous, from the obstruction to its lumen by tumor. A carcinoma of the caecum can be the apex of an intussusceptions presenting with the symptom of intermittent obstruction [7].

Patient may present for the first time with liver metastasis and an enlarged, tender liver, ascites from carcinomatosis peritonei, rarely metastasis to the lung, skin, bone and brain.

Colonoscopy has the advantage of not only picking up a primary cancer but also having the ability to detect synchronous polyps or even multiple carcinomas, which occur in 5% of cases. Colonoscopy enables a more detailed study of the mucosa, visualising lesions of less than 0.5cm.

The principle advantage over radiology is that lesions can be biopsied, or removed by snare, cautery if they proved to be adenomatous polyps or a small polypoid carcinoma. When the diagnosis of the carcinoma is suspected on barium enema on clinical grounds, irrigation through a colonoscope will provide cells for cytological study. Returning fluid is collected and centrifuged films are prepared and stained from sediment. Ultrasonography is often used as a screening investigation for liver metastasis. CT is used in patients with large palpable abdominal mass, to determine local invasion. MRI is the most sensitive method of evaluating the liver. A chest X-ray should be routinely taken to rule out pulmonary metastasis. Raskin and Platicka report an accuracy of 80-85% hepatic scanning and chest X-ray are helpful in assessing distant metastasis [8,9].

### Methodology

This study includes selection of patients with mass in the right iliac fossa on a randomized & prospective basis.

A minimum of 30 cases with the following inclusion and exclusion criteria will be selected for the study.

A presented proforma will be used to collect relevant information (Patient data, Clinical findings, Lab investigations, operative findings, procedure performed and postoperative complications) from all the selected patients.

- Blood: Hb%, TC, DC, ESR, BT, CT, Blood group and Rh typing
- Blood Sugar, Blood urea, S. creatinine.
- Liver function tests
- HIV 1&2, HbsAg
- Urine routine and microscopy
- Stool for occult blood
- Chest X-Ray
- USG abdomen
- CT Scan-abdomen
- Barium study
- Histopathology

Patient was subjected to methodical physical examination to assess his general condition. Local examination of abdomen was done and relevant findings were recorded. Rectal examination was done in all cases, pervaginal examination was also done in female patients.

The required and routine investigations were done to establish the diagnosis. Patients were asked to present themselves for follow up after a specific interval or at recurrence of symptoms.

All patients received supportive treatment for correction of anaemia and other nutritional deficiencies. Respiratory and other infections were treated with appropriate antibiotics and the patients were made fit for surgical intervention.

Adequate bowel preparation with oral antibiotics and mechanical bowel cleansing was done wherever required. These cases were given postoperative parenteral antibiotics. 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. Postoperative period was monitored, intake and output charts and vital charts were maintained. Drains were removed after 48 hours and sutures were removed on the 7<sup>th</sup> postoperative day. Most of the operated patients had uneventful recovery.

## Results

In present study of 30 cases, all patients had mass in right iliac fossa, 96% of cases had tenderness in right iliac fossa.

In 83.3% of cases surface was smooth and in 16.7% cases was nodular.

In 20% of cases borders are regular, 43.3% of cases borders are irregular and in 36.7% of cases borders are diffuse.

In 63.3% of patients, the mass was soft in consistency and these include all cases of appendicular abscess. In 20% of patients mass was firm in consistency mostly due to Appendicular mass, Ileocaecal tuberculosis and Retroperitoneal sarcoma. All cases of the Carcinoma caecum were hard in consistency along with Non- Hodgkin s lymphoma (Table 1).

Most of the patients of Carcinoma caecum had haemoglobin less than 10gm% followed by Ileocaecal tuberculosis (Table 2).

Most of patients with Ileocaecal tuberculosis had elevated ESR (Table 3).

In present study, 29 patients were managed surgically and one patient managed conservatively. All patients of Appendicular abscess and mass were managed surgically.

Out of 7 cases of Ileocaecal tuberculosis 6 cases were managed surgically followed Anti-tubercular

**Table 1:** Clinical signs mass per abdomen

Clinical Signs Mass per abdomen		No. of Cases 30	Percentage 100
Tenderness	Present	29	96.7
	Absent	1	3.3
Surface	Smooth	25	83.3
	Nodular	5	16.7
	Regular	6	20
Borders	Irregular	13	43.3
	Diffuse	11	36.7
	Soft	19	63.3
Consistency	Firm	6	20
	Hard	5	16.7
Mobility	Restricted	13	43.3
	Fixed	17	56.7

**Table 2:** Haemoglobin percentage

Diagnoses	No. of Cases	< 10 (gm %)		> 10 (gm %)	
		Frequency	%	Frequency	%
A.abscess	6	0	0	6	100
A.mass	11	4	36	7	64
Ca.caecum	4	3	75	1	25
Ileocaecal tuberculosis	7	3	43	4	57
Non-Hodgkin's Lymphoma	1	0	0	1	100
R.sarcoma	1	0	0	1	100
Total	30	10	33.33	20	66.67

treatment. One patient managed conservatively with ATT. All cases of Carcinoma caecum managed surgically followed by chemotherapy.

Non-Hodgkin's lymphoma managed surgically but patient expired.

Retroperitoneal sarcoma managed surgically followed radiotherapy (Table 4).

Three (3) cases of appendicular abscess underwent extraperitoneal drainage with immediate appendicectomy and other 3 cases underwent extraperitoneal drainage and interval appendicectomy after 6 weeks.

All patients of appendicular managed conservatively with OS regimen initially and interval appendicectomy after 6 weeks.

Four (4) cases of Ileocaecal tuberculosis underwent Right Hemicolectomy and one case underwent

Resection and Ileotransverse anastomosis and another one underwent biopsy due to unrectable mass.

Three (3) cases of Carcinoma of caecum underwent Right Hemicolectomy and one patient underwent Right extended Hemicolectomy.

Retroperitoneal sarcoma was managed by Surgical excision followed by Radiotherapy.

Non-Hodgkin s lymphoma underwent Resection and Ileotransverse anastomosis (Table 5).

In our study of follow-up cases, 14 patients underwent surgery i.e. Interval appendicectomy for Appendicular mass (11) and abscess (3). 5 cases of Ileocaecal tuberculosis were on ATT regularly. Chemotherapy was given to 4 cases of Carcinoma caecum. Radiotherapy given to Retroperitoneal sarcoma. Others were normal at follow up.

**Table 3:** ESR(mm/1hour)

Diagnoses	No. of Cases	ESR mm / 1 hour		
		5 - 20	21 - 40	41 - 60
A.abscess	6	6(100%)	0	0
A.mass	11	9(81.8%)	2(18.2%)	0
Ca.caecum	4	2(50%)	2(50%)	0
Ileocaecal tuberculosis	7	0	2(28.6%)	5(71.4%)
Non-Hodgkin's Lymphoma	1	0	1(100%)	0
R.sarcoma	1	1(100%)	0	0
Total	30	18(60%)	7(23.3%)	5(16.7%)

**Table 4:** Mode of treatment

Diagnoses	No. of Cases	Conservative treatment		Surgical treatment	
		Frequency	Percent	Frequency	Percent
A.abscess	6	-	-	6	100
A.mass	11	0	0	11	100
Ca.caecum	4	-	-	4	100
Ileocaecal tuberculosis	7	1	14.3	6	85.7
Non-Hodgkin's Lymphoma	1	0	0	1	100
R.sarcoma	1	0	0	1	100
Total	30	1	3.3	29	96.7

**Table 5:** Type of surgery

Type of Surgery	No. of cases	Percent
Laparotomy(Lap) with Biopsy	1	3.33
EP drainage with Interval Append.	3	10
EP drainage +immediate Append.	3	10
OS regimen with interval Append.	11	36.6
Resection & ileotransverse anastomosis	2	6.66
Rt. Hemicolectomy	7	23.33
Rt.ExtendedHemicolectomy	1	3.33
Surgical excision	1	3.33

**Table 6:** Postoperative complications

Postoperative Complications	No. of cases	Percent
Wound Infection	13	43.33
Mortality	1	3.33
Respiratory Tract Infection	0	
Total	14	46.66

Table 7: Follow-UP

Details	No. of cases	Percent
Surgery done	14	50.0
ATT	5	16.67
Chemotherapy	4	13.33
Radiotherapy	1	3.33
Normal	1	3.33

## Discussion

In this study, 75% of cases had haemoglobin less than 10 gm% and 25% of cases more than 10 gm%. In our study, 75% of patients presented with mass in right iliac fossa, mass was hard in consistency, restricted mobility associated with tenderness and dull to percuss.

In Goligher [10], study of barium enema examination revealed a bulky tumour that projects into the lumen of caecum of ascending colon, producing a filling defect with an irregular edge.

In present study barium enema was done in all cases and revealed persistent short irregular filling defect in caecum.

Richardson et al. [11], said that sensitivity, specificity and accuracy of abdominal ultrasonography in colonic tumours considered to be consistent with colonic carcinoma was 96%, 67% and 91% respectively.

In this study, all patients were diagnosed accurately on ultrasonography. Colonoscopy was done in two patients and biopsy taken.

According to Goligher S [12], experience with regard to growth of the caecum 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 a reasonable chance of cure.

In present study, general condition of the patient was improved by giving high protein diet with hematimics and most of the patients in this study needed blood transfusion either pre or postoperative period. 3 patients underwent right hemicolectomy and 1 patient underwent right extended hemicolectomy followed by chemotherapy (5FU based). Resected specimen sent for histopathological examination and reported as adenocarcinoma of caecum.

This accounted for 3.3% in present study and female patient. Patient presented with mass per abdomen with dull aching pain and loss of weight. Age of presentation was 38 years.

The mass was firm in consistency with restricted mobility. Hemoglobin was 11 gm% and ESR was 12 mm/1<sup>st</sup> hour.

In this study ultrasonography and CT abdomen didn't revealed retroperitoneal sarcoma.

According to Bobin JY et al. [13], external beam radiotherapy (EBRT) with intraoperative electron beam radiotherapy (IORT) treatment is a promising technique for local control. Local recurrence rates are associated with radical surgical procedures.

According to Singer S. et al. [14], the histologic subtype and margin of resection are prognostic for survival in primary retroperitoneal liposarcoma.

The present study, surgical excision of retroperitoneal tumours was done and radiotherapy given postoperatively.

According to Bobin JY. et al. [13], in this study of 24 patients with primary and recurrent retroperitoneal sarcoma, the median dose and energy of IORT delivered was 15 Gy/9 MCV. EBRT dose varies between 45-50 Gy. Disease free survival and overall survival at 5 years was 28 and 56% respectively.

Postoperatively patient had wound infection. Resected specimen showed liposarcomahisto pathologically.

The gastrointestinal tract is the most common site for the development of Non-Hodgkin's lymphoma, comprising approximately 30% of NHL, mostly from stomach (60%) and small bowel (30%) and rarely from colon. It may present as non-specific abdominal complaints, malabsorption, obstruction or as palpable mass. In our study one patient presented with pain abdomen, vomiting and loss of weight. Clinically mass in right iliac fossa diagnosed as ileocaecal tuberculosis.

Resection and ileotransverse anastomosis was done, specimen sent for histopathological examination and showed Non-Hodgkin's lymphoma. Postoperatively patient expired.

## Conclusion

- In our study, all patients had abdominal ultrasound to diagnose mass in right iliac fossa.
- 96.7% of cases were managed surgically and 3.3% of case were conservatively managed.
- Wound infection was the most common postoperative complication.
- Most of the cases came for follow-up regularly and had good recovery.

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