www.jmscr.igmpublication.org
Impact Factor (SJIF): 6.379
Index Copernicus Value: 79.54
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossrefDOI: https://dx.doi.org/10.18535/jmscr/v6i9.179

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Original Research Paper

Clinical Study of Mass in Right iliac Fossa

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Abstract
Aims & Objectives: *To study clinical entities presenting as mass in right iliac fossa in relation to incidence, age & sex distribution, clinical presentation, modality of diagnosis, types of management, complications.*
Material & Methods: *Present study is prospective observational descriptive type of study. 100 patients were included with clinical features suggestive of right iliac fossa mass. Patients admitted in general surgical wards during the period of October 2015 to October 2017 at tertiary hospital of Mumbai were included in this study.*
Results: *Present study showed that intestinal tuberculosis (60%) was the most common cause for right iliac fossa mass followed by appendicular lump(20%), carcinoma caecum (12%), crohn's disease (1%) and non hodgekin's lymphoma(1%). Contrast enhanced computed tomography of abdomen with pelvis is investigation of choice for RIF mass. Accordingly, patients can be successfully managed by conservatively completely like in ileocaecal tuberculosis or by surgical intervention and by oncological management.*
Conclusion: *The surgeon must keep in mind that even though tuberculosis and mass of appendicular origin are common in the RIF, precautions must be taken not to miss the rarer causes, in order to diagnose and treat them at the earliest.*
Keywords: *Right iliac fossa mass.*

Introduction

Though right iliac fossa (RIF) mass is a common clinical presentation, mass in RIF is said to be the temple of surprises. It is common condition with diagnostic dilemma due to many differentials[1]. Its diagnosis is essential for managing the patients.

Radiology plays a vital role in differentiation.[2.] Appendicular mass (Appendicular lump, abscess, mucocele, neoplasm), ileocecal tuberculosis, intussusception, Crohn's disease, carcinoma caecum, tubo-ovarian mass, undescended testies, ectopic kidney, psoas abscss, non hodgkin's lymphoma (NHL) are differentials for RIF mass[2].

Patients with a mass in the right iliac fossa are commonly admitted in surgical departments. Most of the causes need surgical intervention and are curable.[3]

In present study, patients with RIF mass were evaluated in relation to their clinical presentation,

age & sex distribution, modalities of diagnosis, management and complications.

Aims & Objectives

To study clinical entities presenting as mass in right iliac fossa in relation to incidence, age & sex distribution, clinical presentation, modality of diagnosis, types of management, complications.

Material and Methods

Present study is prospective observational descriptive type of study. 100 patients were included with clinical features suggestive of right iliac fossa mass. Patients admitted in general surgical wards during the period of October 2015 to October 2017 at tertiary hospital of Mumbai were included in this study.

Case selection was done with respect to history, clinical examination, radiological examination and intra-operative findings.

Present study included patients with age above 13 years, irrespective of their sex, irrespective of previous abdominal surgery and presented with RIF mass.

Patients less than 12 years of age, pregnant women, patients with mass arising from uterus and its appendeges and patients with bony swellngs in RIF were excluded from study.

All patients were subjected to investigations like complete blood count (CBC), ultrasonography of abdomen & pelvis (USG A+P), contrast enhanced computed tomography of abdomen & pelvis (CECT A+P). Few patients were subjected to erythrocyte sedimentation rate (ESR), Montoux test, tumour markers, stool for occult blood & colonoscopy depending on CECT findings.

Depending on clinical examination, radiological & other above mentioned diagnostic tests, few patients with RIF mass were managed conservatively and few were undergone surgical procedures like interval appendicectomy, extraperitoneal drainage with interval appendicectomy, open appendicectomy, right hemicolectomy.

Follow up of patients done and complications if any were noted.

Results & Discussion

In present study, Ileocecal Tuberculosis is most common (60%) patholgy in right iliac fossa followed by appendicular lump (20%), carcinoma caecum (12%), crohn's disease (1%) and NHL (1%), in contrast to Sk Shetty et al[3], Shashikala V et al[4], Sudhakar et al[5], Puranaiah et al[6] , Samraj A et al[7]. Because in all these studies, they found appendicular mass as most common pathology causing RIF mass as shown in following table.

Study	Appendicular mass	Appendicular abscess	ileocecal tuberculosis	Carcinoma cecum	Crohns disease	Non hodgkin's lymphoma
Sk Shetty et al[3]	16	10	11	8		1
Shashikala V et al[4]	60	8	20	2	2	2
Sudhakar Waddi et al[5]	44	12	18	18		
Puranaiah et al[6]	50	15	15	5		
Samraj A et al[7]	60	17	6	5		3
Present study	20	6	60	12	1	1

This difference may be because, Mumbai is overcrowded and number of people living in slum or crowded region is very much high, making them prone for infections like tuberculosis. And, because of appendicitis gets treated earlier promptly before complications like formation of appendicular lump and abscess.

Ileocaecal tuberculosis is found to be common in 3rd-4th decade, appedicular mass in 2nd-4th decade, carcinoma caecum, NHL in 5th-6th decade of age group which is also supported by Sk Shetty et al[3], Shashikala V et al[4], Sudhakar et al[5], Puranaiah et al[6] , Samraj A et al[7].

RIF mass was found to be having male sex preponderance irrespective pathology diagnosed

in whole study which is supported by above mentioned studies.

Nearly 100% of the patients of this study presented with pain in abdomen which is also supported by above mentioned study. In present study, Appendicular lump and abscess presented with pain in RIF region, fever, vomitings as other studies. Pain in abdomen, weight loss and evening rise of tempertaure (60%) with RIF mass were the presenting symptoms of ileocaecal tuberculosis. Patients with carcinoma cecum presented most commonly with pain in abdomen, weight loss, altered bowel habbits when compared Samraj A et al[7] & Puranaiah et al[6]. Whereas in study of Shashikala V.alister et[4] al patient presented only with the weight loss. Patient with crohn's disease presented as pain in abdomen with altered bowel habbits similar with Shashikala V et al[4]. NHL has a varying mode of presentation. In present study, patient presented with lump in abdomen but in Samraj A et al[7] patient presented with pain in abdomen with lump in abdomen and Sk Shetty et al[3] & Shashikala V et al[4] did not present as lump in abdomen**.**

Most common clinical sign in all studies is mass in right iliac fossa (100%). Lump in RIF with tenderness was present in 59% and lump without tenderness present in 12% cases.

ESR was found to be raised in all patients of ileocaecal tuberculosis and patients with neoplastic aetiology, ileocaecal tuberculosis had low haemoglobin. Appendicular abscess and Appendicular mass were associated with leukocytosis. In Nonhodkin's lymphoma also the leukocytosis was present which is supported by Shashikala V et al[4].

USG A+P is the most important diagnostic investigation in the right iliac fossa mass management. CECT A+P is required for definitive and detailed information. It is 88% diagnostic in ileocecal tuberculosis in present study, 66% in Sudhakar et al[5], 100% in carcinoma cecum in present study similar to Sudhakar et al. X-Ray abdomen erect is useful for diagnosing pneumo peritoneum and bowel obstruction, complication of intestinal tuberculosis. Colonoscopy is 100% useful in diagnosing carcinoma cecum in present study similar to Puranaiah et al[6] & Sudhakar et al[5]. But in Ileocecal tuberculosis it is 50% diagnostic as per Puranaiah et al[6] and 33% in Sudhakar et al[5].

Appnedicular mass was managed conservatively initially followed by interval appendectomy after 6-8 weeks similar to Shashikala V et al[4] and Puranaiah et al[6]. In all studies, Appendicular abscess was managed surgically with extraperitoneal drainage of the abscess and interval appendectomy similar to present study. In Puranaiah et al[6] 2 cases were managed conservatively.

In following table, patients who were managed by Surgically has been shown in percentage for different pathologies of RIF mass.

Study	Appendicular mass	Appendicular abscess	ileocecal tuberculosis	Carcinoma cecum	Chrohns disease	NHL
Sk Shetty et al[3]	94%	100%	82%	100%	-	100%
Shashikala V et al[4]	0%	100%	20%	100%	0%	0%
Puranaiah et al[6]	15%	80%	66%	50%	-	-
Present study	25%	100%	40%	100%	100%	100%

In present study, ileocecal tuberculosis was managed conservatively with antituberculous treatment (ATT) 60% but 40% patients needed to operate because of complications like intestinal obstruction and perforation. Right hemivolectomy was performed for them. In Shashikala V et al[4] 20% and In Sk Shetty[3] 82% patients were managed surgically. All cases of Carcinoma cecum patients managed surgically with right hemicolectomy followed by adjuvant chemotherapy, similar to Sk Shetty et al[3], Shashikala V et al[4], but in Puranaiah et al[6], among 2 cases of carcinoma caecum, one case was treated surgically but another case found liver

metastasis, hence, patient was sent for chemotherapy. Crohn's disease and non hodgkin's lymphoa were treated with surgical management because of the complications of intestinal obstruction, where in Shashikala V et al[4] both were managed conservatively.

In present study, wound infection followed by respiratory complications were among most common complications in surgically managed patients as seen in all studies. Among those who managed conservatively, recurrent pain in abdomen, mainly in patients of intestinal tuberculosis who were on ATT due ATT induced gastritis.

Conclusion

Present study showed that intestinal tuberculosis is the most common cause for right iliac fossa mass followed by appendicular lump, carcinoma caecum, crohn's disease and non hodgekin's lymphoma at tertiary care hospital of Mumbai. Contrast enhanced computed tomography of abdomen with pelvis is investigation of choice for RIF mass. Other investigations like Ultrasonography, colonoscopy with biopsy, histopatholgical examination also play vital role in diagnosis and further management of patient.

Accordingly patients can be successfully managed by either conservatively like in ileocaecal tuberculosis or by surgical intervention and by oncological management. Hence the surgeon must keep in mind that even though tuberculosis and mass of appendicular origin are common in the RIF, precaution must be taken not to miss the rarer causes, in order to diagnose and treat them at the earliest.

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