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Original Research Article

A Hospital Based Prospective Study Assessing Diagnostic Modalities and Treatment Approach in Patients with a Mass in Right Iliac Fossa

Kunal Kumar[1], Murari Kumar[2]

[1]Senior Resident, Department of General Surgery, Patna Medical College and Hospital Patna, Bihar, India

[2]Senior Resident, Department of General Surgery, Patna Medical College and Hospital Patna, Bihar, India

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Corresponding Author: Dr. Murari Kumar
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Abstract

Aim: The aim of the present study was to assess the different modalities of diagnosis and treatment in patients with a mass in right iliac fossa

Methods: This hospital based prospective study was conducted in Surgery department of Patna Medical College and Hospital Patna, Bihar, India. A total of 100 patients presenting with the complaint of a mass in the right iliac fossa were studied.

Results: The most common diagnosis made for the patients with the right iliac fossa mass was appendicular mass (49%) which was diagnosed using ultrasonogram and in 27% of the study subjects ileocaecal TB was diagnosed by means of contrast enhanced CT and for 12% of the patients, it was carcinoma caecum which was diagnosed by using colonoscopy with biopsy and 9% had psoas abscess and 3% had amoeboma. Most of the cases of appendicular mass or abscess drainage and excision were done and for 27% of the patients who were with ileocaecal TB, anti-tuberculosis treatment was given. In patients with psoas abscess, incision and drainage was performed. Right colectomy was done for majority of the patients with Ca caecum and further chemotherapy was given.

Conclusion: This study showed that appendicular mass is the commonest pathology in right iliac fossa amongst all and conservative treatment followed by interval appendicectomy is the best mode of treatment. Carcinoma of the colon and ileocaecal tuberculosis was the other two common causes for mass in the right iliac fossa. These cases also carry a good prognosis, if properly diagnosed and treated.

Keywords: Mass in right iliac fossa, Appendicular mass, Ileocaecal tuberculosis, Carcinoma Caecum, Appendicectomy, Hemicolectomy

Introduction

Right Iliac fossa (RIF) mass, referred to as the "temple of surprises", is a common clinical condition with a notable diagnostic dilemma for surgeons. Most patients diagnosed with a mass in the lower right abdomen are admitted to the surgery ward. The mass can develop from parietal, intra-abdominal, or retroperitoneal structures. The common conditions that present with right iliac fossa mass are appendicular masses, tuberculosis of the ileocecal region, cecal carcinoma, iliac lymphadenitis, and adnexal or tubo-ovarian masses. It is very important to differentiate these conditions to reach a diagnosis and treatment plan as there is vast variability in management. [1]

Skoubo et al. reported that conservative management of appendicular masses was successful in most cases, with lower complication rates than with early operative treatment. [2] Nonetheless, according to Das et al., early appendectomy for the removal of appendicular mass was relatively safe owing to the improvements in surgical techniques and better postoperative care. [3] It also reported that a requirement for prolonged postoperative care was observed in patients in which appendicular mass was managed conservatively compared to patients that underwent early investigations.

Right iliac fossa (RIF) pain is one of the most common presentations to acute general surgical services. [4] Causes include appendicitis, other gastrointestinal, urological, gynaecological, vascular and musculoskeletal pathologies. Given this range of potential pathologies, variation in presentation and similarity to other conditions, particularly ovarian pathologies in women of

reproductive age, diagnosing appendicitis can be a challenge. [5] Traditionally, surgeons have relied on clinical history, examination findings and basic laboratory investigations for diagnosis. Objective stratifiers such as the Appendicitis Inflammatory Response (AIR) [6] and Alvarado scores [7] have been developed to combat this diagnostic uncertainty; yet, these derived from small retrospective cohorts, are poorly validated, and not widely used. [8] Since delayed appendicectomy is associated with increased risk of complications, prompt diagnosis and treatment is essential. [9] Diagnostic uncertainty, coupled with the risks of diagnostic delay, has led to surgeons having a low threshold for operating on patients with equivocal symptoms resulting in high rates of negative appendicectomy: a national audit in 2012 found the UK's negative appendicectomy rate to be 20.6%. [10,11]

The aim of the present study was to assess the different modalities of diagnosis and treatment in our set up and to identify factors which can help in better management of these cases.

Materials and Methods

This hospital based prospective study was conducted in Surgery Department of Patna Medical College and Hospital Patna, Bihar, India for 7 months .A total of 100 patients presenting with the complaint of a mass in the right iliac fossa were studied.

Inclusion Criteria

1. Patients presenting with any mass in the right iliac fossa and

2. Willing to participate in the study.

Exclusion Criteria

1. 1. Female patients presenting with pathology related to uterus and its appendages.
2. Right iliac fossa mass secondary to extra-abdominal pathologies.
3. 3. Masses from structures which abnormally present in the right iliac fossa.
4. Bony swellings of the region
5. Terminally ill patients
6. Children less than 15 years of age

Methodology:

All data including age, gender, relevant history, investigations (Complete blood count, Blood grouping and Rh typing, HIV I and II, Chest radiograph, Ultrasound abdomen and pelvis, CT Scan abdomen and pelvis, IVP and barium follow through and enema, FNAC, Biopsy) were done to conclude the final diagnosis. Appropriate treatment and postoperative complications and final histo-pathological reports were recorded in the standard forms.

Statistical Analysis: Mean and SD was calculated for all the parametric variables. Proportions were derived for all the qualitative variables. Chi-square test was used for testing the test of significance between the two qualitative variables.

Results

Table 1: Various diagnostic modalities and the diagnosis in study population

Diagnostic technique	Diagnosis made	Frequency	%
USG	Appendicular mass	49	49
Contrast enhanced	Ileocaecal TB	27	27
CT scan	Psoas abscess	9	9
ELISA	Amoeboma	3	3
CT with colonoscopy and biopsy	CA caecum	12	12

The most common diagnosis made for the patients with the right iliac fossa mass was appendicular mass (49%) which was diagnosed using ultrasonogram and in 27% of the study subjects ileocaecal TB was diagnosed by means of contrast enhanced CT and for 12% of the patients, it was carcinoma caecum which was diagnosed by using colonoscopy with biopsy and 9% had psoas abscess and 3% had amoeboma.

Table 2: Distribution of the study subjects based on the type of intervention done

Intervention done	Frequency	Percentage
Abscess drainage and mass excision	45	45
Anti-tuberculosis treatment	27	27
Incision and drainage	9	9
Right hemicolectomy	11	11
Conservative management	8	8

Most of the cases of appendicular mass or abscess drainage and excision were done and for 27% of the patients who were with ileocaecal TB, anti-tuberculosis treatment was given. In patients with psoas abscess, incision and drainage was performed. Right colectomy was done for majority of the patients with Ca caecum and further chemotherapy was given.

Discussion

Mass in the right iliac fossa (RIF) is a common clinical condition that a surgeon faces in one's day to day practice. [12,13] Various structures from which RIF masses can arise include the terminal ileum, appendix, cecum, ascending colon, iliopsoas region, mesenteric lymph nodes and the retroperitoneal structures. They can be inflammatory, infective, neoplastic, etc. Hence, it is a diagnostic challenge to the treating surgeon. The common conditions include appendicular mass, appendicular abscess, ileocecal tuberculosis and ascending colon carcinoma. Rare conditions include Non-Hodgkin's lymphoma, coecal carcinoma, amoeboma, lymph node mass, iliopsoas mass, retroperitoneal mass and Crohn's disease. [13]

Hurme T et al [14] said emergency appendicectomy done for appendicular abscess in acute phase produced more complications, abscess drainage followed by interval appendicectomy healed well without complications, which is comparable. Eriksson S et al [15] said that interval appendicectomy and emergency appendicectomy for acute appendicitis had the same complication rates. Lasson A et al [16] said that percutaneous aspiration followed by interval appendicectomy for appendicular abscess is the best treatment. The most common diagnosis made for the patients with the right iliac fossa mass was appendicular mass (49%) which was diagnosed using ultrasonogram and in 27% of the study subjects ileocaecal TB was diagnosed by means of contrast enhanced CT and for 12% of the patients, it was carcinoma caecum which was diagnosed by using colonoscopy with biopsy and 9% had psoas abscess and 3% had amoeboma. Most of the cases of appendicular mass or abscess drainage and excision were done and for 27% of the patients who were with ileocaecal TB, anti-tuberculosis treatment was given. In patients with psoas abscess, incision and drainage was performed. Right colectomy was done for majority of the patients with Ca caecum and further chemotherapy was given.

Barium studies showed pulled up ceacum with multiple nodular areas with similar nodules in terminal ileum. Colonoscopic findings showed nodulo ulcerative lesions with thickened oedematous ileocaecal value. Barium enema in ileocaecal tuberculosis shows a pulled-up caecum with multiple nodular areas with similar nodular areas in terminal ileum. [17] The colonoscopy findings are nodular, nodulo ulcerative or ulcerative lesions with erythematous surrounding mucosa, thickened edematousileocaecal valve are suggestive of tuberculosis. [17] Balthazar EJ et al [18] said barium study with CT conjunction is useful for the diagnosis of the location, extent and mesenteric involvement of ileo- caecal tuberculosis lesions. UzunKoyA et al [19] said USG guided FNAC is a reliable investigation for ileo-caecal tuberculosis, which is comparable. Early diagnosis with ATT and surgical procedures improved the outcome, which is comparable. Colorectal carcinoma commonly occurs after 5th decade, males are more prone than females and high prevalence rate is noted in high socio- economical group of population. Stock C et al [20] said carcinoma caecum is more prevalent in patients more than 50 years of age, affects males more than females. Colonic carcinoma prevalence is increased in 8th decade, which is comparable. Mohandas et al [21] said male sex is predominantly affected in colonic carcinoma and increased prevalence is noted in immigrants and urban population than rural Indians due to environmental and dietary habits, which is comparable.

Conclusion

This study showed that appendicular mass is the commonest pathology in right iliac fossa amongst all and conservative treatment followed by interval appendicectomy is the best mode of treatment. Carcinoma of the colon and ileocaecal tuberculosis was the other two common causes for mass in the right iliac fossa. These cases also carry a good prognosis, if properly diagnosed and treated. Apart from the clinical examination in order to come to diagnosis, ultrasonography of the abdomen and, in selected patients, other investigations like colonoscopy, barium studies, CT scan and diagnostic laparoscopy are of immense help.

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