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# "Right Iliac Fossa Mass A Clinical Study"

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***Abstract***
***Background****: The mass in the abdomen has wide spread implications and long exercised the minds of many researchers and health care providers. Right iliac fossa mass is a common condition encountered in our surgical practice.****Aim****: To study various diseases which can presents as mass in the right iliac fossa. To study age and sex distribution of various condition.****Methodology****: This is a study of 50 cases of mass in the right iliac fossa admitted to Govt. Royapettah Hospital Chennai during the period from January 2015 to Dec 2015. This study includes selection of patients with mass in right iliac fossa on a randomized and prospective basis.****Results****: In this study 56% of cases were related to appendicular pathology. 18% cases were Ileocecal tuberculosis . Incidence more common in 3rd decade.****Conclusion****: Appendicular pathology was the commonest pathology seen in the right iliac fossa region. Ileocecal tuberculosis is one of the differential diagnosis for the chronic abdominal pain in the rural population.*

**Keywords**: *Right iliac fossa mass, appendicular mass, ileocecal TB*

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## I. Introduction

Mass in the abdomen, by reason of their wide spreadimplications, hassincelong inspired the minds of many workers. Massintheright iliac fossa is a common entity. Pandora'sbox-hackneyed phraseology is apt in case of mass in the right iliacfossa. Patient with mass in the right iliac fossa may confront thesurgeon, pediatrician obstetrician and gynaecologist. A thorough understandingof the anatomy and pathological processes that may occur withinthe abdomenareessential foranaccuratediagnosis andmanagement. Some patients will need immediate surgical intervention,whereas others will improve with conservativetreatment.The purpose of the present study is to finding certainwell definedclinicopathological entities,inmassintherightiliacfossa,the relative occurence of various pathologies, as seen in Govt. Royapetah Hospital, Chennaiinthe overall endeavour toreducemorbidity and mortality rates.

## II. Objectives

- Tostudyvariousdiseaseswhichcan presents asmassintheright iliacfossa.
- To study age and sex distribution of variousconditions.
- To study various modes ofmanagement.

## III. Methodology

This is a study of 50 cases of mass in the right iliac fossaadmitted toGovt. RoyapettahHospital,Chennai during theperiodfromJanuary 2015 to December 2015.This study includes selection of patients with mass in the right iliac fossa on a randomizeandProspectivebasis.Thepatientsareselectedaftertheyarediagnosedashavingintraabdominal mass in the right iliac fossa of various pathologies aftercareful history taking, thorough general and local examination andappropriate investigations.Female patients with pathologies related to uterus andits appendages were not included in this study. Similarly mass from anterior abdominal wall and bone werenot included in thisstudy.All clinical findings were recorded in the proforma casesheets. With each patient admitted with mass in the right iliac fossa,cordial interrogation session was held to obtain particulars of thedisease. Detailed history was carefully elicited to chart outsymptomatology.Patient was subjected to methodical physical examination toassess his general condition and to know the basic vital data onadmission. Local examination of abdomen was done in a methodical wayand relevant findings wererecorded.Rectal examination was done in all cases, while pervaginal examination was also done in female patients. Systemic examinationlike respiratory system and cardiovascular system were done routinely.All relevant and routine investigations were done in these casesto establish the

diagnosis. Ethical clearance has been obtained for thesame. Patientswereaskedtopresentthemselvesforfollow-upafteraspecific interval or at recurrence ofsymptoms.Meanwhile all patients received supportive treatment aimedat correction ofdehydration,anaemia, vitamin and othernutritionaldeficiencies.(Antihelmenthicswere given whenever indicated.). Respiratory and other infections were treated with appropriate antibiotics. Bowel preparation was done in all cases requiringexploratory laparotomy.Duringlaparotomy,intra-abdominalexaminationof all organs was made in addition to specific pathology and specific surgerywas done in eachcase.Postoperative follow-up was meticulously done, intakeoutput charts and vital charts were maintained. They were givenantibiotics, analgesics and sedatives ifneeded.Most of the operated patients had uneventful recovery. Drains wereremovedafter48hours andsutureswereremovedonthe7$^{th}$post- operativeday.

## IV. Results

Thisstudyof50casesofmassintherightiliacfossawasdone over a period of 12 months January 2015 to December2015.Inthisstudyof50cases56%ofcaseswererelatedto appendicular pathology either in the form of appendicular massor appendicular abscess. There were 9 cases ofileocaecal tuberculosis.In this study, youngest patient was of age 12 years, whopresented with appendicular mass and the oldest was 68 years of age admittedwith carcinoma ofcaecum.In this study appendicular mass manifested most commonly in3rd decade (36%) and followed by 2nd decade(27%).Ileocaecal tuberculosis was common in the middle age group (i.e., 3$^{rd}$and 4 $^{th}$ decade) covering about 77% ofcases.Carcinoma caecum was common in older age group(75%).In the present study, appendicular mass (73%),appendicular abscess (67%) were common inmales.In ileocaecal tuberculosis incidence in males was almost90%.Incarcinomaofcaecumtheincidenceagainwasmoreinmales. More than 50% cases in this study were from rural areas and oflow socioeconomic status, where prevalence of diseases like tuberculosisis more.In present study patients with appendicular mass presentedwith paininitiallyaroundumbilicuswhichlatershiftedtorightiliacfossa. 95% of cases of appendicular mass presented within 30 days. Painwas colicky in nature and associated with vomiting. Some patientsof ileocaecal tuberculosis presented with colicky abdominal painand fullnessinrightiliacfossa.Someofthemcomplainedofconstantdull pain in right iliac fossa interspersed with colicky abdominal pain2-8 hours after taking food. Pain was relieved usually by passing stools.In thisseries22%casespresentedwithin1month,55%casespresented between 1-3 months and another 22% presented after 6months.In this study unascended kidneyand actinomycosis were included in othersgroup.Inthisstudy54%ofappendicularmasspresentedwithfeverand 40% presented withvomiting.Incasesofappendicularabscess50%presentedwithfeverand 33% presented withvomiting.Outof9casesofileocaecaltuberculosis,4casespresentedwith fever, 3 cases with vomiting and 4 cases with loss ofweight.In 8 cases of carcinoma caecum 4 cases gave history ofoccasional vomiting and almost all cases gave history of loss ofweight.In present study of 50 cases, 90% cases had tenderness inright iliacfossa.9patientshadmasswhichwashardinconsistencywhich included all the 8 cases of carcinoma caecum and 1 caseof actinomycosis. 64%ofpatientshadmasswhichwasfirminconsistencywhich includes most cases of appendicular mass and ileocaecaltuberculosis. Remaining18%caseshad masses ofsoft inconsistencywhichincluded appendicular abscess and psoasabscess.31 of 50 cases presented with swelling which were fixed. Inthis group Itincludedpatientsofcarcinomacaecum,appendicularmassand few cases of ileocaecaltuberculosis.Inthisstudy38%caseshadHb<10gm.Most of the cases of ileocaecal tuberculosis and carcinoma caecum were in thisgroup.

In present series contrast x-ray barium studies were done in cases of carcinoma caecum and ileocaecal tuberculosis. Inileocaecal tuberculosis main feature was pulled up caecum with narrowed ileum.In carcinoma caecum main feature was irregular filling defectwith shouldering sign positive.

Inourstudyof50cases,8caseswеremanagedconservatively and 42 cases were managed surgically. Out of 22cases ofappendicular mass, managed surgically 9 cases were taken up for surgeryimmediately whereas rest of the 13 cases were managed by OschnerScherrenregime and appendicectomy was done at a laterdate in 9 cases, 4 patients did not turn for surgery.

All 6 cases of appendicular abscess and 3 cases of psoasabscess were managed by extraperitoneal drainage. These 6 casesof appendicular abscess were subjected to interval appendicectomy6-8 weeks later. 8 out of 9 cases of ileocaecal tuberculosis weremanaged surgically 1 case was not operate because of associated active pulmonarytuberculosis.6 out of 8casesofcarcinomacaecumwere operatedupon. 2casewasnotoperatedastherewеremultiplesecondariesin liver. 1 case ofunascended kidney surgery was not done.In all 6 cases of appendicular abscess,extraperitoneal drainage of pus was done immediately andinterval appendicectomy done after 6weeks.In8casesofileocaecaltuberculosismanagedsurgically,for3 cases, limited ileocaecal resection with end to end anastomosis wasdone. Whereasin4casestheyhadtogo In forhemicolectomy.In 3 cases of psoas abscess, extraperitoneal drainage wasdone followed by they were put on ATT.

## V. Discussion

This study of Mass in the right iliac fossa was made atGovt. RoyapettahHospitalChennaifrom January 2015 to December 2015. 50 cases ofmass in the right iliac fossa werestudied.

**Appendicularmass**

This formed 44% of cases of present study. All the patients came to the hospital for pain of duration of less than one month.They complained of colicky pain, initially around umbilicus which latershifted to right iliac fossa. Some patients had associatedvomiting.According to R.C. Nagar et al appendicular mass wasmore commonin3rd,4th and2nd decadesoflife.Maletofemaleratiowas 19:4(4.7:1).In present study maximum age incidence was in 3rd decade(36%) followedby2nd decade(27%).Itwasmorecommoninmalesthan females (2.6:1). Only two patient complained of mass in presentseries. Butall examinedcaseswerefoundtohavemassintherightiliac fossa.AccordingtoBaileyandLove,onthethirdday(rarelysooner) after the commencement of an attack of acute appendicitis, a tendermass can frequently be felt in the right iliac fossa beneath some rigidity of theoverlyingmusculature,theotherquadrantssoft, theabdomenbeingfree from rigidity ortenderness.

According to R. C. Nagar et al, 38 out of 46 cases hadrigidity and tenderness was present in 43 out of 46 cases. In present series, history of pain and vomiting is given by all patients. All patients had masses which weretender andfirm.Inpresentstudy,5ofthe22caseshadrestrictedmobility whereas rest of the cases werefixed.Adalia SA et al says that In his study of 30 patients, 3needed emergency appendicectomy, 2 had elective appendicectomyand remaining 83% were managedconservatively.Inpresentseriescaseswhichweremanagedconservativelywere called back for appendicectomy 6 weeks later. Specimens ofappendix after appendicectomy were sent for histopathological examination andall were reported as chronicappendicitis.

**Appendicularabscess**

These patients formed 12% of the present group study. 50% ofthe caseswerein4th decadeandin67%casesmaleswereaffected.Allthe patients presented within 1 month of symptoms. According to EdwardL Bradley III et al, mean age at which appendicular abscess occurred was40.7 ± 2.7. Symptoms had been present on an average of 9.2 ± 0.8days prior toadmission.Inpresentstudyinitiallypainwascolickyand then it progresses to pricking/throbbing type. 33% of cases complained of mass perabdomen and it was tender and soft in consistency.Fever was present in 50% cases. AccordingtoHurmeTetal,inhisstudyof147patients47%were primarilytreatedconservatively,ofthem9%hadtobeoperatedoninacute phase because of worsening of symptom. Rest 53% wereoperated on primarily of which 28% had complications. In 31 % ofconservativelymanagedpatients – intervalappendicectomywasdoneand12%were treated conservativelyonly.Inpresentstudyall6caseweretakenupforimmediateextra peritoneal drainage of abscess, which is a preparation forinterval appendicectomy done after 6-8 weeks.In all cases Interval appendicectomywas done and histopathology report showed chronicappendicitis.

**Ileocaecaltuberculosis**

Tuberculosis of the gastrointestinal tract presents as common diagnostic and therapeutic problem to a surgeon in most countries. In this series ileocaecal tuberculosis formed 18% .In present study 22% of cases of ileocaecal tuberculosishad associated pulmonarytuberculosis.80% of cases of ileocaecal tuberculosis were from rural areas.According to ATM Prakash et al incidence rate ofthis disease was high in age group 20-40 years. In present study all patients were above30 years age group with mass incidence between 30-40 years.Predominantlyaffected people were the males.Tuberculousenteritisiscommonestintheileocaecalregionina series conducted by Atm Prakash and also series conducted byBhansaliS.K.followedbyinvolvementofileumasthenextcommon site. In present study all cases had involvement of caecumwith associated involvement of ileum in few cases. According to Prakashet al,inhisstudy,both obstructive and non-obstructive groups have abdominalpain as the commonestsymptom. In the latter it may be colickyin nature, but in often vague related to umbilicus and right iliacfossa.

In present series, all patients complained of pain in right iliacfossa. Allthesepatientshadassociatedfeverofmilddegreeandhistoryof evening rise of temperature.Loss of weight and appetitewere also present in thesepatients.

In their study 62.3% of cases presented with bowelsymptoms. Tenderness was present in 58% cases and 63% cases presentedwithmass. Altered bowelhabits was present in present study of 22 % cases. In 66% of cases tenderness was present and 22% of cases presentedwith mass in the right iliacfossa.According to S.K. Bhansali et al. 60% of chronic cases ofileocaecal tuberculosis presented as mass in the right iliac fossa which maysimulate eitherCrohn's disease, an appendix mass or a malignant lesion ofcaecum or ascending

colon.Hyperplasticileocaecal tuberculosisorlymphadenitis is the cause for it.In present study only 22 % of cases of ileocaecal tuberculosis complainedof mass but on examination all the patients were found to have mass inthe right iliacfossa.

Inpresentstudyin77%ofcasesdurationofsymptomswasless than3monthsandinothersitwasmorethan6months.Accordingto Prakashet al 27% cases had duration of symptoms < 6 months and 43% cases had duration ranging from 6 months to 3 years. Rest ranged>3 years.

According to Schoefield PF., Anscome A.R. andKeedie N. C. in ileocaecal tuberculosis there are characteristic radiologicalappearances in barium enema examination like caecum is pulled up, ascendingcolonshortens, ileum retains its normalcalibre.

In present study, contrast x-ray barium enema study was done inall cases. Narrowing of terminalileum, obtuse ileocaecal angle and pulled up caecum were the main radiological features. I.P. Elhence andB.D. Sharma et al saidthat clinical subjective improvement aftersurgery occurredafter2-6monthsofATTwhichmaybe because of surgical removal of basic tuberculouslesion.

In present study 87% cases underwent definitive surgeryand followed by they were put on antituberculous therapy. Thesepatients responded well and had clinical improvement. According to Ramesh C. Bharati et al who did a study ofpattern of surgical emergencies of tuberculous abdomen, they didright hemicolectomy in 4.5% of cases limited resections in 6% casesand stricturoplasties in 36% cases. In present study of 9 cases ofileocaecal tuberculosis limited ileocaecal resection was done in 37% cases and because of extensiveassociated involvementofascendingcolon right hemicolectomy is done inanother50%cases.Intwocasetherewasanassociated stricture for which stricturoplasty wasdone.

**Carcinomacaecum**

Carcinoma, caecum formed 16% of cases of present study.75% cases were seen in the age group above 50 years and oldest patient ofthis study was aged 68years.

Accordingto Crerand S et al in the series of 1553 patients who presented with primary colorectal cancer, over a period of 30 years atMater Misericordiae Hospital, Dublin 39% patients were aged over 70 yearsand 51% were between 50-69 years. 70% carcinomas were left sided,22% carcinomas were right sided and carcinoma caecum accounted for18%.According to their study carcinoma caecum was more commonin patients over 69 years and in elderly females and 30% ofcolorectal carcinomas occurred incaecum.Inpresentstudy6 out of 8casespresentedwithmassanddull aching pain. Average duration of symptoms was from 1-6 months, 50% ofcaseshadvomitingand87%caseshadlossofweight.InGoligher series growths of the caecum, ascending colon and hepaticflexure, bowel symptoms were usually completely absent. In many instancesthe only manifestation will be of deterioration of general health with lossof weight andanaemia.In present series, 87% cases had a hemoglobin level of lowerthan10gmpercent .

According to Goligher J.C in majority of cases ofcarcinoma caecum constant but not very severe abdominal pain was experiencedin the right iliac fossa or subcostal or epigastrium often associated withlocal tenderness. Abdominal mass was felt in few cases usually in theright iliacfossa.Inpresentseries,allthepatientspresentedwithmassintheright iliacfossaanddullachingpain. Masswashardin consistency tender and fixed. They had a dull note onpercussion.In present study, 87.5% of cases were diangosed accuratelyon USG. According to Golighers experience with regards to growthsof caecumandascendingcolon,he prefer topracticethemore extensive right hemicolectomy except when the patients general condition is suchastocompelrestrictionoftheresectiontotheminimum.In present study the general condition of the patient wasimproved by giving high protein diet, hematinics and bowel wasprepared. Laparotomy was performed and right hemicolectomy wasdone. In this group in present study two different cases were included. Acase of Actinomycosis and unascended kidney.

## VI. Figures And Tables

**Table1:IncidenceofVariousCondition**

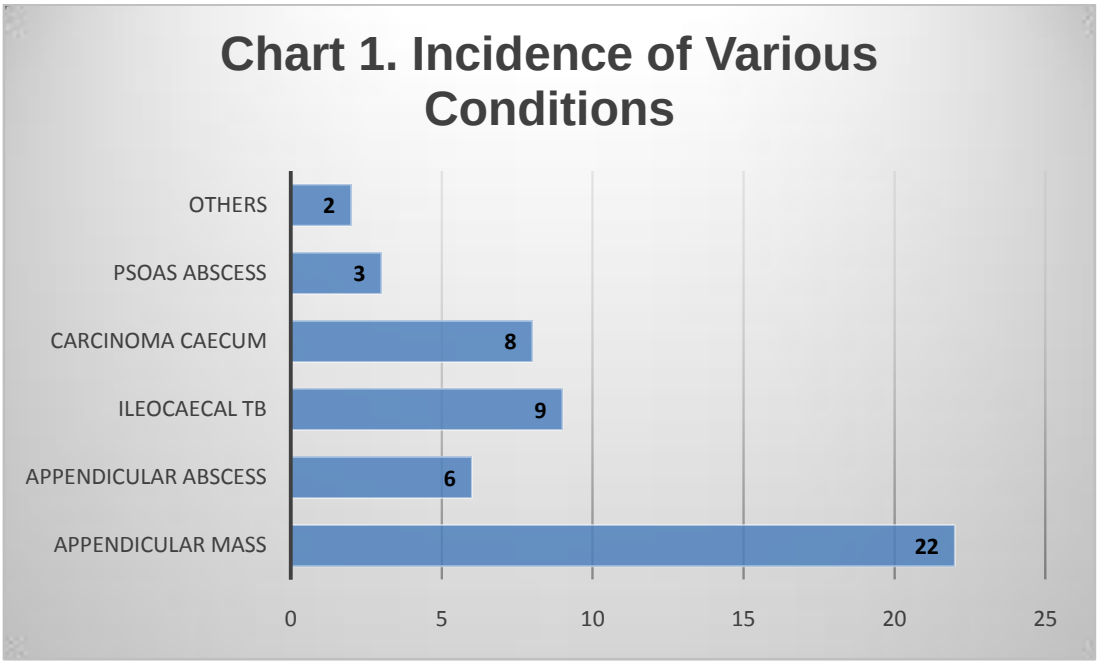


***Table 2: AgeIncidence***

| Sl. No. | Diagnosis | No. ofCases | 11– 20 Years | 21–30Years | 31– 40Years | 41–50Years | 51–60Years | 61–70Years |
|---|---|---|---|---|---|---|---|---|
| 1 | Appendicularmass | 22 | 6 | 8 | 4 | 1 | 2 | 1 |
| 2 | Appendicular abscess | 6 | 1 | 1 | 3 | - | - | 1 |
| 3 | Ileocaecaltuberculosis | 9 | - | - | 4 | 3 | 1 | 1 |
| 4 | Carcinomacaecum | 8 | - | 1 | - | 1 | 5 | 1 |
| 5 | Psoasabscess | 3 | 1 | - | - | 1 | 1 | - |
| 6 | Others | 2 | 1 | - | - | - | 1 | - |
| | **Total(50)** | 50 | **9** | **10** | **11** | **6** | **10** | **4** |

***Table 3:** SexIncidence*

| Sl. No. | Diagnosis | Male | | Female | |
|---|---|---|---|---|---|
| | | No. | % | No. | % |
| 1 | Appendicularmass | 16 | 73 | 6 | 27 |
| 2 | Appendicular abscess | 4 | 67 | 2 | 33 |
| 3 | Ileocaecaltuberculosis | 8 | 89 | 1 | 11 |
| 4 | Carcinomacaecum | 7 | 87 | 1 | 13 |
| 5 | Psoasabscess | 2 | 75 | 1 | 25 |
| 6 | Others | 1 | 50 | 1 | 50 |
| | **Total(50)** | **38** | **76** | **12** | **24** |

## VII. Conclusion

Thehighestincidenceofmassintherightiliacfossawasseen in 3rdand 4thdecade. Most of our patients were of lowsocio-economic status. Detailed history taking and complete clinical examination to be done for the early correct diagnosis. Though appendicular pathology andtuberculosis are common in right ilia fossa, surgeon

should consider other rare causes in order to diagnose and treat them at the earliest.

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