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RESEARCH ARTICLE

CLINICOLABORATORY PROFILE OF ABDOMINAL TUBERCULOSIS CASES IN A TERTIARY CARE HOSPITAL IN MANDYA : A CROSS SECTIONAL STUDY

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Abdominal Tuberculosis, Antitubercular Treatment (ATT), Abdominal Pain, Koch's Abdomen

Abstract

Background- Abdominal tuberculosis (TB)is defined as infection of peritoneum, hollow viscus or solid abdominal organs with mycobacterium tuberculosis. In the present study we aim to describe different sites of infection of abdominal tuberculosis with varied clinical presentations and to describe different investigation methods used to diagnose abdominal tuberculosis cases.

Patients & Method- A cross sectional study done from June 2021 to May 2023 in OPD and ward patients in department of General Surgery of tertiary care Hospital , Mandya. During this period 94 patients were studied from June 2021 to May 2023. Patients coming to surgery OPD and diagnosed with Abdominal TB will be included . Presenting complaints of Koch's abdomen like low grade fever , loss of weight, loss of appetite, night sweats ,easy fatiguability ,pallor , abdominal pain , abdominal mass, abdominal distension will be noted down. Follow up done with USG abdomen and pelvis to support diagnosis.

Result- 94 patients at our centre between 2022-2023 were studied . 64 patients were managed non operatively and responded to Antitubercular treatment (ATT) , 30 patients underwent laparotomy .

Conclusion- In our day to day clinical practice medical history , clinical manifestations, laboratory findings, CT findings, histopathological features , and microbiological findings should be comprehensively analysed in order to correctly diagnose abdominal tuberculosis which helps in early initiation of treatment and prevent complications due to abdominal tuberculosis.

Introduction:-

Tuberculosis is a chronic disease caused by Mycobacterium tuberculosis and continues to be a major health problem in developing countries like india.

Hematogenous spread can be either secondary to reactivation of primary lung focus or it can complicate active pulmonary TB or miliary TB[1]. Contiguous spread from intestine or fallopian tube may also occur. Presentation of Abdominal TB can be vague, non specific and can be confused with many other conditions, if not clinically suspected can result in an increase morbidity and mortality[2].

Abdominal tuberculosis is defined as infection of peritoneum hallow or solid abdominal organs with mycobacterium tuberculosis. It can be caused by hematogenous spread or through swallowing of infected sputum[3]. Abdominal TB

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is 12% of extrapulmonary TB and 2-3% of total TB cases[4] . It commonly occurs between age group of 30-40 . It is also commonly found in people affected by Human immunodeficiency virus infection (HIV), immunosuppressive therapy[5]. Since effective management requires proper recognition using a combination of clinical, radiographic, histopathological finding and application of appropriate therapy to avoid complications of abdominal tuberculosis like intestinal obstruction by early detection.

Clinical symptoms and radiological features are the grey areas of the study as they are vague, non-specific and often misdiagnosed as other surgical abdomen: granulomatous disease, inflammatory bowel disease (crohn's disease) intraabdominal malignancy , carcinomatosis[6].

In the present study we aim to describe different sites of infection of abdominal tuberculosis with varied clinical presentation and to describe different investigation methods used to diagnose abdominal tuberculosis cases.So that to help easy diagnosis and initiation of treatment early to present dilemma in diagnosis and to prevent complications[7,8] .

Patient & Method:-

A cross sectional study done from June 2021 to May 2023 in OPD and ward patients in department of General Surgery of tertiary care Hospital , Mandya.

During this period 94 patients were studied from June 2021 to May 2022. The study was approved by the Institutional Ethics Committee (IEC) , Mandya IEC Number – 590.

The method of sampling used was consecutive sampling.the inclusive criteria according to which the patient were selected was : all cases clinically diagnosed and confirmed with lab investigation ; all patients presenting with various manifestations and complications of abdominal tuberculosis ; patients of all groups and both sex are included in the study . Based on the exclusion criteria few were excluded; i.e patient not willing for investigation and refusing for medical and surgical assistance and Pregnant women with abdominal tuberculosis .

Patients coming to surgery outpatient department (OPD) in tertiary care hospital, Mandya and diagnosed with Abdominal TB will be included. Informed consent will be obtained from study subjects. Presenting complaints of Koch's abdomen like low grade fever , loss of weight, loss of appetite, night sweats ,easy fatiguability ,pallor , abdominal pain , abdominal mass, abdominal distension will be noted down. Follow up done with USG abdomen and pelvis to support diagnosis.

Further laboratory investigations Ultrasound Abdomen and pelvis , Cartridge based nucleic acid amplification test (CBNAAT) , adenosine deaminase (ADA) done to diagnose KOCH'S abdomen are noted down.

Result:-

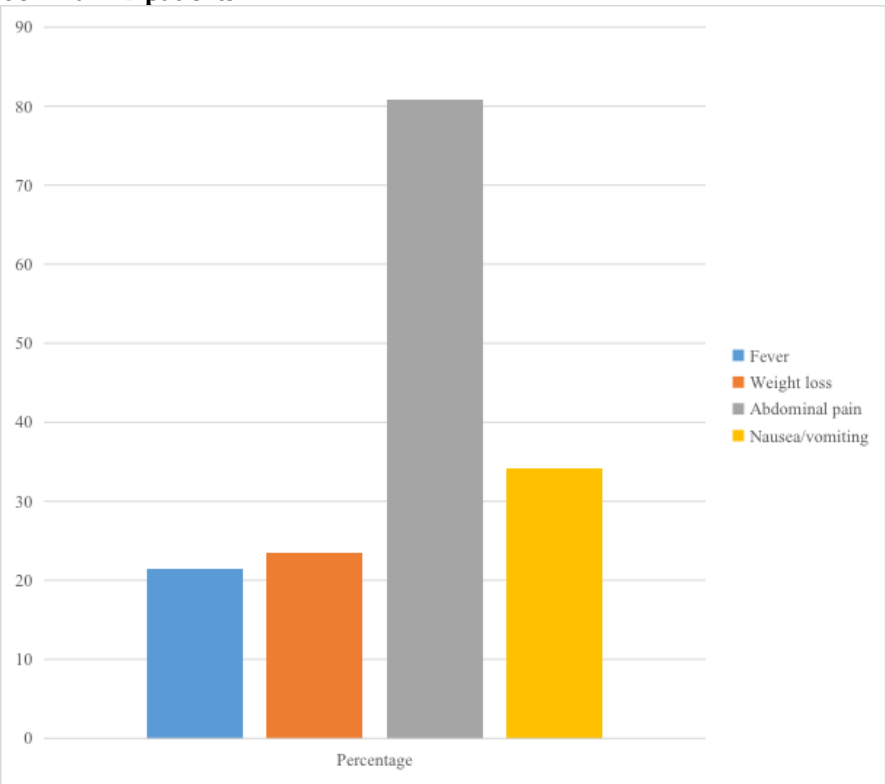
There were 94 patients at our centre between 2022-2023 were studied. Their mean age was 42+ 5 years and accounting to 72 % of all patients.

Amongst them 60 patients were male and 34 female. That is 63% of male 37% female

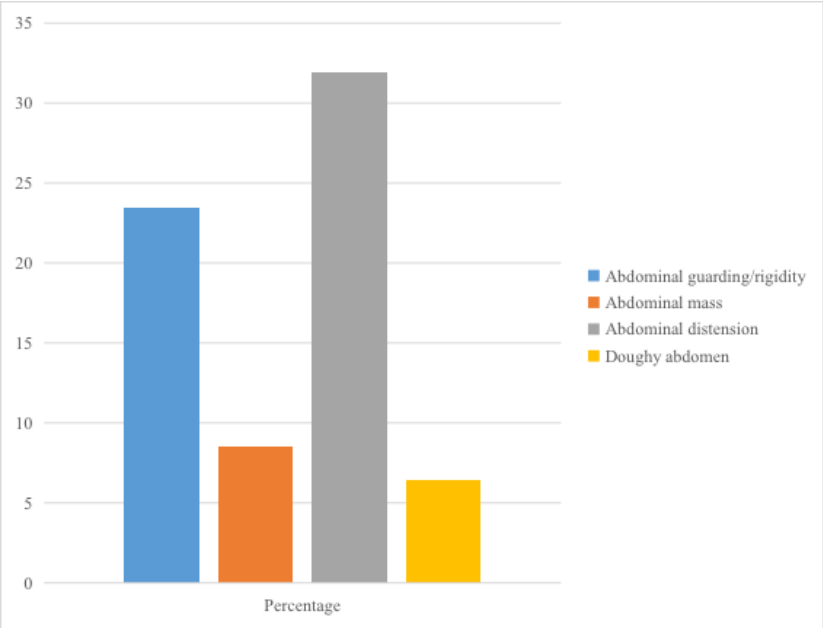
Among 94 patients 30 patients had coexisting pulmonary TB of whom 5 patients were active 25 patients had history of treatment with pulmonary TB in the past. Another 15 patients had family members treated with pulmonary TB in the past.

Out of 94 patients 76 patients presented with abdominal pain of whom 10 patients presented with acute abdominal pain : caused by intestinal perforation & 66 patients presented with chronic abdominal pain, not localised & 22 patients had history of weight loss, 20 patients had on and off history of fever.

Symptoms of abdominal TB patients



Signs of abdominal TB



Laboratory Results

Investigation	Out of 94
Montaux test positive	40
I. RAISED ERYTHROCYTE SEDIMENTATION RATE (ESR)	48
Raised C – Reactive protein (CRP)	62

Hb<10 g%	72
Low albumin	32
HIV positive	2
Increased neutrophil count	52
Lymphocytosis	22

As shown in the table out of 94 patients, 40 patients had montaux test positive and 48 patients had elevated ESR and post treatment ESR was significantly lower than pretreatment ESR and 62 patients had elevated CRP and 72 patients had low Hb<10g% of whom 20 patients had severe anemia of < 7g %.
32 patients had low albumin level 2 patients were HIV +ve. Elevated neutrophils were recorded in 52 patients and lymphocytes were seen in 22 cases.

Cartridge based nucleic acid amplification test (CBNAAT)
CBNAAT test of sputum sample and lymphnode were positive in 28 cases including laparotomy cases.
IGRA (interferon gamma release assay) was done in 10 patients (affordable patients) of whom 4 patients were positive.

Ultrasound (USG) and Computerized tomography (CT)
USG and CT scan showed 40 patients with positive results having main features of ileocaecal mass, circumferential bowel wall thickening and multiple abdominal lymphadenopathy
All 94 patients had chest x-ray of whom 22 cases had suspicious pulmonary TB of whom 6 were bilateral.

Histopathology
Out of 26 biopsies sent from laparotomy cases ,10 had caseating granuloma, 6 had lymphocyte aggregation, 2 had caseating necrosis others had only intestinal mucositis features

Treatment And Outcome:-
64 patients were managed non operatively and responded to ATT and 5 patients had repeated admission for clinical features of subacute intestinal obstruction and treated conservatively . Remaining 30 patients underwent laparotomy and in that 21 cases underwent elective laparotomy for intestinal obstruction with 16 patients had small bowel and 5 patients had colonic obstruction .9 patients had emergency laparotomy in that 8 patients had obstruction and 1 had perforation (small bowel).

Peroperative finding of laparotomy cases
Among 30 cases of laparotomy, 28 cases had intestinal adhesions, 2 patients had frozen abdomen with limiting dissection.

16 patients had peritonitis with obstruction in that small bowel resection done in 6 cases.
6 cases needed only adhesiolysis with peritoneal lavage given.
2 cases underwent right hemicolectomy.

Post Operative finding
Out of 30 operated cases 7 cases had surgical site infection(SSI) and 2 cases had intestinal fistula who were conservatively treated.

Treatment with Antitubercular treatment (ATT)
Both surgical and non surgical patients received ATT for 12-18 months. Intensive phase had quadruple therapy of isoniazid, rifampicin, ethambutol and pyrazinamide for 2 months followed by continuation phase with isoniazid and rifampicin and ethambutol for 4 months.out of 94 patients 4 patients lost for followup in 2 year period.

Conclusion:-
Diagnosis and treatment of abdominal tuberculosis is delayed and treating clinician will be in dilemma before starting treatment due to lack of definitive diagnostic methods

Clinical manifestations of abdominal tuberculosis is mainly abdominal pain, Weight loss,abdominal distension, fever, malnutrition, blood in the stool , night sweats , are non specific and highly homogenous to malignancy or other inflammatory bowel disease. Therefore diagnosis of abdominal tuberculosis is delayed also resulting in wrong medical or surgical treatment and high morbidity and mortality. timely diagnosis and appropriate treatment of the same can thereby prevent serious complications .therefore in our day to day clinical practice medical history , clinical manifestations laboratory findings, CT findings, , histopathological features , and microbiological findings should be comprehensively analysed in order to correctly diagnose abdominal tuberculosis which helps in early initiation of treatment and prevent complications due to abdominal tuberculosis.

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Declarations

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Conflict of interest:

None declared.

Ethical Approval:

The study was approved by the Institutional Ethics Committee.

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