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Research Article

PRESENTATION AND PATTERN OF ABDOMINAL TUBERCULOSIS IN A TERTIARY CARE HOSPITAL

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Abstract:

Introduction: Tuberculosis is a multisystemic infectious, necrotic, granulomatous disease caused by mycobacteria, mainly *Mycobacterium tuberculosis*, and is a common problem in Pakistan. The lungs are mostly affected, but any tissue may be affected. The incidence of extrapulmonary tuberculosis has increased in recent years, and abdominal tuberculosis is the most common type of extrapulmonary tuberculosis. So, this is a descriptive intervention study conducted to understand the pattern and presentation of abdominal tuberculosis, creating a local diagnosis guide to minimize both underdiagnosis and over diagnosis.

Place and Duration: In the Chest Medicine Department of Holy Family Hospital, Rawalpindi for on-year duration from July 2019 to July 2020.

Methods: 38 patients were enrolled in this study, 57% male and 43% female. The presented symptoms were abdominal pain in 57%, fever 50%, weight loss 43%, abdominal distension 21%, diarrhea 7%, vomiting 7%, respiratory symptoms in half of the patients, and pulmonary tuberculosis in only 14%.

Results: Leukopenia occurs in 36% of patients and leukocytosis in 36%. Features of anemia are present in 64%: 46% of them are normocytic, normochromic anemia, 18% of iron deficiency anemia, 43% of thrombocytosis and 21% of thrombocytopenia. 93% low serum albumin and normal liver enzymes in all patients.

The Mantoux test was 57% positive and 43% negative. Abdominal U/S showed ascites in 36%, enlarged perithoracic and mesenteric lymph nodes in 29%, enlargement of the liver and splenomegaly 14%, ileocecal mass 7%, peritoneal fusion 7% and lumbar abscess 7%. Ascites appeared as exudate in 93% of patients and as exudative in 7%. CXR showed features of old PTB in 43% of patients. The characteristics of tuberculosis are ascites 36%, tabes mesentrica 29%, hepatosplenomegaly 14%, intestinal obstruction 14% and psoas abscess 7%.

Keywords: presentation, pattern, abdomen, tuberculosis

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INTRODUCTION:

Tuberculosis is an old disease that returned to 3700 BC as tuberculosis lesions were observed in Europe and Egyptian mummies. It is the most common infectious disease in the world, caused by mycobacteria, mainly *Mycobacterium tuberculosis*, in some countries *Mycobacterium bovine* (milk-born disease) is present and causes abdominal tuberculosis. Tuberculosis is a systemic necrotizing granulomatous disease that affects every organ, but the lungs are the most common (pulmonary tuberculosis). The primary lesion usually occurs in the lungs and then spreads to another site, but the site of the primary lesion may be extrapulmonary sites, especially tonsils, larynx and gastrointestinal tract, the body reaches these sites by ingesting mycobacteria mainly with milk which is distributed in a container that opens by blowing out, while the respiratory system deals mainly with inhaling the sticks. Secondary spread by reactivation or spreading of blood products may be responsible for pulmonary or extrapulmonary infection, respectively. Several risk factors such as poverty, immunosuppression, and malnutrition contribute to the development of tuberculosis, not latent tuberculosis.

The incidence of tuberculosis systematically decreased from 1953 to 1985 and then started to increase due to the increase in immunosuppression, mainly HIV. In Pakistan, the annual tuberculosis rate is 1.8, and the target detection rate is 84 cases per 100,000 inhabitants.

Symptoms of extrapulmonary tuberculosis mimicking certain diseases, abdominal tuberculosis, which is the second type of EPTB after superficial tuberculosis, may present with symptoms that resemble inflammatory bowel disease or lymphoma to diagnose abdominal tuberculosis, which are very difficult and can be achieved after laparotomy even in well-established diagnostics, in the Pakistan there is no diagnostic background, therefore the diagnosis of abdominal tuberculosis is usually delayed, and in a way it is beyond diagnosis, mainly tuberculous ascites or mesenteric lymphadenitis, and even underdiagnosis for this reason limited facilities, on the other hand, diagnosis delays the diagnosis of another serious disease, such as lymphoma, so there is a real need for a diagnostic policy that overcomes these problems. Treatment of abdominal tuberculosis according to a Direct Observed Treatment Strategy (DOTS) with a fixed dose of rifampicin, pyrazinamide, ethambutol and isoniazid in the extensive phase for two months, followed by a fixed dose of rifampicin and an isoniazid continuation phase for four months as recommended

by the WHO. The purpose of this study was to understand the pattern and presentation of abdominal tuberculosis in Pakistan as it is a common medical problem in order to minimize over- or underdiagnosis of abdominal tuberculosis as both contribute to the outcome of tuberculosis and / or other mimetic diseases tuberculosis and the development of a local, affordable and relevant guide to the diagnosis of abdominal tuberculosis in this area of limited diagnostic facilities.

METHODOLOGY:**Study population:**

This study was held in the Chest Medicine Department of Holy Family Hospital, Rawalpindi for on-year duration from July 2019 to July 2020. All patients who showed symptoms suggestive of abdominal tuberculosis and did not have exclusion criteria.

Excluding Criteria:

Any condition that could alter the picture of abdominal tuberculosis or that could affect the diagnosis was ruled out because one of the goals was a simple, applicable, and affordable diagnostic policy. That is why we exclude people with liver, kidney, heart disease, inflammatory bowel disease and HIV.

Study design:

It is a prospective, descriptive and interventional study in which 38 patients were enrolled. A questionnaire containing age, gender, geographic distribution, symptoms, chronic disease history, nutritional status, and social habits such as smoking and alcohol consumption was set up, followed by a physical examination of all patients. Complete blood count, liver profile, Mantoux test (for which 15 mm is considered positive for all patients, 10 mm for those who have radiographic features suggesting old pulmonary tuberculosis), X-ray and ultrasound of the abdominal cavity performed in all patients. From persons with ascites and / or ultrasound examination, 20 ml of ascetic fluid was aspirated as part of pre-test procedure and sent for protein, cells and cytology, PCR was performed for selected patients and histopathology was performed for those who had already undergone exploratory laparotomy. Invasive diagnostic procedures were avoided due to attacks. The patients were receiving DOTS anti-tuberculosis therapy, with regular follow-up for six months, and then data analysis.

RESULTS:

58% of patients were men and 42% women, aged 20-60 years. Symptoms were abdominal pain in 57%, usually generalized mild to moderate dull pain, fever

in 50% of patients, low in intensity, weight loss in 43% and weight loss greater than 10%, abdominal distension 21%, diarrhea 7%, vomiting 7% and 50% showed respiratory symptoms (cough, chest pain, dyspnea and hemoptysis one or more taken as respiratory symptom). 14% have had pulmonary tuberculosis in the past. 20% of patients consumed a row of milk, 80% are in poor nutritional status, and are not alcoholic or smokers.

Leukopenia in 36% and leukocytosis in 36%, features of anemia appear in 64% of patients: 80% of patients had peripheral normocytic-normochromic anemia, and 20% had iron deficiency anemia. Thrombocytosis occurs in 43% and thrombocytopenia in 21%. In all the patients, serum albumin levels fell by 93%, while liver enzymes were normal or slightly elevated.

The Mantoux test was 57% positive and 43% negative. U / S showed ascites in 36%, it was mild to moderate, and never appeared as massive, enlarged mesenteric lymph nodes in 29%, enlargement of the liver and splenomegaly 14%, ileo-cecal mass 7% peritoneal adhesion and 7% lumbar abscess. Ascites occurred in 93% with exudate and 7% with exudate. CXR showed features of old PTB in 43% of patients (fibrous changes, volume loss). The type of abdominal tuberculosis is 36% of tuberculous ascites, 29% tabes mesenterica, 14% enlarged liver and spleen, 7% dry peritonitis, 7% intestinal obstruction, and 7% lumbar abscess. Common risk factors for abdominal tuberculosis in this study were malnutrition, old pulmonary tuberculosis, consumption of raw milk, and the poor economic health of the sauce.

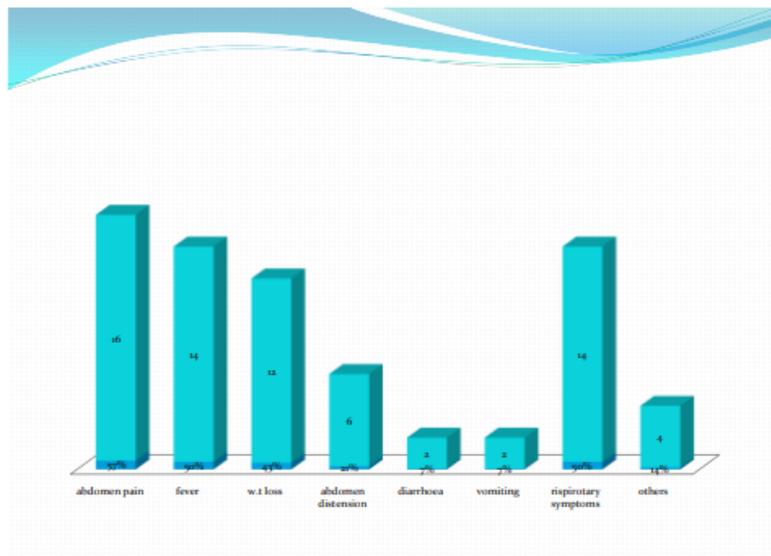


Figure (1): shows presenting symptoms

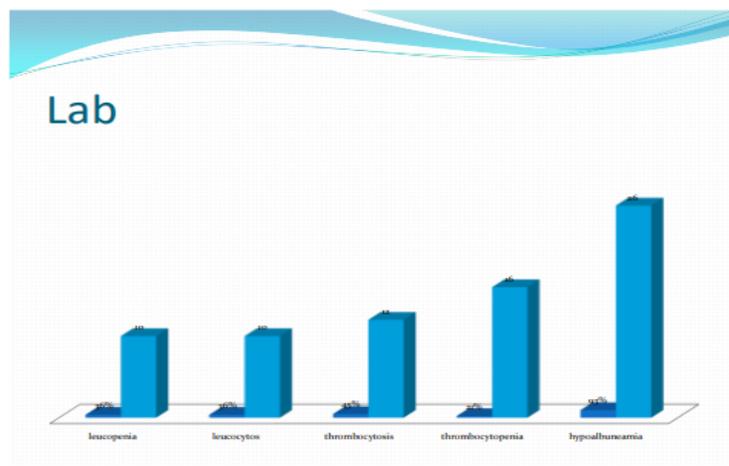


Figure (2): showed laboratory results



Figure (3): U/S showed RIF mass, granulomatous bowel and multiple lymph node

DISCUSSION:

The incidence of tuberculosis remains high in the Pakistan, and in recent years extrapulmonary tuberculosis has become more than pulmonary tuberculosis. Although abdominal tuberculosis is the most common type of extrapulmonary tuberculosis in this area, the study was designed to raise awareness about abdominal tuberculosis to distinguish it from other similar conditions. Men are more affected than women and both genders are of childbearing age, which increases poverty among this population and therefore increases the risk of developing tuberculosis as a new infection or reactivation of dormant lesions, the latter being more likely as the population studied showed the features of old pulmonary tuberculosis in a proportion corresponding to that in the literature. A 14: 1 spread of the disease in males more than in females may support the role of bovine bacillus in abdominal tuberculosis, since the habit of drinking straight milk is common in males.

Abdominal pain is the main symptom that occurs in about two-thirds of patients, mainly due to peritoneal involvement, either from inflammation that occurs in dry peritonitis or from ascites, and may be the only symptom in tuberculous peritonitis, a thing that delays diagnosis and even when accompanied by diarrhea, diagnostic difficulties still persist. The fever in the different types of abdominal tuberculosis ranges from 35% to 50% and occurs in half of the patients in this study, although these are not specific symptoms, but the presence of fever with other symptoms increases the likelihood of developing tuberculosis. Although tuberculous ascites accounted for 36% in this study, consistent abdominal distension occurs in 21% of the study population, which corresponds to the characteristics of mild to moderate ascites that appear

in I / s. Symptoms of colorectal tuberculosis did not appear in the study, so either it is really rare or caused by a small number of patients. Anemia is common in the study population, it is mainly normocytic normochromia due to bone marrow underdevelopment, while iron deficiency occurs in 2/5 of these anemic patients, iron deficiency may be secondary to poor consumption or increase hepcidin secondary to inflammation, and these anemias corrected anti-tuberculosis therapy. Thrombocytosis also occurs in about 2/5, whereas in a study conducted at the PTB in Port Pakistan it is 20%, this high rate of thrombocytosis may recur with old PTB or pulmonary collapse or pulmonary fibrosis, Mantoux positive in more than half of the study population although it is usually negative in gastrointestinal tuberculosis. Ascites, usually exuding and associated with low serum albumin and normal or slightly elevated liver enzymes.

In our study, tuberculous ascites is the most common pattern followed by tabes mesenterica, while dry peritonitis occurs in a small percentage, although worldwide peritonitis is the most common type, accounting for 25-50%, a low percentage may be due to three Peritonitis groups - wet, dry and fibrosis - are presented separately in this study, intestinal obstruction secondary to union or mass effect may be a presentation pattern and resolves with anti-tuberculosis treatment not requiring laparotomy, as this study diagnosed histopathology after laparotomy despite ultrasound examination mesenteric thickening and lymphadenopathy are sufficient for the diagnosis of tuberculous peritonitis resulting in obstruction of the intestine, lumbar abscess also occurs in a significant proportion (7%) and responds again to cancer therapy, and drainage will take a long time as

the inflammatory process TB is an ongoing pathology. Liver tuberculosis, although very rare, appears in significant numbers in this study, and despite liver involvement, liver enzyme levels remain normal.

CONCLUSION:

Abdominal tuberculosis is not uncommon in the Pakistan and is the most common type of extrapulmonary tuberculosis, therefore in such an endemic area, a high suspicion of tuberculosis should be considered when there are unexplained abdominal symptoms associated with fever. The primary location may be the abdomen or a secondary disease, and yet Mycobacterium tuberculosis is the most common organism, bovine Mycobacterium may be present there.

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