



CASE REPORT ON ABDOMINAL TUBERCULOSIS-A RARE PRESENTATION

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ABSTRACT Abdominal tuberculosis is a rare condition in developed nations and can be challenging to diagnose. It generally can occur as a chronic condition often mimicking other diseases such as Crohn's disease and can present itself with acute onset, which can be life-threatening. It can occur as a primary infection without evidence of pulmonary infection. Female genital tract is also a rare form of extra-pulmonary tuberculosis. It can present as a number of abdominal/pelvic symptoms. We report a case of abdominal tuberculosis which is a rare presentation in a 16-year-old female presented with abdominal pain.

KEYWORDS :**INTRODUCTION**

Tuberculosis remains a world-wide public health concern (1,2). The most common form is pulmonary tuberculosis, but the disease can affect almost any part of the body, including the lymph nodes, gastrointestinal tract, bone, retroperitoneal organs, vertebral structures, central nervous system, and genital tract. Atypical extra-pulmonary presentations may delay the diagnosis and treatment. Abdominal tuberculosis is the most frequent extra-pulmonary site with a wide range of clinical presentations. Abdominal tuberculosis is defined as infection of the gastrointestinal tract, peritoneum, abdominal solid organs, and/or abdominal lymphatics with Mycobacterium tuberculosis.

Abdominal TB constitutes approximately 12% of extra-pulmonary tuberculosis cases and 1% to 3% of total TB cases. Female genital tuberculosis is caused by MTB being usually secondary to TB of lungs or other organs with infection reaching through haematogenous, lymphatic route or direct spread from abdominal TB.

CASE REPORT

A 16-year-old female patient presented with complaints of pain abdomen since 3 weeks associated with fever and vomitings & nausea for 15 days, with history of loss of weight in the last 3 months.

Not associated with cough, chest pain, constipation, hemoptysis, burning micturition.

No history of diabetes, thyroid, tuberculosis, seizures, neurological deficits.

Pain abdomen sudden onset, gradually progressive, non-radiating in nature, spasmodic type of pain, with no aggravating or relieving factors.

Fever insidious onset, gradually progressive, low-grade fever, aggravated in the evenings showing diurnal variation, not associated with chills and rigor.

Vomitings sudden onset, non-projectile, non-bilious, 2-3 episodes/day, no aggravating and relieving factors.

Weight loss about 4 kgs in 3 months associated with loss of appetite, malaise, fatigue.

Upon general examination patient was thin built patient, her

temperature was elevated 99°F, pulse rate : 90 bpm, respiratory rate : 18 cycles/minute, bp : 100/70 mmHg. Pallor : ++, no icterus, cyanosis, clubbing and lymphadenopathy.

On inspection her abdomen was distended, palpation showed tenderness on the right lower quadrant, tympanic sound was heard on percussion.

Laboratory investigations showed elevated WBC count and elevated C-reactive protein. Upon further investigation, histopathology report for peritoneal nodule specimen showed features suggestive of granulomatous infiltration, maybe of Koch's etiology.

AFB for ascitic fluid is negative, Gene Expert for ascitic fluid detected Mycobacterium tuberculosis - very low.

Fluid for cytology - ascitic fluid negative for malignancies. MRI showed B/L complex adenexal lesions with dilated and thickened fallopian tubes, likely tuboovarian mass.

Patient was started with anti-tuberculosis drugs and got symptomatically improved.

HISTOPATHOLOGY REPORT**HISTORY :**

Pain abdomen since 3 weeks.

SPECIMEN :

Peritoneal Nodule specimen for HPE. (Routine specimen)

GROSS :

Received multiple grey-white soft tissue bits altogether measuring 2.0 x 1.5 x 0.5 cm. Nodule is noted measuring 0.5 x 0.5 x 0.5 cm.

Sections - A - Nodule B, C - Rest of the tissue.

MICROSCOPIC EXAMINATION :

Sections show fragments of fibroadipose tissue with mesothelial lining. There is mesothelial hyperplasia with focal coalescent granulomas surrounded by epithelioid cells and lymphocytes. Numerous Langhans' type giant cells noted. There is no evidence of any atypical cells.

Special stain for AFB: Non - Contributory

IMPRESSION :

FEATURES ARE SUGGESTIVE OF GRANULOMATOUS INFILTRATION.
KINDLY CORRELATE WITH GENE EXPERT - & TB CULTURE SENSITIVITY TESTS.

End of report

MRI: ABDOMEN AND PELVIS WITH CONTRAST

Whole abdomen: Coronal: T2 SPAIR
 Upper abdomen: Axial: T2, T1
 Pelvis: Axial: T2 & STIR
 Sagittal & Coronal: T1 & T2

LIVER: Normal in size (15.5 cm), shape and signal morphology. No focal lesions noted. No intra-hepatic biliary dilatation.

GALL BLADDER: Minimally distended. No obvious calculi.

PANCREAS: Normal in size and signal morphology. No focal lesions.

SPLEEN: Normal in size and signal morphology. No focal lesions.

RIGHT KIDNEY: Normal in size (91 X 44 mm), shape, position and signal morphology. No obvious calculi / Hydronephrosis.

LEFT KIDNEY: Normal in size (102 X 46 mm), shape, position and signal morphology. No obvious calculi / Hydronephrosis.

RETROPERITONEUM: Aorta is normal in calibre. No pre/para aortic lymphadenopathy. No obvious focal lesions noted at adrenal region. Both psoas muscles are normal in signal morphology.

URINARY BLADDER: Distended.

UTERUS: Normal (56 X 33 X 36 mm). Endometrial thickness: 4 – 5 mm.

***** Evidence of complex bilateral adnexal mixed signal intensity lesion showing dilated and thickened fallopian tubes with central T2 hyperintensity and peripheral hypointensity showing areas of dif**

restriction. On contrast there is irregular and peripheral enhancement of the lesions.

Size of the lesions is about 59 X 48 mm on left side and 55 X 21 mm on right side.

***** There is well defined T2 hypointense cystic lesion noted in left ovary amidst the above mentioned left adnexal lesion, measuring 33 X 20 mm.**

***** There is fat stranding noted in pelvis.**

• No free fluid noted in peritoneal cavity.

**IMP: > Bilateral complex adnexal lesions with dilated and thickened fallopian tubes as described above
 -> Likely tubo-ovarian mass.**

DEPARTMENT OF MOLECULAR PATHOLOGY

Genexpert MTB

Investigation	Result
Equipment	GeneXpert(Cepheid)
Specimen Type	Ascitic Fluid
Mycobacterium Tuberculosis	DETECTED (VERY LOW)
Rifampicin Resistance	Not Detected

Method: Semi-Nested PCR

Result Interpretation:

If result is TB negative: This indicates no tuberculosis (TB). However, if the clinical picture is strongly suggestive of TB, a repeat test can be suggested by your referring doctor.

If result is TB positive, and Rifampicin resistance negative: This indicates tuberculosis that can be treated with commonly used drugs. Please seek assistance from the referring doctor for treatment of tuberculosis, which is a highly curable disease.

If result is Rifampicin resistance positive and you have previously taken TB treatment: This indicates drug resistance - TB that is difficult to treat with commonly used drugs. Please seek assistance from the referring doctor for treatment of multidrug resistant tuberculosis (MDR TB) which requires specialized management including additional drug-susceptibility testing.

If result is Rifampicin resistance positive and you have NOT previously taken TB treatment: This may indicate drug resistance, but requires confirmation.

Clinical Background:

GeneXpert MTB/RIF is a rapid automated molecular test for diagnosis of Mycobacterium tuberculosis (MTB) and resistance to rifampicin (RIF) in clinical specimens. It targets rpoB gene (hot spot region) which is critical for identifying Rifampicin resistance mutations. MDR TB is defined as TB due M.tb complex, resistant to both Isoniazid & Rifampicin. Rifampicin acts as a surrogate marker

DISCUSSION

Abdominal tb is the most frequent form of extra thoracic tuberculosis(5,6).it may manifest with the widest range of clinical presentations ,it may present as an acute , subacute or chronic disease. It may present with perforation, adhesion, stricture, ascites or peritonitis.

Emergency laparotomy may be necessary in 20-40% of the patients who present with acute abdomen. However presentations as abdominal TB is much less frequent. Among the risk factors for extra pulmonary TB and peritoneal TB, only female gender was in accordance.

Genital tuberculosis is a form of extra pulmonary that occurs more frequently in women , in whom it classically presents in association with infertility, menstrual irregularity, or abdominopelvic pain involving lower quadrant.

Abdominal TB may mimic as acute appendicitis , its diagnosis is based on well established clinical symptoms ,basic radiological findings , and the surgeons experience.

While most patient experience pain localized in the right lower quadrant, laparotomy reveals histopathologically normal appendix in some cases .hence many medical and surgical factors other than appendicitis must be taken into consideration in differential diagnosis of right lower quadrant pain.

The differential diagnosis of appendicitis in woman should include gynecological diseases as cysts originating from the tubo ovarian structures, abscesses, ruptured ectopic pregnancy, PID ,which is characterized by lower abdominal and pelvic pain that roughly occurs midway through a womans menstrual cycle, particularly in women.

PID and PID related tubo ovarian mass due Neisseria gonorrhoea and chlamydia trachomatis bacteria are predominant. Chronic granulomatous diseases such as actinomycosis fungal infection and tuberculosis are rare and often have insidious courses.(3,4).In isolated cases wherein GTB that didn't cause adhesion of surrounding tissues was detected, close follow up without any anti-TB treatment has often been sufficient as long as the patient doesn't have a history that indicates the susceptibility to TB.In female genital tuberculosis fallopian tubes are affected in 90% women ,whereas uterine endometrium is affected in 70% and ovaries in about 25% women.it causes menstrual dysfunction and infertility through damage of genital organs The treatment of abdominal tuberculosis is pharmacological and may require surgery for patients with complications .considering the difficulty in reaching a definitive diagnosis in patients with high suspicion of infection based on clinical ,epidemiological, and auxiliary diagnostic test ,the initiation of empirical therapy with anti tuberculostatic drugs is reasonable. the anti tubercular therapy for abdominal TB is the same as the pulmonary variant.(7)the response to ATT is excellent ,with more than 90% showing complete resolution. the duration of therapy is 6 months .this is accordance with various studies done in the past. CRP (c reactive protein)is an ideal surrogate marker in genital tuberculosis antitubercular chemotherapy a shorter course of chemotherapy is given to patients for six to nine months .directly observed treatment short course: it is highly recommended ,efficient ,and cost effective treatment against genital TB .This includes a two months course of the drugs rifampicin ,isoniazid ,pyrazinamide and ethambutol and a daily four month therapy of the drugs rifampicin ,isoniazid.

CONCLUSION

Abdominal tb Is an uncommon condition in developed countries that manifest itself with symptoms mimic an array of intestinal pathologies and thus have a wide differential diagnosis.

In conclusion , Genital tb must be taken into account in the differential diagnosis of acute appendicitis, particularly in women of reproductive age who live in or are descendants of families from countries where TB is endemic and who have a history of chronic pelvic pain, menstrual abnormalities , and in fertility.availability of newer investigations has aided in its diagnosis and availability of good drugs has reduced the mortality and morbidity.

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