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Abdominal Tuberculosis –A Stumper with Clinical Disguise

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ABSTRACT:

Abdominal tuberculosis is a condition where tubercle bacilli infects gastrointestinal tract, peritoneum manifesting as wet or dry peritonitis, lymph nodes and solid visceral organs. Early prompt diagnosis and antituberculoustherapy can prevent morbidity in terms of untoward complicationseven mortality.Surgery is required only in a fewpatients who presented with complicated features like obstruction, perforation,perforation with bleeding,fistulation. Most patients respond very well to standard anti-tubercular therapy such that surgery can be avoided in timely diagnosed abdominal tuberculosis.

We are presenting 2 case reports of abdominal tuberculosis and ovarian malignancy.

Case :1 A 47yr old female presented with abdominal distension and lower abdominal pain since 1 month and bloating sensation since 6 months.

Case :2 A 48 yr old female presented with lower abdominal pain and abdominal distension insidious in onset gradually progressed 4 months duration .Both patients had more or less similar overlapping clinical features whereas after an array of investigations first case was peritoneal tuberculosis,second one was ovarian malignancy .

KEYWORDS: abdominal tuberculosis, CA-125, extrapulmonary , ovarian malignancy,peritonealtuberculosis.

I. INTRODUCTION :

Tuberculosis is a dreadful disease which can virtually affect any organ in our body.Developing countries have more incidence which can be attributed to overcrowding,low socio economic status,inadequate health care and poor nutrition.Patients with co infection with HIV,intravenous drug abuse,post organ transplant,uncontrolleddiabetes,chronic kidney disease,those on chemotherapeutic drugs are highly prone for tuberculosis infection. Atypical mycobacteria also known as nontuberculous mycobacteria can cause abdominal pain,ascites and chronic diarrhoea. The prevalence of TB has increased in both immunocompromised as well as immunocompetentindividuals.Predeliction of involvement of organ and its severity depends on host immune response. The lung is the primary site of involvement.Dissemination to other parts of the body can occur by contiguous involvement from adjacent tuberculous lymphnodes,hematogeneousspread,lymphatic spread.Primary involvement of an extrapulmonary organ can happen. Abdominal cavity remains the sixth most common extrapulmonary site.The diagnosis of extrapulmonary TB can be difficult as it presents with nonspecific clinical and radiological features and requires high degree of suspicion for diagnosis.

The imaging modality of choice in diagnosing and assessment of abdominal TB, other than gastrointestinal TB is Computerized tomography (CT) . Barium studies remain superior for visualising lesions in intestinal mucosa.The final diagnosis may be revealed only by biopsy when other modalities of investigatory methods are indecisive.

Case report 1

47 yr old woman admitted with abdominal distension since 1 month and lower abdominalpain dragging in nature .H/O bloated sensationwith dyspepsia was present not associated with vomiting . She had no history of jaundice, hematemesis ormalena. She had no breathlessness, chest pain, palpitations or syncope.There was no history of fever,cough,hemoptysis,nightsweats,but there was a significant loss of weight .

There was no history of tuberculosis in the past nor any contact with TB, H/O gynacological malignancy in the family present (mother and aunt) she was not aware of the specific malignancy. Sheattained menopause3 months back.

Physical examination: Patient was conscious, oriented , afebrile, moderately built,moderately

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nourished. Pallor was present with no icterus ,nocyanosis, no generalisedlymphadenopathy,b/l pitting pedal edema present. pt weighed 58 kg .Vitals were normal .

Systemicexamination : Abdominaldistension was involving lower abdomen. No visible pulsations, no visible peristalsis and no visible distended superficial veins.On palpation abdomen was soft , tenderness present in right iliac fossa with no organomegaly. Bowel sounds were heard on auscultation. No bruit. Other systems examination were normal.

Investigations :

Hb 10.5gm %, TLC -6100, DC-N=77.5%,L=13.5,M-5.2,E-2.9.ESR-18mm. at 1 hr. RFT,blood sugar, LFT and TFT were within normal limits.Serum LDH -229

Ascitic fluid analysis :

Cytology:Total Count-28000 cells/cumm ,DLC-L-82%,N-15%,M-3%,no malignant cells seen

Impression-Lymphocytic Rich Effusion .Gene Xpert was negative.

Microbiology :Gramstain,AFB stain was negative,so were the cultures.

Biochemistry: Glucose-97mg/dl,Protein -5.2 ,albumin-2.9 ,LDH-276,ADA-50.28 ,SAAG -0.7

Imaging: CXR – normal, USG abdomen showed-Moderate ascites,hyperechoic greater omentumand(irregularly thickened 2.2 cm),cyst of size 6.6 *4.8 cm in right adnexa with lace like pattern.Right ovarian /adnexal haemorrhagic cyst,left ovary was normal. Uterus-8.2 *4.3 cm.We proceded with CECT Abdomen and pelvis which confirmed the USG findings along with para aortic nodes enlargement.A dilemma arose whether the possibility of TB orovarian malignancy to be considered since the patient had family h/o gynacological malignancy.So tumour markers were done CA-125- 307 ,AFP- 1.81 ,S LDH- 229.Still the diagnosis was an enigma.We then went on with diagnostic laparotomy and biopsy which revealed the histology of the lesion.Omental biopsy showed epitheliodcells,granulomatous giant cells,with areas of caseousnecrosis,suggestive of chronic inflammation with ADA positivity.Peritoneal tuberculosis was confirmed.

The patient was treated with antituberculous treatment for 6 months.Follow up showed resolution of symptoms with a decline of ca-125 values and lesions got cleared in usg .

Case report:2

A 48 yr old female presented with lower abdominal pain which was sharp,pricking in nature in left iliac fossa radiating to back, with abdominal distension insidious in onset gradually progressed 4 months duration .Bloating sensation present.H/O jaundice present,no UGI or LGI bleed .H/O Breathlessness grade 3 present with chest pain in right side of chest wall which was sharp ,stabbing pain on deep inspiration.There was history of fever and night sweats, dry cough but no hemoptysis with a significant loss of weight .Past h/o treatment for tuberculosis present defaulter.Surgery TAH was done for uterine fibroid/DUB 1 year ago ovaries were preserved .

Physical examination: Patient was conscious, oriented,tachypnoeic, febrile,poorlybuilt and nourished. Severe pallor was present withicterus ,nocyanosis, no generalisedlymphadenopathy,b/l pitting pedal edema present. pt weighed 48 kg .

Systemic examination : Abdominal was uniformly distended with dilated superficial veinsNo visible pulsations, no visible peristalsis.On palpation abdomen was soft , tenderness present in left iliac fossa withhepatosplenomegaly.Shifting dullness was present.Bowel sounds heard, no bruit.

Air entry was decreased in rthemithorax with stony dull percussion note indicating rt pleural effusion.

Investigations:

Hb 6.5gm %, TLC -16700, DC-N=62%,L=23,M-7,E-8.ESR-28mm. at 1 hr. RFT urea-56mg/dl,creatinine-2.12,blood sugar-89mg/dl, LFT:TBR-3.6,direct-1.7,AST-112 IU/ml,ALT-98 IU/ml,total proteins-5.2,albumin-2.5, with A/G reversal. TFT normal.Serum LDH -1325

Ascitic fluid analysis :hemmorhagiceffusion

Cytology:Total Count-9600 cells/cumm ,DLC-L-52%,N-45%,M-3%,atypical cells was found in abundance indicating malignancy.ALP -425mg/dl.GeneXpert was negative.

Microbiology :tests were nil significant.

Biochemistry: Glucose-112 mg/dl,Protein -4.2 ,albumin-1.6,ADA-68.24 ,SAAG -0.9

Pleural fluid analysis showed similar results .

Imaging: CXR – moderate Rt pleural effusion, USG abdomen -Moderate ascites,left adnexal cyst of size 3.2*2.4 cm with irregular ragged wall with hydronephrosis.Doppler showed low impedance flow in the wall.Right ovary was normal. Uterus absent.CECT Abdomen and pelvis was done for staging ,showed peritoneal nodules with hemorrhagicfoci,para aortic nodes,mediastinal nodes with metastatic deposits in liver and lung.tumour markers were done CA-125-623 ,AFP- 2.13 ,S LDH- 312.Staging laparotomy concluded FIGO stage 4 ovarian malignancy and

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biopsy showed papillary serous cystadenocarcinoma.Patient was planned for cyto reductive surgery and platinum based chemotherapy but she died during the course of treatment.

COMPARISION OF HISTORY

SYMPTOMS	CASE 1	CASE 2
ABDOMINAL DISTENSION	1 Month	4 Months
ABDOMINAL PAIN	1 Month	1 Month
BLAOTING SENSATION	Present	Present
JAUNDICE	Absent	Present
BREATHLESSNESS	Absent	Present
CHESTPAIN	Absent	Present
FEVER, COUGH	Absent	Present
NIGHT SWEATS	Absent	Present
WEIGHT LOSS	Present	Present
PAST H/O TB	Absent	Present
FAMILY H/O CA	Present	Absent
MENOPAUSE	Attained	Surgical
BUILT/NOURISHMENT	Moderate	Poor
PALLOR	Present	Severe
TACHYPNOEA	Absent	Present
JAUNDICE	Absent	Present
B/L PEDAL EDEMA	Present	Present
TEMPERATURE	Normal	Febrile

CASE 1 CASE 2

TENDERNESS	-	LIF
HEPATOSPLENOMEGALY	-	+
PLEURAL EFFUSION	-	+
HB	10.5	6.5
TC	6100	16700
DC	N 77/L 13/M 5	N 62/L 23/M 7
ESR	18	28
UREA/ CREATININE	Normal	56/2.12
TBR/AST/ALT	Normal	3.6/112/92
ASCITIC FLUID	Straw coloured	Hemorrhagic
SAAG	0.7	0.9
ADA	50.28	68.24
CA-125	307	623
AFP	1.81	2.13
LDH	229	312
CT-ABD	Adnexal Mass	Adnexal Cyst
	Para Aortic Nodes	Hydronephrosis
	HyperechoicOmentum	Hemorrhagic Foci

II. DISCUSSION:

One tenth cases of extra-pulmonary TB is constituted by abdominal TB. Although there is huge development in recent advances, clinical manifestation and complications of abdominal tuberculosis is challenging to all the physicians in diagnosis and treatment [1].It can occur at any age, but predominantly young adults with the mean age of patients being 30–40 years.The clinical presentation of peritoneal tuberculosismostly will be non-specific.Signs and symptoms like pain in abdomen, ascites, and abdomino-pelvic lump are similar to ovarian malignancy [2]. Diagnosing abdominal tuberculosis through paracentesis is very

difficult and rare. Elevated serum CA-125 is observed in abdominal tuberculosis which is seen more commonly in many benign and malignant conditions leading to the suspicion of ovarian malignancy.

The pathophysiology behind this can be any one of the three ways: 1. By ingestion of infected sputum, 2. By hematogenous spread and 3. By Infection spreading directly to the peritoneum through fallopian tubes. [3-5]The findings of abdominal TB, both radiological and clinical, can be grouped under five categories. This include a) gastrointestinal, b) solid organ lesions, c) lymphadenopathy, d) wet peritonitis and e) dry or fixed peritonitis [4].Debi et al (2014) have reported a series of cases of abdominal TB which were misdiagnosed or mimicked as various tumors (pancreatic tumors, colonic cancer, gastric cancer, and lymphomas) or infectious causes, malignancy being the commonest misdiagnosis (25%). [5]

In some countries where there is high incidence of tuberculosis and people with high risk, serum ADA(adenine de aminase) can be used as a screening test. Polymerase chain reaction (PCR) for mycobacterium may be helpful in obtaining results, but this technique is not widely available [6]. Investigations like Ultrasonography fails to confirm the diagnosis of abdominal tuberculosis related malignancy , whereas in few cases CT scan is helpful in differentiating the two with involvement of parietal peritoneum. The presence of a smooth peritoneum with minimal thickening and pronounced enhancement suggests peritoneal tuberculosis, whereas nodular implants and irregular peritoneal thickening suggests peritoneal carcinomatosis[6].Most of the research points out that radiological findings are non-specific in abdominal TB. Biopsy is the only diagnostic modality in many scenarios [7].Though WHO'scurrentrecommendation to diagnose TB is GeneXpert MTB/RIF assay, it has limited sensitivity to detect extra pulmonary TB as reported by meta-analysis.[8]The Lingenfelser criteria is suggested to diagnose abdominal tuberculosis which includes 1)ClinicaL features suggestive of TB,2)Imaging evidence indicating TB,3)Histopathological or microbiological evidence of TB ,4)Therapeutic response to treatment (9)

III. CONCLUSION:

The diagnosis of gastro-intestinal tuberculosis and dry peritonitis can be done by endoscopy guided biopsy. Whereas the diagnosis of rest of the categories need ultrasound-guided aspiration followed by laparoscopy if needed.Abdominal tuberculosis mimics ovarian cancer by its vague clinical features .Abdominal tuberculosis is still a major etiology of ascites in India.Though there may be an abdomino-pelvic mass,lowsaagascites with elevated CA-125 tuberculosis is one of the closest differential diagnosis to malignancy.

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