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UNCOMMON PRESENTATION OF EXTRAPULMONERY TB,CASE REPORT

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Abstract:

Pleural TB is a common form of extrapulmonary tuberculosis (TB) (after lymphatic involvement) and is the most common cause of pleural effusion in areas where TB is endemic. Diagnosis can be slightly tricky when those cases seen in non endemic areas like middle east. And can be rather delayed due to atypical presentation like chest pain or gastrointestinal symptoms .



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This is a case report of 40 year old African origin immunocompetent patient ,who recently moved from Africa to middle east .She was initially presented with signs and symptoms of Gastroenteritis and fever that did not improve with a 7 days course of antibiotics . .She was found to have right pleural effusion ,as her symptoms were persistent and were more progressive .Her sputum AFB was negative twice ,pleural tap fluid test was negative twice .She was in hospital treated as CAP with IV antibiotics and was continuously spiking fever and having epigastric pain. CT enteroclysis: showed small bowels loop thickening ,PET scan, shown the same . Pleural biopsy showed necrotizing granuloma after 2 weeks from admission. For which was started on anti tuberculosis medications

This case highlighting the risk of misdiagnosis of Pleural TB in patient with simple gastroenteritis symptoms and fever ,particular in African origin patients.

Key wards: pulmonary and extra pulmonary tuberculosis pleural Biopsy.



المخلص:

مرض السل الجنبى هو اى من اكتر الصور الشائعه لمرض السل خارج الرئه بعد السل المصاحب للغد للمفاويه.وهو من اكتر اسباب الانصباب الجنبى فى المناطق التى يكثر فيها وباء السل. تشخيص هذا المرض قد يكون غير واضح عندما يكون المريض فى احدى البلدان التى لا يشيع فيها هذا المرض مثل دول مجلس التعاون.وقد يتسبب هذا فى تأخر التشخيص بسبب تمثل هذا المرض بأعراض مثل آلام الصدر أو الالتهابات المعويه الفيروسيه الشائعه.

هذه حاله لمريضه تبلغ الاربعين من عمرها والتي تأتي من أحد الدول الافريقيه..هذه المريضه لا تعاني من أى مشاكل مناعيه وتنعم بصحه جيده.انتقلت الي أحد دول مجلس التعاون للعمل كامله فى المنزل.بدأت الأعراض عندها بأعراض تشبه النزلات المعويه الفيروسيه مع ارتفاع فى درجه الحراره.تم تشخيص حاله فى المركز الطبى وتم علاج حاله بإعطاء مضاد حيوي لمدته سبعة أيام ولكن بسبب عدم تحسن حاله، راجعت المريضه المركز الصحى وما زالت تعاني من ارتفاع درجه الحراره وآلام فى البطن.تم الكشف عليها مجددا وتم تشخيصها بإحتماليه السل الرئوي. تم تحويل حاله مباشر بالاسعاف لغرفه الطوارئ حيث تمت عده فحوصات وتحاليل لمعرفة سبب الاعراض..

تم عمل مجموعه من الفحوصات مثل الصور المقطعيه للصدر والبطن بالاضافه ل خزعه من تجمع السوائل فى الرئه.

استغرقت الفحوصات قرابه الاسبوعين والتي بنهايتها تم تشخيص حاله بالسل الجنبى وتلقت بعدها العلاج المناسب

الكلمات المفتاحيه: السل الجنبى،السل خارج الرئه،خزعه من غشاء الجنب



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Introduction:

Incidence:

A total of 1.6 million people died from TB in 2021 (including 187 000 people with HIV). Worldwide, TB is the 13th leading cause of death and the second leading infectious killer after COVID-19 (above HIV and AIDS).WHO 2023

Globally in 2021, 6.4 million people with a new episode of TB (new and relapse cases) were diagnosed and notified (Table 3.1.1). Of these, 83% had pulmonary TB. Collectively, the African, South-East Asia and Western Pacific Regions accounted for almost 90% of total notifications, with close to half in the South-East Asia Region alone.WHO global Tuberculosis report 2022

It seems that in many parts of the Middle East, expatriate workers from countries with a high prevalence of tuberculosis contribute to the occurrence of new cases. In Saudi Arabia, for example, the incidence of tuberculosis among expatriates is double that for Saudi nationals. In Oman, the predominant strains



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of M tuberculosis are similar to those commonly found in the Indian subcontinent. The prevalence of the disease in Iran was 23 per 100 000 people in 2012. Pulmonary tuberculosis is the most common form of the disease in the region.

The number of tuberculosis infections in Qatar increased by six cases per 100,000 population (+16.67 percent) in 2021. In total, the number of tuberculosis infections amounted to 42 cases per 100,000 population in 2021.(statistica Qatar , [Salma Saleh](#), Dec 12, 2023)

. A recent WHO report indicates that, in Iran, almost 52% of patients are smear-positive, 15% are smear-negative, and 29% present with extrapulmonary TB.([Babamahmoodi2015](#),PubMed clinical)

There are two types of clinical manifestation of tuberculosis (TB) : pulmonary TB (PTB) and extrapulmonary TB (EPTB). The former is most common. EPTB refers to TB involving organs other than the lungs (e.g., pleura, lymph nodes, abdomen, genitourinary tract, skin, joints and bones, or meninges). A patient with both pulmonary and EPTB is classified as a case of PTB.(

[Ji Yeon Lee](#), M.D PubMed)



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Patients with tuberculous pleural effusion usually have an acute febrile illness with nonproductive cough 94% and pleuritic chest pain 78 % . Night sweats, chills, weakness, dyspnea, and weight loss can also occur. But very few they come with a different presentation.

[J Thorac Dis. 2015 Jun](#),[\[8\]](#)

It appears that in developed countries tuberculous pleurisy is becoming a form of reactivation rather than primary disease ,and therefore the mean age of the affected individual is much higher than it was 50 yrs ago .The diagnosis of tuberculous pleurisy in older individuals can be problematical, because these patients tend to have other conditions that could be responsible for their pleural effusions, such as pleural malignancy. Moreover, patients with tuberculous pleurisy do not have distinctive clinical symptoms. Fever, chest pain, weight loss and other symptoms are present in patients with tuberculous pleurisy as well as in patients with exudative effusions with other aetiologies.

Mougdil H, Sridhar G, Leitch AG, 1980–1991/Richter C, Perenboom R, Mtoni I, et al. Chest 1994



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At least four separate biopsy specimens of parietal pleura should be obtained. Three should be sent for histological studies and the other one should be cultured for mycobacteria ,since the pleural biopsy culture is sometimes positive when there are no granulomas in the pleura .. With both histological and microbiological studies of pleura, diagnostic yields as high as 86% have been reported . A diagnostic thoracoscopy is needed only occasionally to make the diagnosis of tuberculous pleurisy.

New diagnostic parameters Histological examination of pleura by needle biopsy is not conclusive in 20–40% of patients with tuberculous pleuritis When the pleural biopsy is negative, mycobacteria can be cultured in pleural specimens in less than 10% of patients], and this usually takes at least 3 weeks. Several new laboratory tests on pleural fluid have been proposed to make an early diagnosis of tuberculous pleurisy.(Pleural tuberculosis. J. Ferrer. ©ERS Journals Ltd 1997,European respiratory Journal)

Anti-TB treatment is the mainstay in the management of EPTB. However, the treatment regimen is one of the controversial aspects of the management of EPTB. Most current guidelines recommend the same regimen for both EPTB and



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PTB, but the data for the recommendation for most other forms of EPTB is not based on studies as robust as those for PTB. (Tuberc Respir Dis (Seoul). 2015 Apr; 78(2): 47–55. Published online 2015 Treatment and diagnosis of extrapulmonary tuberculosis,PubMed)

Case report:

a 43 -year-old patient ,African origin recently moved to Middle east ,who presented with symptoms of epigastric pain and fever. For over a week.

Sha has no significant past medical hx,no previous surgeries and no chronic conditions.

The patient was initially evaluated by a physician in a primary care health center, as a non-urgent case of gastroenteritis and was treated with a course of antibiotics , Augmentin 1000 mg BD for 7 days.



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7 days after that she came back due to ongoing symptoms
,which is fever and epigastric pain. She was found to be tachypnoea and
looked very ill.

Clinical examination revealed no air entry on the side
,so she was transferred urgently to ED for further evaluation of ? pneumonia
with signs of respiratory distress.

Chest x-ray:showed right sided large loculated pleural effusion seen along the
lateral chest wall.

Blood test showed deranged LFT(ALT:103 U/L
,ALK:95,AST:56,haptoglobin:472,WCC:6,Neutrophil:normal,Hb:9.6
gm/dl),Hb:Interpretation:Normal Hb pattern,HIV and hepatitis B and C : were
negative).

CRP:149.6

On examination she was found to have. 4cm hepatomegaly



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Initial impression: Probable pulmonary TB/Atypical CAP(given the deranged LFT)+ bacterial infection with complicated parapneumonic effusion ?

Patient was on IV:Ceftriaxone and Azithromycin(no doses were documented unfortunately

Patient kept on above antibiotics while waiting for sputum (AFB results,diagnostic pleural tap-US guided,hepatitis serology and urine for legionella antigen)

US abdomen:minimal Gall bladder sludge,no cholelithiasis,no gall bladder wall thickening.Right side pleural effusion with internal septation.

Two samples of AFB of pleural fluid and sputum came back negative,so the next plan was to do

**US guided pleural aspiration ,to send fluids for AFB



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500 ml of pleural(yellow serous) fluids aspirated under local anathesia.2 samples came back negative for AFB and TB PCR

Patient was still spiking fever and complaining of mild abdominal pain despite been on IV Ceftriaxone for 4 days

FFP was given as high INR.

Quantiform test : Intermediate

Pleural fluid Bacterial culture:negative

On day 7 of admission patient starts getting pleuretic chest pains

Pt booked for thoracoscopy to rule out TB on day 9 of admission as no clear diagnosis and no much improvement

Liver enzymes still elevated ,INR raised ,pt still c/o upper abdo pain ,heamatology :impression is transient hepatitis?, for vitamin K 10 mg daily and another FFP transfusions to correct INR + other investigations :? Factor c def?Chronic DIC?..Also started on PPI for epigastric pain ,as patient just revealed past hx of epigastric ulcer back home.OGD booked as outpatient,as -ve h pylori stool antigen.



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Persistent epigastric pain despite high dose of PPI ,inpatient OGD was booked and CT abdomen to rule out malignancy.

Pt received 4 units of FFP ,INR :1.5,blood test showed factor VII Deficiency.:

PET CT:a)right sided pleural effusion with pleural thickening and intense metabolic activity in keeping with empyema with reactive lower cervical ,thoracic and para-esophageal nodes.b)Reversal of hepatosplenic ratio is due to sepsis , physiological response.c)Intense metabolically active small bowel loop in the pelvis with possible muscosal thickening.MRI of small bowel is suggested to exclude inflammatory bowel disease.

IV Tazosin was started ,as CT showed empyema on day 10 of the admission

CT Enteroclysis done and it was normal.So pain is likely due to peptic ulcers?

On day 11 of the admission .

Thoracoscopy findings:inflamed pariatal pleura with a lot of adhesions only 1-2 visible nodules,no masses.Above findings consistent with TB(necrotizing granulomatous inflammation)



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Tazocin stopped and anti-TB medications were started.

Impression:

*Pleural tuberculosis:Biopsy positive for necrotizing granuloma

*Factor VIII Def ,asymptomatic

Patient started on TB

medication(Rifampicin/isoniazid/pyrazinamin/ethambutol) orally ,then flight
back to her counter the next day

NO drug side effects noted and no changes made to the treatment plan due to
co-morbid diseases.

** Risk factors:Housemaid ,moved from Africa only 9 months ago .



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8- Initial laboratory tests conducted, including biochemical and microbiological tests.

Please provide details of any culture analysis performed and the results obtained.

Any follow-up examinations conducted to monitor the patient's progress or to assess the effectiveness of the treatment.

Images, such as CT scans, PET scans, or any other relevant diagnostic imaging, if available.

Case discussion:

To accurately detect Pleural tuberculosis clinicians must demonstrate competent communication, history taking and physical examination skills, identify red flags and make use of appropriate investigations.



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Correct investigations and timely referral to secondary care services is vital to prevent morbidity and mortality.

Conclusion:

Pleural tuberculosis (TB) is common and often follows a benign course but may result in serious long-term morbidity. Diagnosis is challenging because of the paucibacillary nature of the condition. Advances in Mycobacterium culture media and PCR-based techniques have increased the yield from mycobacteriologic tests. Confirming the diagnosis often requires biopsy, which may be acquired through thoracoscopy or image-guided closed pleural biopsy. Treatment is standard anti-TB therapy, with optional drainage and intrapleural fibrinolytics or surgery in complicated cases.

Abbreviations:

EPTM: extrapulmonary tuberculosis

TB:Tuberculosis

CT:computerized tomography

DIC: Disseminated intravascular coagulation



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PMID: 25695067 Clinical Epidemiology and Paraclinical Findings in Tuberculosis Patients in North of Iran

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