Respiratory Asymptomatic Lung Tuberculosis with Ascites Caused By Intestinal Tuberculosis: A Case Report

Heri Krisnata Ginting,*
Arya Marganda Simanjuntak, Latifah Humairoh*****

**Department of Internal Medicine, Faculty of Medicine, Universitas Riau/Arifin Achmad General Hospital, Pekanbaru, Indonesia.*
***Department of Pulmonology and Respiratory Medicine, Faculty of Medicine, Universitas Riau/Arifin Achmad General Hospital, Pekanbaru, Indonesia.*
****Medical School, Faculty of Medicine, Universitas Riau/Arifin Achmad General Hospital, Pekanbaru, Riau*

Abstract

Introduction*: Tuberculosis (TB) is usually suspected when the patient has symptoms. Ascites is generally suspected if the patient has liver disease, organ failure or malignancy. In this case, we found something that is not usually found and is an important lesson.*
Case Report*: Mrs. RS, a 58-year-old woman, presented with abdominal swelling worsening 5 days before admission with red bloody stools. Previous USG in another hospital showed no abnormalities were found. On physical examination, a right upper lung with ronchi and weak percussion was discovered. The abdomen was distended, and there was a throbbing pain and dull ache that moved about. The bilirubin, stool analysis, and liver function values were all normal. While GeneXpert sputum was negative, abdominal ultrasound revealed ascites, stool samples were positive for TB bacteria, and chest X-ray revealed cavities in the right upper lung. Following treatment with isoniazid (R), rifampicin (R), pyrazinamide (Z), and ethambutol (E), the patient was released and instructed to await examination by the physician.*
Case Discussion*: Although clinical signs like coughing and shortness of breath are frequently used to diagnose tuberculosis, this case was discovered to be silent pulmonary TB, which Kendall et al characterized as subclinical TB infection.*
Conclusion*: Ascites as a result of intestinal TB is rare but possible. Increased TB suspicion testing is necessary, particularly in locations where the disease is prevalent. Instances of intestinal tuberculosis and pulmonary TB without respiratory symptoms make treating tuberculosis cases more difficult.*

Keywords: *Ascites, Asymptomatic, Intestinal Tuberculosis, Pulmonary Tuberculosis, Subclinical Tuberculosis.*

Korespondensi: **Arya Marganda Simanjuntak**
E-mail: *arya.marganda@gmail.com*

Tuberkulosis Paru Asimtomatik dengan Asites yang Disebabkan oleh Tuberkulosis Usus: Laporan Kasus

Heri Krisnata Ginting, Arya Marganda Simanjuntak,** Latifah Humairoh****

**Departemen Ilmu Penyakit Dalam, Fakultas Kedokteran, Universitas Riau/ Rumah Sakit Umum Daerah Arifin Achmad, Pekanbaru, Indonesia.*
***Departemen Pulmonologi dan Kedokteran Respirasi, Fakultas Kedokteran, Universitas Riau/Rumah Sakit Umum Daerah Arifin Achmad, Pekanbaru, Indonesia.*
****Fakultas Kedokteran, Universitas Riau/Rumah Sakit Umum Daerah Arifin Achmad, Pekanbaru, Riau.*

Abstrak

***Pendahuluan**: Tuberkulosis (TB) biasanya dicurigai ketika pasien memiliki gejala. Asites umumnya dicurigai jika pasien mengalami penyakit hati, kegagalan organ, atau keganasan. Dalam kasus ini, kami menemukan sesuatu yang tidak biasa dan dapat menjadi pelajaran penting.*
***Laporan Kasus**: Ny. RS, seorang perempuan berusia 58 tahun, datang dengan keluhan perut membesar yang semakin memburuk 5 hari sebelum masuk rumah sakit, disertai tinja berdarah merah segar. Pemeriksaan USG sebelumnya di rumah sakit lain tidak menunjukkan kelainan. Pada pemeriksaan fisik, ditemukan ronki dan perkusi melemah pada paru kanan atas. Perut tampak distensi dengan nyeri berdenyut dan tumpul yang berpindah-pindah. Nilai bilirubin, analisis feses, dan fungsi hati semuanya normal. Meskipun hasil GeneXpert dahak negatif, USG abdomen menunjukkan adanya asites, sampel feses positif mengandung bakteri TB, dan foto toraks menunjukkan kavitas di paru kanan atas. Setelah mendapatkan pengobatan dengan isoniazid (H), rifampisin (R), pirazinamid (Z), dan etambutol (E), pasien diperbolehkan pulang dan diminta untuk menunggu pemeriksaan lebih lanjut oleh dokter.*
***Diskusi Kasus**: Meskipun tanda klinis seperti batuk dan sesak napas sering digunakan untuk mendiagnosis tuberkulosis, kasus ini ditemukan TB paru tanpa gejala (silent pulmonary TB), yang oleh Kendall et al dikategorikan sebagai infeksi TB subklinis.*
***Kesimpulan**: Asites akibat TB usus jarang ditemukan namun merupakan kondisi yang mungkin terjadi. Peningkatan kewaspadaan dalam pemeriksaan TB sangat diperlukan, terutama di daerah dengan prevalensi tinggi. Kejadian tuberkulosis usus dan tuberkulosis paru tanpa gejala respiratori membuat pengelolaan kasus TB menjadi lebih kompleks.*

***Kata Kunci:** Asites, Asimtomatik, Tuberkulosis Usus, Tuberkulosis Paru, Tuberkulosis Subklinis.*

Introduction

Pulmonary tuberculosis is often recognized by its characteristic symptoms such as chronic productive cough and shortness of breath, so that with these suspicions we can examine according to the needs of TB diagnosis.[1] However, it is rarely known that patients with pulmonary tuberculosis are asymptomatic and it is problematic for the clinician to recognize the patient's risk factors to suspect the possibility of TB infection. Cases of asymptomatic TB infection are common in latent TB conditions, where the infection has occurred but has no symptoms or radiologic changes.[2] Similarly, ascites is often associated with liver disease, malignancy, and organ failure such as heart or kidney failure.[3] However, we found a case with two unique features of active pulmonary TB without respiratory symptoms with ascites caused by intestinal TB.

Case

Mrs. RS, 58 years old, presented with abdominal swelling 2 weeks before admission and worsening 5 days before. The patient also complained of abdominal pain in all regions,

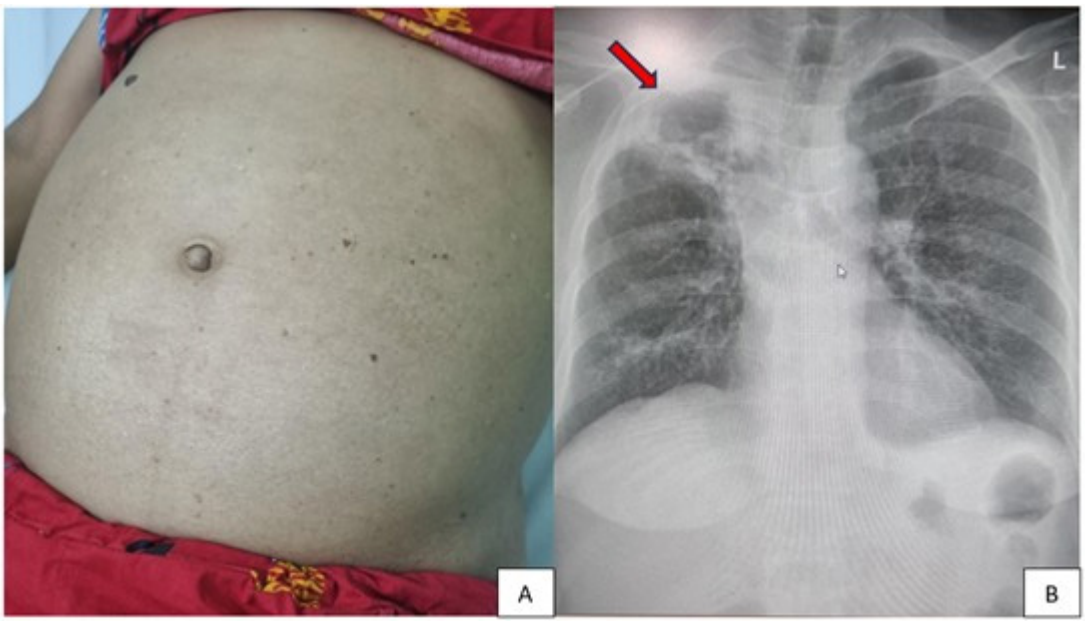

Figure 1. (A) Overview of Abdominal Swelling in a Patient with Shifting Dullness. (B) Thorax Image with Cavities (arrows) in the Right Upper Lung.

fresh red bloody stools with soft consistency. The patient also admitted that it was difficult to eat because of the swollen abdomen and felt full without eating. There was no nausea and vomiting, but she could still drink normally. The patient felt her weight was increasing but did not take measurements (BW 57kg, Height 167cm). The patient admitted that she never had a close contact with someone with prolonged cough. Before coming to the hospital, the patient had been examined at another hospital and abdominal ultrasound was done three times with normal results. The patient had no history of alcohol consumption and had quit smoking a year ago (had smoked a pack (12 cigarettes) for 30 years). The patient's eating history is regular, she limits foods that are not good for his age, such as instant noodles, and also spicy foods.

Vital examination results showed the patient was hypertensive and feverish (blood pressure 140/90 mmHg, heart rate 97 bpm, 37.6 ℃, respiratory rate 28x/minute). The results of the physical examination of the thorax found reduced vocal fremitus on the upper right, faint percussion and rough rhonchi in the upper right lung, the rest of the lungs within normal limits. The results of the abdominal examination showed abdominal distension without other abnormalities on inspection (Fig.1a), bowel movement was difficult to assess and palpate. The patient complained of pain in all abdominal regions, especially in the umbilicus. In percussion, shifting dullness was positive, and it was suspected that the patient had ascites due to a liver problem.

Routine blood test results showed mild microcytic hypochromic anemia (Hb 9.3 g%, MCV 75.6; MCH 23.9), and leukocytosis (10.92). Bilirubin (total 0.52, indirect 0.27, direct 0.25) and liver function (AST 15, ALT 8) were within normal limits. Immunologic results for HBsAg as well as anti-HCV were non-reactive. Abdominal ultrasound showed ascites without liver enlargement. Since there was no explanation for the ascites and blood in the stool, stool analysis was performed with the results of slimy stool and no microscopic abnormalities were found. As the patient complained of shortness of breath due to an enlarged abdomen and increased respiratory frequency, a chest X-ray was performed. The chest X-ray showed infiltrates and cavities in the right upper lung (Fig.1b) with a specific process. With these findings, we performed GeneXpert using stool specimens and Mycobacterium tuberculosis was detected at low. Since the patient did not have any complaints of coughing, to confirm the pulmonary TB we tried to induce sputum and performed GeneXpert on the specimen with negative results. The patient was treated for 8 days and received intravenous fluids and parenteral nutrition. The patient currently has no complaints of bloody stools and is planned to be discharged after clinical improvement and continued with Tuberculosis therapy (2RHZE/4RH) with evaluations in the 2nd, 5th, and 6th months. The patient has been educated about her illness, to take the medications given regularly, and continue with the follow-up plan accordingly.

Discussion

With tuberculosis cases on the rise after the COVID-19 pandemic, TB diagnosis is crucial to control cases and reduce prevalence, as well as morbidity and mortality.[4] TB cases are growing and becoming more challenging with negative results in sputum microbiologic examination or atypical radiological changes on chest X-Ray.[5] Kendall, et al proposed a new spectrum to the understanding of Tuberculosis, namely incipient TB infection and subclinical TB. Incipient TB infection is a viable M. tuberculosis infection that is expected to develop into an active illness without additional treatment but has not developed clinical symptoms, radiographic abnormalities, or microbiologic evidence of an active TB disease. Additionally, there is a condition known as subclinical TB illness, which is caused by M. tuberculosis that produces various abnormalities that may be found with current radiologic or microbiologic tests but does not induce clinical TB-related symptoms. The issue of asymptomatic TB is a threat in eradicating TB.[6] In terms of public health, it is also debatable whether TB cases like the one that was mentioned may spread to other people. To combat asymptomatic TB cases in the future, we need to come to a consensus and reach an agreement.

The patient's ascites most probably results from infection rather than liver disease, cancer, or organ failure. The prevalence of ascites in patients with intestinal TB is very limited. In a case report by Ruiz in 2018, a patient with ascites due to peritoneal TB had signs of the disease discovered by an omental biopsy. The same protocol, RHZE, was employed in this case as well.[7]

This case report's strength is that it provides fresh information on the possibility of pulmonary tuberculosis presenting asymptomatically. As a result, the evaluation of suspected tuberculosis has to be reviewed, notably the use of the phrase "subclinical TB." Additionally, ascites can develop as a result of TB infection and should be taken into account if a tuberculosis infection is suspected in the future, particularly in endemic regions. The GeneXpert results from sputum are negative, because it is challenging to find microbiological evidence from sputum when the patient does not complain of having a productive cough. Future modalities will be required to conclusively determine the cause of cavities or infection if the patient does not have accessible sputum.

Conclusion

Suspicion of tuberculosis is necessary, especially in areas endemic for tuberculosis, even if there are no classic symptoms. If there are risk factors or other diseases that may be associated with tuberculosis, it needs to be evaluated carefully. Even if there are no symptoms commonly associated with TB, TB infection cannot completely be ruled out. Ascites does not only occur in cases of organ failure or malignancy, infections in the gastrointestinal tract, particularly intestinal TB, can be the cause of ascites.

References

1. Natarajan A, Beena PM, Devnikar AV, Mali S. A systemic review on tuberculosis. Indian J Tuberc. 2020 Jul;67(3):295–311.
2. Boom WH, Schaible UE, Achkar JM. The knowns and unknowns of latent Mycobacterium tuberculosis infection. J Clin Invest. 2021 Feb 1;131(3):e136222, 136222.
3. Rajora N, De Gregorio L, Saxena R. Peritoneal Dialysis Use in Patients With Ascites: A Review. Am J Kidney Dis Off J Natl Kidney Found. 2021 Nov;78(5):728–35.
4. Global Tuberculosis Report 2022 [Internet]. [cited 2023 Aug 16]. Available from: https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2022
5. Drain PK, Bajema KL, Dowdy D, Dheda K, Naidoo K, Schumacher SG, et al. Incipient and Subclinical Tuberculosis: a Clinical Review of Early Stages and Progression of Infection. Clin Microbiol Rev. 2018 Oct;31(4):e00021-18.
6. Wong EB. It Is Time to Focus on Asymptomatic Tuberculosis. Clin Infect Dis. 2021 Jun 15;72(12):e1044–6.
7. Ruiz J, Ganji M, Canha C, Isache C. A Challenging Diagnosis of Ascites: A Case Report of Peritoneal Tuberculosis. Case Rep Infect Dis. 2018 Oct 23;2018:1–3.