Diagnóstico Inesperado de Tuberculose Hepática e Ganglionar num Doente com Dor Abdominal

Unexpected Discovery of Hepatic and Ganglionic Tuberculosis in A Patient with Abdominal Pain

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RESUMO

A tuberculose é uma doença sistémica com várias formas de apresentação, sendo a tuberculose extrapulmonar um desafio diagnóstico em muitos casos. Este artigo descreve o caso de uma mulher de 25 anos, natural do Nepal, que apresentou dor abdominal persistente associada a febre, astenia e anorexia. A investigação revelou múltiplas adenopatias necrosadas e coleções líquidas intra-hepáticas, sugerindo abcessos. Após várias investigações, incluindo biópsias, foi diagnosticada com tuberculose ganglionar e hepática, uma condição extremamente rara. A doente iniciou tratamento com terapia antituberculosa e apresentou uma resposta gradual à terapêutica. Este caso destaca a importância de considerar a tuberculose extrapulmonar no diagnóstico diferencial, especialmente em áreas com população imigrante de regiões endémicas.

PALAVRAS-CHAVE: Tuberculose; Tuberculose Extrapulmonar; Tuberculose Hepática

ABSTRACT

Tuberculosis is a systemic disease with various presentations, and extrapulmonary tuberculosis often poses a diagnostic challenge. This article describes the case of a 25-year-old woman from Nepal who presented with persistent abdominal pain associated with fever, asthenia, and anorexia. Investigations revealed multiple necrotic lymphadenopathies and intrahepatic fluid collections, suggesting abscesses. After multiple investigations, including biopsies, the patient was diagnosed with ganglionic and hepatic tuberculosis, an extremely rare condition. The patient started anti-tubercular therapy and showed gradual improvement. This case underscores the

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importance of considering extrapulmonary tuberculosis in the differential diagnosis, especially in regions with immigrant populations from endemic areas.

KEYWORDS: Tuberculosis; Tuberculosis, Extrapulmonary; Tuberculosis, Hepatic

INTRODUCTION

Tuberculosis (TB) is a multi-systemic disease with numerous presentations and manifestations[1] an it is the second leading infectious cause of death in adults worldwide, following COVID-19.[2] The main causative agent of this condition is *Mycobacterium tuberculosis*.[2]

It is estimated that over 1.7 billion people (approximately 22% of the global population) are infected with *M. tuberculosis*[3] with the highest infection rates (300 per 100 000 or more) in sub-Saharan Africa, India, and Southeast Asian and Micronesian islands.[3] Socioeconomic development and access to quality healthcare appear to be, at least, as important as any specific TB control measure.[3]

In Portugal, 1518 cases of tuberculosis were registered in 2022, maintaining the decline observed over the past six years, so in June 2016, it was decided to change the BCG vaccination strategy,[4,5] which began to be applied only to children with individual or community risk factors for tuberculosis. However, due to the increasing number of immigrants from countries where tuberculosis is endemic, tuberculosis has become a significant concern for the coastal Alentejo population, especially in the municipality of Odemira.

Extrapulmonary tuberculosis is challenging for diagnosis and accounts for about 15% of all TB infections[5] and hepatic tuberculosis represents less than 1%, even in endemic countries.[6-8] Primary hepatic tuberculosis can closely resemble malignancies in terms of clinical presentation and imaging characteristics.[6] It is essential to maintain a high index of suspicion, especially in endemic regions, to avoid unnecessary surgeries and initiate early treatment in the form of anti-tubercular therapy (ATT). The known risk factors for developing lymph node tuberculosis include malnutrition, alcoholism, malignancy, immunosuppression, and HIV infection.[5,9,10]

CASE REPORT

A 25-year-old woman, originally from Nepal and living in Portugal for the past six months, presented to the emergency department with right upper quadrant abdominal pain (RUQ), asthenia, and anorexia, which had progressively worsened over the last five months. The symptoms were accompanied by fever in the three days preceding admission.

Her medical history was unremarkable. She denied the use of regular medications or herbal products and had no personal or family history of tuberculosis.

Physical examination revealed tenderness in the right upper quadrant (RUQ) without signs of peritoneal irritation.

An abdominal computed tomography (CT) scan was performed (Fig. 1), revealing multiple lymph node formations, with the most prominent nodes located in the left iliac and left internal obturator chains.

Laboratory tests highlighted normocytic normochromic anemia, spontaneous INR elevation, leukocytosis, thrombocytosis, elevated cholestasis markers, and elevated C-reactive protein (CRP).

The patient was discharged with analgesics and referred for a fast-track diagnostic consultation.

Eight days later, she returned to the emergency department due to persistent RUQ pain. She was re-evaluated by the General Surgery team, and a new thoraco-abdominopelvic CT scan revealed at least ten new intrahepatic fluid collections, raising suspicion for abscesses (Fig. 2).

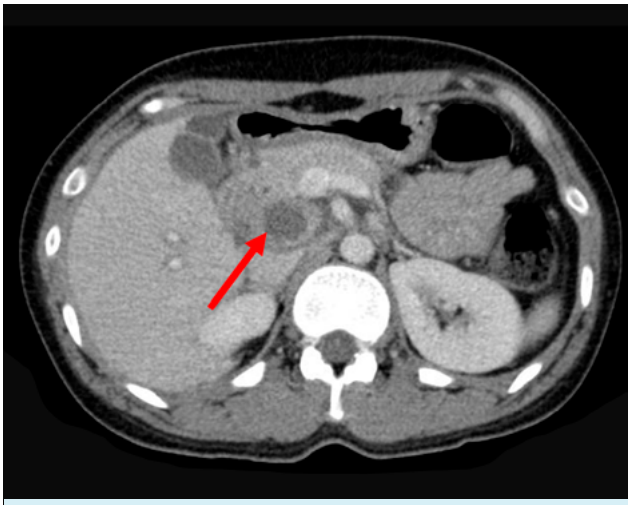

FIGURE 1. Axial contrast-enhanced abdominal CT, portal venous phase, showing multiple lymph node formations in the hepatic hilum, along the lumbosacral and iliac-obturator chains, with the most prominent nodes located in the left iliac and left internal obturator chains. The largest lymph node was in the interporto-caval space, measuring 42 x 33 mm, suggestive of necrotic adenopathy (arrow).

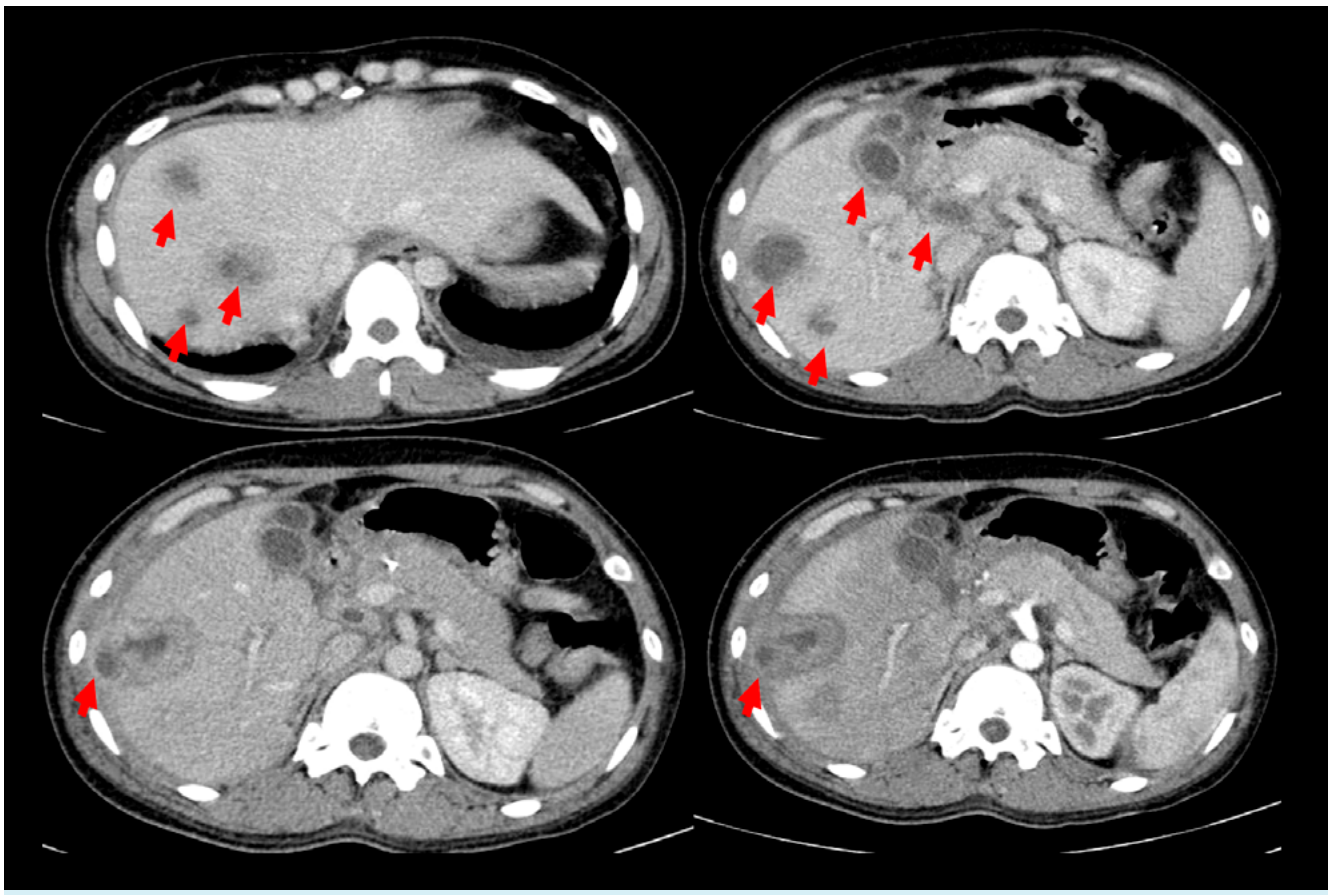

FIGURE 2. Images of CT scan revealing at least ten new intrahepatic fluid collections (arrows), each between 1 and 2 cm in diameter, with peripheral enhancement, raising suspicion for abscesses, as well as mild ascites.

Two sets of blood cultures were collected, and empirical antibiotic therapy with piperacillin-tazobactam was initiated due to the suspicion of hepatic abscesses. The patient was admitted for further etiological investigation in Internal Medicine (IM) department.

During her hospitalization in the IM ward, an excisional biopsy of a left cervical lymph node was performed, revealing necrotizing granulomatous lymphadenitis. On the fourth day of hospitalization, the patient experienced worsening RUQ pain, accompanied by hypotension and a significant increase in cholestasis markers. This prompted her transfer to the Intermediate Care Unit (ICU).

An excisional biopsy of an inguinal lymph node was performed, with culture specimens collected for mycobacterial testing. One day later, the *Mycobacterium tuberculosis* complex was identified, with no resistance to rifampicin.

After consultation with the Infectious Diseases team, anti-tubercular therapy (HRZE: isoniazid, rifampicin, pyrazinamide, and ethambutol) was initiated despite hepatic dysfunction, leading to gradual improvement in cholestasis markers (Table 1).

Differential diagnosis included several tests: two sets of aerobic and anaerobic blood cultures were negative, while one blood culture for mycobacteria was pending. Tests for hepatitis B and C, HIV ½, syphilis, brucellosis, and leptospirosis were negative. The IGRA test was indeterminate, and tests for *Entamoeba histolytica*in stool and *Cryptococcus neoformans* antigen were negative.

Fourteen days after starting HRZE, another CT scan identified marked hepatomegaly with a slight increase

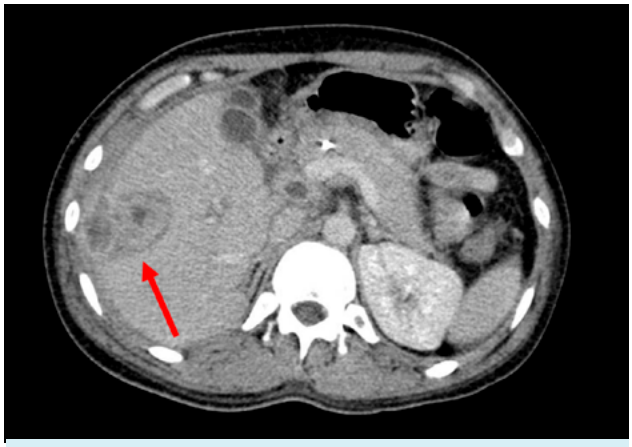

FIGURE 3. CT scan showing the largest lesion in segment V (arrow), measuring 5 mm, extending into the thoracic wall, consistent with hepatic tuberculosis. Necrotic adenopathy in the hepatoduodenal ligament persisted but reduced in size (1,6 x 2,6 cm).

TABLE 1. Laboratory Results Over the Course of Hospitalization

Parameter/Day	26.4	4.5	5.5	9.5	10.5	11.5	12.5	13.5	16.5	20.5	22.5	27.5
Leukocytes (x10^3/µL) NR 4.0 - 11.0	10.3	15.5	19.8	11.4	10.5	8.7	11	11.7	10.6	6.7	7	5.5
Hemoglobin (g/dL) NR 11.7 – 15.5	10.9	9.8	9.2	8.7	8.5	8.3	8.5	7.9	9.3	8.6	8.7	10.7
Platelets (x10^3/µL) NR 150– 400	407	482	428	424	423	464	541	590	1063	694	798	965
INR	N/A	1.39	1.53	1.3	1.3	1.32	1.22	1.22	1.17	1.29	N/A	N/A
Creatinine (mg/dL) NR 0.7-1.1	0.8	0.7	0.6	0.5	0.5	0.6	0.5	0.6	0.6	0.5	0.6	0.5
Urea (mg/dL) NR < 43	15	11	14	9	8	12	13	8	17	18	10	21
Sodium (Na^+, mmol/L) NR 136-146	140	139	138	138	137	135	135	134	131	139	136	137
Potassium (K^+, mmol/L) NR 3.5- 5.1	3.4	3.6	3.5	3.5	4.3	4.1	3.8	4.1	4.3	4.1	3.9	5.1
LDH (UI/L) NR 25-248		132	158	176	165	141	132	131	124	103	N/A	N/A
AST (UI/L) NR 0-35	28	35	103	91	127	101	37	62	23	15	18	20
ALT (UI/L) NR 0 - 35	23	N/A	60	50	57	52	37	36	20	11	13	14
GGT (UI/L) NR 0 - 38	N/A	N/A	261	370	442	491	403	509	398	194	176	191
Alkaline phosphatase (FA, UI/L) NR 30-120	91	388	445	573	622	715	594	665	477	231	212	231
Total bilirubin (mg/dL) NR 0.30 – 1.2	0.9	1.3	3.5	4.2	5.9	5.9	2.8	3.4	2	1.8	1.5	1.5
Direct bilirubin (mg/dL) NR 0.00 – 0.2	N/A	N/A	2.25	2.61	3.76	3.64	1.43	1.94	0.91	0.79	0.71	N/A
CRP (mg/dL) NR < 0.5	12.05	24.41	29.9	22.1	24.10	23.4	19.43	20.73	13.59	14.5	12.7	3
ESR (mm) NR 0 - 20	N/A	N/A	91	96	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Procalcitonin (PCT, ng/mL) NR < 0.5	N/A	N/A	N/A	0.64	0.58	0.65	0.32	0.38	0.29	0.25	N/A	0.05

NR - normal range; **INR -** international normalizes ratio; **LDH -** lactate dehydrogenase; **AST -** aspartate aminotransferase; **ALT -** alanine aminotransferase; **GGT -** gamma- glutamyl transferase; **CRP -** C-reative protein; **ESR -** erythrocyte sedimentation rate; **N/A -** Not available

in the size of previously described lesions and a global reduction in the central necrotic/liquid content (Fig. 3).

On the 27th day of hospitalization, the patient was discharged and referred to a consultation at the Pulmonary Diagnostic Center (PDC).

After 2 months of treatment with HRZE, an abdominal--pelvic CT scan was repeated (Fig. 4), which showed favorable evolution and no evidence of new focal lesions.

Four months later, the patient attended an IM consultation and reported being asymptomatic, with normalized cholestasis markers. She will continue to be monitored.

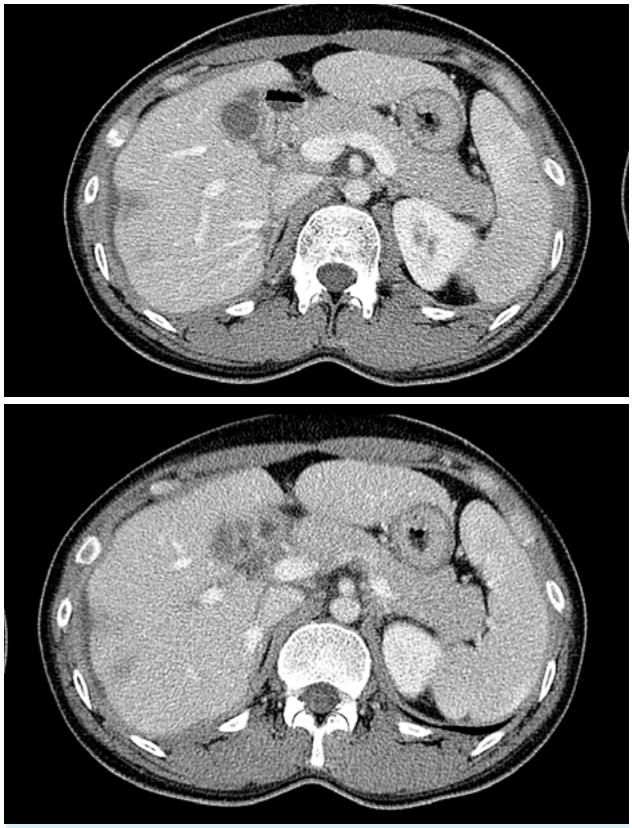

FIGURE 4. CT scan after 2 month of HRZE. The comparative assessment with the previous shows a favorable evolution of the previously documented changes, namely slight hepatomegaly with regular contours, slightly heterogeneous, with resolution of most of the hepatic focal lesions.

DISCUSSION

Extrapulmonary tuberculosis (EPTB) poses diagnostic challenges due to its rarity compared to pulmonary tuberculosis and its nonspecific, insidious symptoms.[11] Lymph node tuberculosis, a common EPTB form, often presents with palpable lymph nodes and systemic symptoms like fever, night sweats, and weight loss.[12] In contrast, abdominal tuberculosis is rarer, representing a small fraction of EPTB cases, frequently misdiagnosed as benign gastrointestinal conditions, which delays diagnosis and treatment.[13]

This case highlights the importance of considering tuberculosis in patients with a history of travel to endemic regions or exposure to high-risk environments. Atypical presentations unresponsive to standard treatments warrant further investigations such as imaging, biopsy, and microbiological studies.[14] Failure to recognize these forms can delay treatment, increasing complications and morbidity.

In the early stages of investigation, the presence of multiple necrotic lymphadenopathies raised the possibility of a lymphoproliferative disorder. In such cases, serum beta-2 microglobulin measurement could have been useful as an auxiliary marker. Nevertheless, biopsy remains the cornerstone for diagnosing EPTB, especially in unexplained adenopathy. Histopathological analysis, combined with mycobacterial culture and nucleic acid amplification tests, provides definitive diagnoses. In this case, tissue sampling confirmed tuberculosis and guided treatment, emphasizing its crucial role in distinguishing EPTB from malignant diseases.[8]

Chest CT imaging was also an important step, as it excluded active pulmonary disease and reinforced the predominantly extrapulmonary nature of this patient's presentation. This distinction has therapeutic and epidemiological relevance, as the absence of pulmonary involvement reduces immediate transmissibility but does not lessen the systemic burden of disease.

The dissemination pattern in this case, with peripheral and abdominal lymph node involvement along with multiple hepatic abscesses, can be explained by both hematogenous and lymphatic routes. Lymphatic spread via the portal system and hematogenous dissemination from a primary focus are well-described mechanisms in extrapulmonary tuberculosis, accounting for the multifocal distribution observed in this patient.

Another relevant finding was the persistence of thrombocytosis, even after the initiation of anti-tubercular therapy. This phenomenon is commonly interpreted as part of the acute-phase inflammatory response, mediated by cytokines such as interleukin-6, and may persist for weeks despite clinical improvement and microbiological control.[15,16] Recognizing this hematological response is important to avoid misinterpretation as a marker of treatment failure or an alternative underlying condition.

Despite advances in tuberculosis control and treatment, challenges like antibiotic resistance and HIV co-infection complicate management.[17] While mortality rates have declined, addressing these issues requires improved diagnostics, public health efforts, and early detection. Clinicians must remain alert to EPTB, especially in patients with persistent symptoms and relevant risk factors. Early diagnosis via biopsy and culture is vital to improve outcomes and reduce disease burden.[18,19]

CONCLUSION

Extrapulmonary tuberculosis, particularly hepatic and lymph node forms, remains an important cause of morbidity. This case highlights the need for early diagnosis and the importance of considering tuberculosis in any patient with vague symptoms, especially in individuals from endemic areas. The atypical presentation of this patient underscores the necessity of a comprehensive approach to the diagnosis and management of tuberculosis, integrating teams from different specialties for effective and multidisciplinary treatment.

DECLARAÇÃO DE CONTRIBUIÇÃO /CONTRIBUTORSHIP STATEMENT

JD: Initiated the design of the study and described the case report

LG: Wrote the discussion

ASS: Carried out the revision of the study

RM, JB: Revised the manuscript

HR: Provided theoretical, practical and research expertise

Todos os autores aprovaram a versão final a ser publicada

JD: Iniciou o desenho do estudo e descreveu o relato do caso

LG: Redigiu a discussão

ASS: Realizou a revisão do estudo

RM, JB: Revisão do manuscrito

HR: Forneceu conhecimentos teóricos, práticos e de investigação

All authors approved the final version to be published.

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REFERENCES

1. Medscape. Tuberculosis (TB). [Accessed: May 27, 2024] Available at: https://emedicine.medscape.com.
2. Martínez-Zarazúa C, Pérez-López R, Hernández-Díaz Y. Physiopathology of extrapulmonary tuberculosis: a literature review. Med Stud Res J. 2023;11:1-11.
3. UpToDate. Epidemiology of tuberculosis. Available at: https://www.uptodate.com/. Accessed: May 27, 2024.
4. SNS 24. Serviço Nacional de Saúde (SNS). Doenças infecciosas, tuberculose. [Accessed: May 27, 2024] Available at: https://www.sns24.gov.pt/.
5. Rodriguez-Takeuchi SY, Sánchez-Arias Y, Chaves-Pérez M. Extrapulmonary tuberculosis: pathophysiology and imaging findings. Radiographics. 2019;39:2023-37. doi:10.1148/rg.2019190109.
6. Niyogi D, Biswas A, Ray D. Primary hepatic tuberculosis: a rare occurrence. Ann Hepatobiliary Pancreat Surg. 2019;23:80-3. doi:10.14701/ahbps.2019.23.1.80.
7. Mert A, Ozaras R, Tabak F, Ozturk R, Bilir M. Localized hepatic tuberculosis. Eur J Intern Med. 2003;14:511-2. doi:10.1016/j.ejim.2003.09.007.
8. World Health Organization. Global Tuberculosis Report. 2021. [Accessed: May 27, 2024] Available at: https://bvsms.saude.gov.br/bvs/publicacoes/manual_recomendacoes_controle_tuberculose.pdf.
9. Ghanem MA, Ali SA, El-Shabrawy MA. Hepatic tuberculosis: a review. World J Hepatol. 2019;11:1-9.
10. Brasil. Ministério da Saúde. Manual de Recomendações para o Controle da Tuberculose. Brasília: Ministério da Saúde; 2024. [Accessed: May 27, 2024] Available at: https://bvsms.saude.gov.br/bvs/publicacoes/manual_recomendacoes_controle_tuberculose.pdf.
11. Sharma S, Mohan A. Extrapulmonary tuberculosis. Indian J Med Res. 2020;152:234-47. doi:10.4103/ijmr.IJMR1622_20.
12. Gupta R, Nair D, Baidya S. Lymph node tuberculosis: Current perspectives. J Infect Public Health. 2019;12:605-12. doi:10.1016/j.jiph.2019.05.010.
13. Khan R, Abid S, Jafri W. Abdominal tuberculosis: Clinical features and diagnostic challenges. World J Gastroenterol. 2021;27:1552-65. doi:10.3748/wjg.v27.i15.1552.
14. Tiberi S, du Plessis N Tuberculosis: Progress and advances in diagnosis and management. Eur Respir J. 2017;50:170-81. doi:10.1183/13993003.01483-2017.
15. Unsal E, Aksaray S, Köksal D, Sipit T. Potential role of interleukin-6 in reactive thrombocytosis and acute-phase response in pulmonary tuberculosis. Postgrad Med J. 2005;81:604-7. doi:10.1136/pgmj.2004.030544.
16. Baynes RD, Bothwell TH, Flax H, McDonald TP, Atkinson P, Chetty N, et al. Reactive thrombocytosis in pulmonary tuberculosis. J Clin Pathol. 1987;40:676-9. doi:10.1136/jcp.40.6.676.
17. World Health Organization (WHO). Global Tuberculosis Report. Geneva: WHO; 2021. doi:10.30875/7e9c2e2e-en.
18. Hickey AJ, Gounder L, Moosa MY, Drain PK. A systematic review of hepatic tuberculosis with considerations in human immunodeficiency virus co-infection. BMC Infect Dis. 2015;15:209. doi:10.1186/s12879-015-0944-6.
19. Chow KM, Chow VC, Hung LC, Wong SM, Szeto CC. Tuberculous peritonitis-associated mortality is high among patients waiting for the results of mycobacterial cultures of ascitic fluid samples. Clin Infect Dis. 2002;35:409-13. doi:10.1086/341898