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Extrapulmonary tuberculosis manifesting with severe thrombocytopenia: A case report

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Abstract

Background: Extrapulmonary tuberculosis (EPTB) can present with diverse and atypical manifestations, including haematological abnormalities such as thrombocytopenia. Severe thrombocytopenia is an uncommon and potentially life-threatening presentation [1,2].

Case presentation: We report the case of a 39-year-old immunocompetent man presenting with febrile polyserositis and severe thrombocytopenia (platelet count of 3,000/mm^3). Investigations revealed positive QuantiFERON-TB test and exudative lymphocytic pleural and peritoneal effusions. Other infectious and autoimmune causes were excluded. The patient was diagnosed with EPTB-associated thrombocytopenia. He responded favorably to standard anti-tuberculosis therapy.

Conclusion: Severe thrombocytopenia may rarely be the initial manifestation of EPTB. Prompt recognition and initiation of anti-tuberculosis treatment can lead to a full recovery. This case highlights the importance of considering tuberculosis in the differential diagnosis of isolated thrombocytopenia in endemic areas [3-5].

Introduction

Extrapulmonary tuberculosis can have a wide variety of manifestations, including hematological ones. Thrombocytopenia during tuberculosis is rare, has diverse mechanisms, and can be potentially life-threatening [2]. Only a handful of cases worldwide have described severe thrombocytopenia as the initial presentation of EPTB, making this case particularly noteworthy and clinically relevant, especially in endemic regions [3-10].

Case presentation

A 39 old man with no particular history, a professional cook from India and living in Algiers, was hospitalized for the management of febrile biseritis (right pleural and peritoneal effusion) associated with severe thrombocytopenia at 3000 elements/mm^3. The physical examination found a conscious patient with an average general condition, febrile at 38°C, stable on the hemodynamic level. There was petechial purpura in the lower limbs (Figure 1 below) and bruises on the inner side of the elbows and the absence of haemorrhagic blisters. A right pleural effusion syndrome was noted associated with moderately abundant ascites and the absence of superficial and deep tumour syndrome.

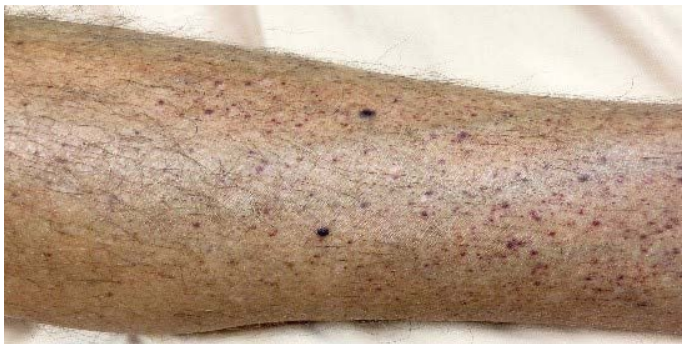

Figure 1. Petechial purpura over the lower limbs, illustrating the cutaneous manifestation of severe thrombocytopenia

The fundus was without abnormalities. The CBC found lymphopenia at 700 elts/mm^3 and thrombocytopenia at 3000 elts/mm^3. The CRP was at 76 mg, the procalcitonin at 6 and an inflammatory syndrome was found in the serum electrophoresis profile. The liver and kidney tests were correct. The serologies (EBV-CMV) type IgG and the QuantiFERON test were positive. The antinuclear antibodies were positive without individualizable antigenic targets. The assessment of disseminated coagulation syndrome was negative. The cytobacteriological study of the pleural fluid showed a richly lymphocytic exudative effusion with the presence of numerous leukocytes and the absence of malignant cells. The thoraco-abdomino-pelvic scan revealed a medium-abundance pleural and peritoneal effusion with thick content and noted the absence of deep tumour syndrome and elements in favour of hepatopathy. At the end of these explorations, thrombocytopenia was linked to tuberculosis.

Treatment and outcome

The patient benefited from antituberculosis chemotherapy according to the conventional national regimen (Rifampicin and pyrazinamide for 2 months and Rifampicin alone for 4 months) with

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good clinical and biological progress attested by the achievement of apyrexia, improvement in general condition, regression of effusions, normalization of CRP, negativation of procalcitonin and the re-rise of the platelet count to 128,000 elts/mm^3.

Discussion

Extrapulmonary tuberculosis can present with a variety of hepatological manifestations, including anaemia, leukopenia, pancytopenia, and thrombocytopenia [2,3]. Isolated severe thrombocytopenia in extrapulmonary tuberculosis is relatively rare. Various pathophysiological hypotheses have been proposed to explain thrombocytopenia in tuberculosis, including immune-mediated platelet destruction. Thrombocytopenia in extrapulmonary tuberculosis is very rare, with only a few cases reported in the literature [4-10].

While it is a recognized manifestation of extrapulmonary tuberculosis, its exact prevalence remains unclear in the medical literature.

It is important to note that extrapulmonary tuberculosis can present in a variety of forms, and although thrombocytopenia is rare, it can be an important clinical manifestation that requires special attention. Corticosteroid therapy is sometimes indicated in cases of severe immune thrombocytopenia. Treatment is primarily based on the specific drug therapy of the tuberculosis, which often normalizes the platelet count.

Conclusion

Thrombocytopenia in extrapulmonary tuberculosis is a rare but potentially serious symptom. Early and appropriate treatment usually results in a satisfactory recovery. The association between tuberculosis and thrombocytopenia has been well documented in the literature, although rare. Early recognition of the various underlying mechanisms is essential. Thrombocytopenia is a rare and potentially serious manifestation during tuberculosis outside of a medullary localization. It nevertheless remains a diagnosis of exclusion requiring the exclusion of other alternative diagnoses by appropriate examinations (autoimmune thrombocytopenia, HIV co-infection, effects of antituberculosis drugs, macrophage activation syndrome….).

Learning points/Takeaway messages

Extrapulmonary tuberculosis can present with atypical hematological manifestations such as isolated severe thrombocytopenia. Thrombocytopenia in tuberculosis may result from immune-mediated mechanisms and requires exclusion of other causes, including drug toxicity and HIV co-infection. Early recognition and appropriate antitubercular therapy can lead to complete resolution of both clinical symptoms and haematological abnormalities. Tuberculosis should be considered in the differential diagnosis of unexplained cytopenia, particularly in endemic areas or in patients with epidemiological risk factors. A multidisciplinary approach is essential for prompt diagnosis and effective management in atypical presentations of tuberculosis.

Declarations

Conflicts of interest

The authors declare that there are no competing interests.

Patient consent statement

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Authors' contributions

Keltoum El-Fatmi: Primary author, patient management, literature review, and manuscript drafting.

Lila Hadjene: Contribution to diagnostic approach and manuscript editing.

Imane Bradaia: Clinical follow-up and data collection.

Djenette Hakem: Laboratory interpretation and case documentation.

Amar Tebaibia: Supervision, critical revision of the manuscript, and final approval.

All authors reviewed and approved the final version of the manuscript.

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