Article published online: 2021-05-23

Letter to Editor

Visceral Leishmaniasis in a 62-Year-Old Woman with Metastatic Renal Cancer in Treatment with Nivolumab

Visceral leishmaniasis is a parasitic disease typical of tropical and Mediterranean regions. In Spain, it is caused by *Leishmania infantum*. In our media, visceral leishmaniasis is often due to a parasite reactivation in patients with a cellular immunosuppression, such as AIDS. However, its reactivation has never been described in a patient undergoing immunotherapy for cancer treatment.

We present a case of a 62-year-old patient diagnosed with renal cancer with metastasis to bone (unique lumbar metastasis), lung, liver, and lymph nodes in January 2018. She began treatment with pazopanib 800 mg/24 h in February 2018. In March 2018, she was operated by decompressive laminectomy of a bone lumbar metastasis and received radiotherapy. In May 2018, she was started on nivolumab 3 mg/kg due to liver metastasis progression. In June 2018, she was admitted to the hospital and diagnosed with a left pyopneumothorax. *Streptococcus constellatus* was isolated in pleural effusion culture and hemocultures were negative. She was treated with penicillin for 3 weeks and pleural drainage with Pleur-evac®. During her admission, in July 2018, the patient experienced epistaxis, hematuria, and ecchymosis due to severe thrombocytopenia (8000–10,000/mm^3) that required daily platelet transfusions. Apart from ecchymosis, the patient did not present with any other skin lesions and did not have any fever or pain. Citrate platelet account was similar to ethylenediaminetetraacetic acid. Peripheral blood smear was normal. Initially, due to possibility of nivolumab-induced immune thrombocytopenic purpura, we started corticosteroids but did not receive any response. Antiplatelet antibodies and Coomb's test were negative. HIV test was also negative. The patient said that she used to walk many kilometers next to the river with her dog every day. Urine *Leishmania* antigen detected by Katex assay was positive for *L. infantum* and we started treatment with AmBIsome 3 mg/kg (liposomal amphotericin B) on days 1 to 5, 7, and 14. Six days after initiating amphotericin B, we performed a bone marrow aspiration that was negative for *Leishmania* parasitic forms and did not show signs of dysplasia or other anomalies. During the next 2 weeks, the patient recovered platelet counts from 8000 to 132,000. After that, due to the appearance of new metastatic lesions in the liver and multiple cardioembolic ischemic stroke, the patient was moved to palliative care unit.

Katex assay detects by immunoagglutination with latex a glycoprotein that is specific of *L. infantum* and *Leishmania donovani* species. In our hospital, a study developed by Fernández-Roldán *et al*. exhibited a positive predictive value of 100% for Katex in non-HIV population.[1]

In this case, bone marrow aspiration was negative for *Leishmania*. The explanation could be that we obtained the sample 6 days after starting treatment with amphotericin B and that bone marrow aspiration studies have a sensitivity of only 60% in the diagnosis of visceral leishmaniasis.

Our case describes a visceral leishmaniasis based on the positivity of the urine *Leishmania* antigen and the response of the thrombocytopenia to amphotericin B. However, it is an atypical clinical presentation so that we should prudently define this case as a possible but unconfirmed case of visceral leishmaniasis. This uncommon clinical presentation could be related with the use of anti-programmed cell death protein 1 (PD1) drugs. According to Filippis *et al*. and Roy *et al*., PD-1 blocking and anti-PD1 drugs seem to improve immune recognition and macrophage destruction of *Leishmania* parasite *in vitro*.[2,3] Therefore, this atypical and less symptomatic presentation could be due to nivolumab treatment.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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Submitted: 31-Oct-2018
Revised: 20-Oct-2019
Accepted: 21-Oct-2019
Published: 13-Jun-2020

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Quick Response Code:

Website: www.ijmpo.org

DOI: 10.4103/ijmpo.ijmpo_238_18

How to cite this article: Doello K, Amezcua V, Delgado A, Valdivia J. Visceral leishmaniasis in a 62-year-old woman with metastatic renal cancer in treatment with nivolumab. Indian J Med Paediatr Oncol 2020;41:289-90.