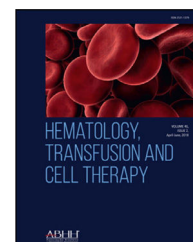




## HEMATOLOGY, TRANSFUSION AND CELL THERAPY

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## Images in Clinical Hematology

## Q1 Spinal cord leptomeningeal myelomatosis

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1 A 62-year-old man was admitted for investigation of a 3-  
 2 month history of progressive lower back pain with hypoes-  
 3 thesia. He had been diagnosed with multiple myeloma 5 years  
 4 before, treated with four cycles of CyBorD (cyclophospha-  
 5 mide, bortezomib (Bortezomib), dexamethasone) and pamidr-  
 6 onate, followed by hematopoietic autologous stem-cell  
 7 transplantation (conditioned with 200 mg/m<sup>2</sup> of melphalan)  
 8 and maintenance chemotherapy with two cycles of CyBorD  
 9 and isolated bortezomib (Bortezomib). In a regular medical  
 10 follow-up, he had a very good partial response before admis-  
 11 sion. An examination showed paresthesia and hypoesthesia  
 12 of lower limbs. Seric hemoglobin was 17.6 g/dL (normal refer-  
 13 ence [NR]: 14–18 g/dL), leukocytes of 8.23 x 10<sup>3</sup>/μL (NR: 4.0  
 14 –10.0 x 10<sup>3</sup>/μL) subdivided in 5.61 x 10<sup>3</sup>/μL segmented neutro-  
 15 phils, 1.62 x 10<sup>3</sup>/μL lymphocytes, 0.73 x 10<sup>3</sup>/μL monocytes,

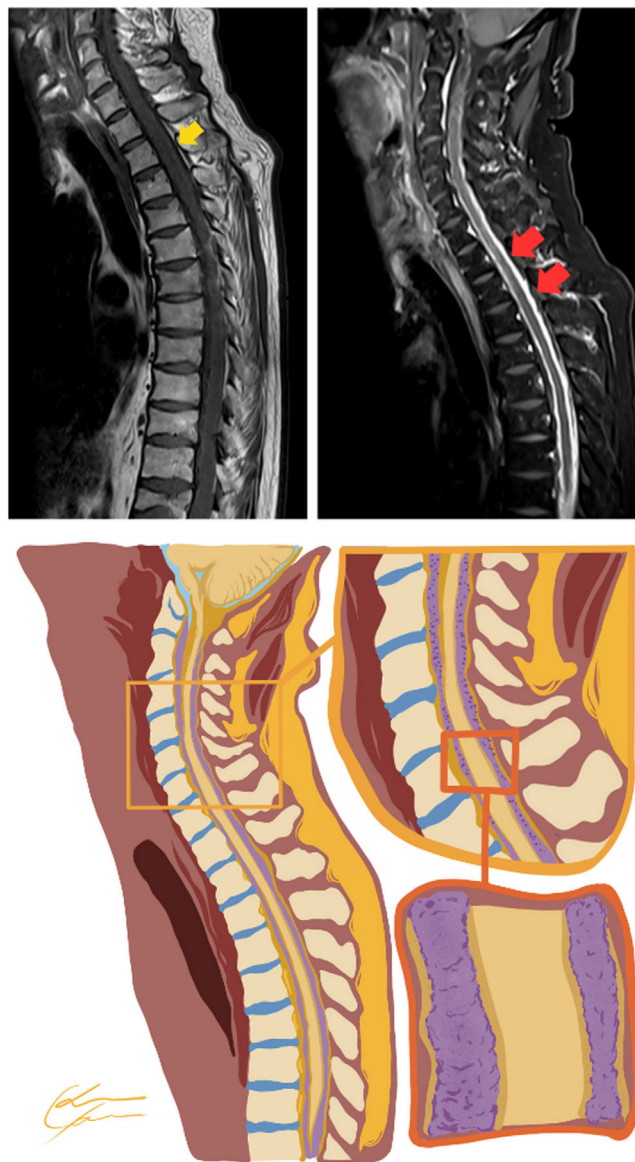
0.17 x 10<sup>3</sup>/μL eosinophils and 0.04 x 10<sup>3</sup>/μL basophils, without  
 blasts, plasmocytes and other atypical cells. Magnetic reso-  
 nance imaging (MRI) findings are shown in [Figures 1 and 2](#).  
 The imaging findings were consistent with leptomeningeal  
 neoplastic infiltration, a condition called meningeosis myelo-  
 matosis, as a recurrence of the multiple myeloma. A cerebro-  
 spinal fluid (CSF) analysis was performed, which  
 demonstrated plasmocytes with atypical morphology:  
 increased volume, loose chromatin and evident nucleoli, that  
 in a differential count was consistent with clonal plasmoc-  
 ytes. Meningeosis myelomatosis is a rare but an important  
 differential diagnosis to consider in patients with new neuro-  
 logical symptoms after multiple myeloma treatment. MRI is  
 essential to evaluate the patients, with a CSF analysis being  
 the gold standard for confirming the diagnosis.

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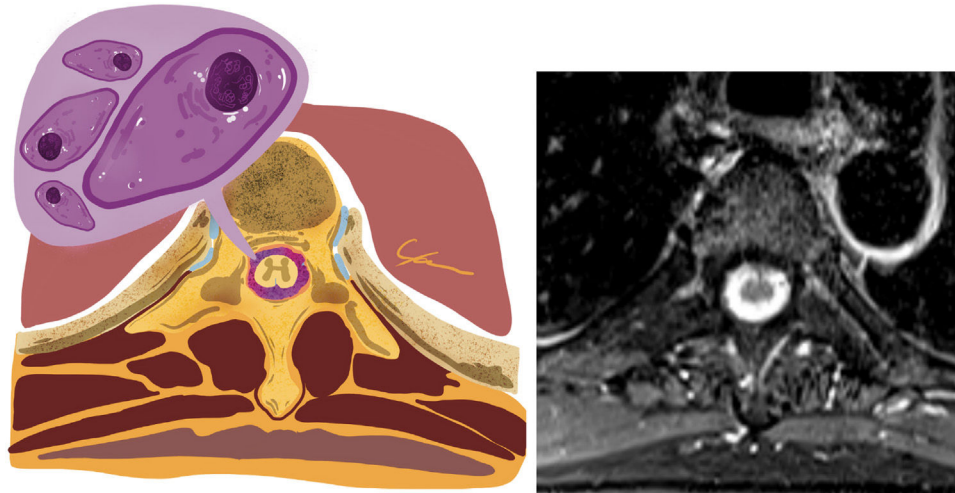
E-mail address: [contato.yamadarte@gmail.com](mailto:contato.yamadarte@gmail.com) (G.K.S. Yamada).

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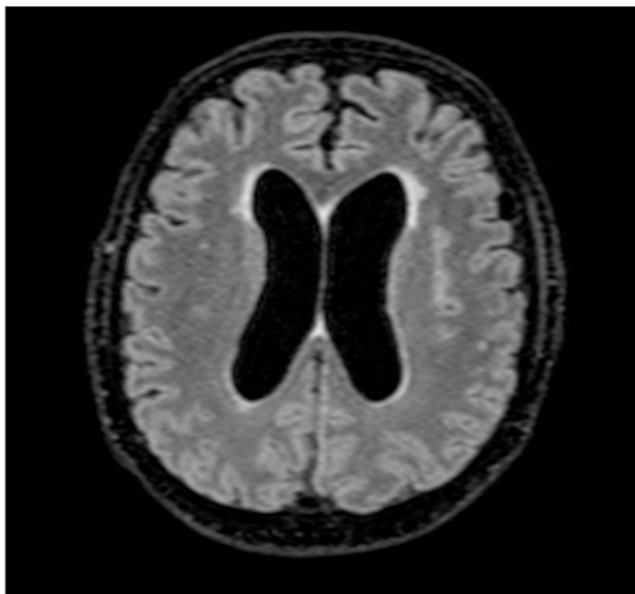
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**Figure 1 – Sagittal T1 before (top left) and after contrast (top right). Sequences with diffuse and thick leptomeningeal enhancement involving the spinal cord. At the bottom, a graphic representation of the magnetic resonance imaging (MRI) findings with infiltration of the leptomeninges around the spinal cord.**



**Figure 2 – Graphic representation (left) from the Axial T1 after contrast (right) magnetic resonance acquired in the same patient. The representation illustrates the leptomeningeal neoplastic infiltration enhanced by contrast in T1 sequences that was confirmed to be by plasmacytes with atypical morphology (enlarged cells, loose chromatin and evident nucleoli), a rare recurrence of multiple myeloma.**



**Figure 3 – Axial FLAIR (Fluid attenuated inversion recovery) demonstrating mild hydrocephalus, with enlargement of the lateral ventricles. The leptomeningeal infiltrate may result in obstructed cerebrospinal fluid (CSF) flow.**

### Q3 Uncited references

### Uncited figure

Figure 3.

### Conflicts of interest

The authors declare no conflicts of interest.

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