Case presentation

A 35-year-old mal was diagnosed with relapsing remitting multiple sclerosis (RRMS) in November 2018 according to the Mc-Donald criteria. He did not have any other comorbidities. He developed progressive bilateral lower limb numbness and mild motor impairment, followed by diplopia. Magnetic resonance imaging (MRI) at time of diagnosis showed multiple demyelinating lesions in the brain and spinal cord, consistent with multiple sclerosis. In December 2018 he was infused with the first dose of alemtuzumab (12 mg daily IV for five days) and the second dose was infused (12 mg daily IV for three days) at the end of February 2020. Between both doses, he had not experienced clinical deterioration. Neurological examination revealed reduced muscle strength (4/5) on the right leg (Expanded Disability Status Scale 1). The last MRI, performed on March 2020, showed stability of the lesion burden in relation to the previous examinations of the brain and spinal cord, with absence of contrast-enhancing lesions (supplementary file). Before the second infusion he had an absolute lymphocyte count (ALC) of 960/mm3 , one month after the infusion ALC decreased to 210/mm3 . He was asked to follow a voluntary quarantine, however, he had contact with his COVID-19 positive wife two and a half months after the infusion. He experienced dry cough and a nasopharyngeal swab was obtained for real-time PCR testing forSARS-CoV-2 and the test was positive. He evolved with mild fever, his respiratory rate and sounds and oxygen saturation were normal. A blood test revealed ALC of 680/mm 3 with severely reduced major circulating T lymphocyte subsets (CD3+ , CD4 + and CD8+ ). Mean CD3 + count was reduced to 88% of the lower limit of normal (LLN); CD4 + 82% of the LLN and CD8 + 85% of the LLN B lymphocytes and NK cells were between normal limits. Mild cold symptoms did not deteriorate. He stayed at home. Two weeks after the first swab, the second one was negative and the patient asymptomatic.

[Mult Scler Relat Disord](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7305733/). 2020 Sep; 44: 102314.

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