Rescue therapy with alemtuzumab in Multiple Sclerosis post-natalizumab puerperium reactivation

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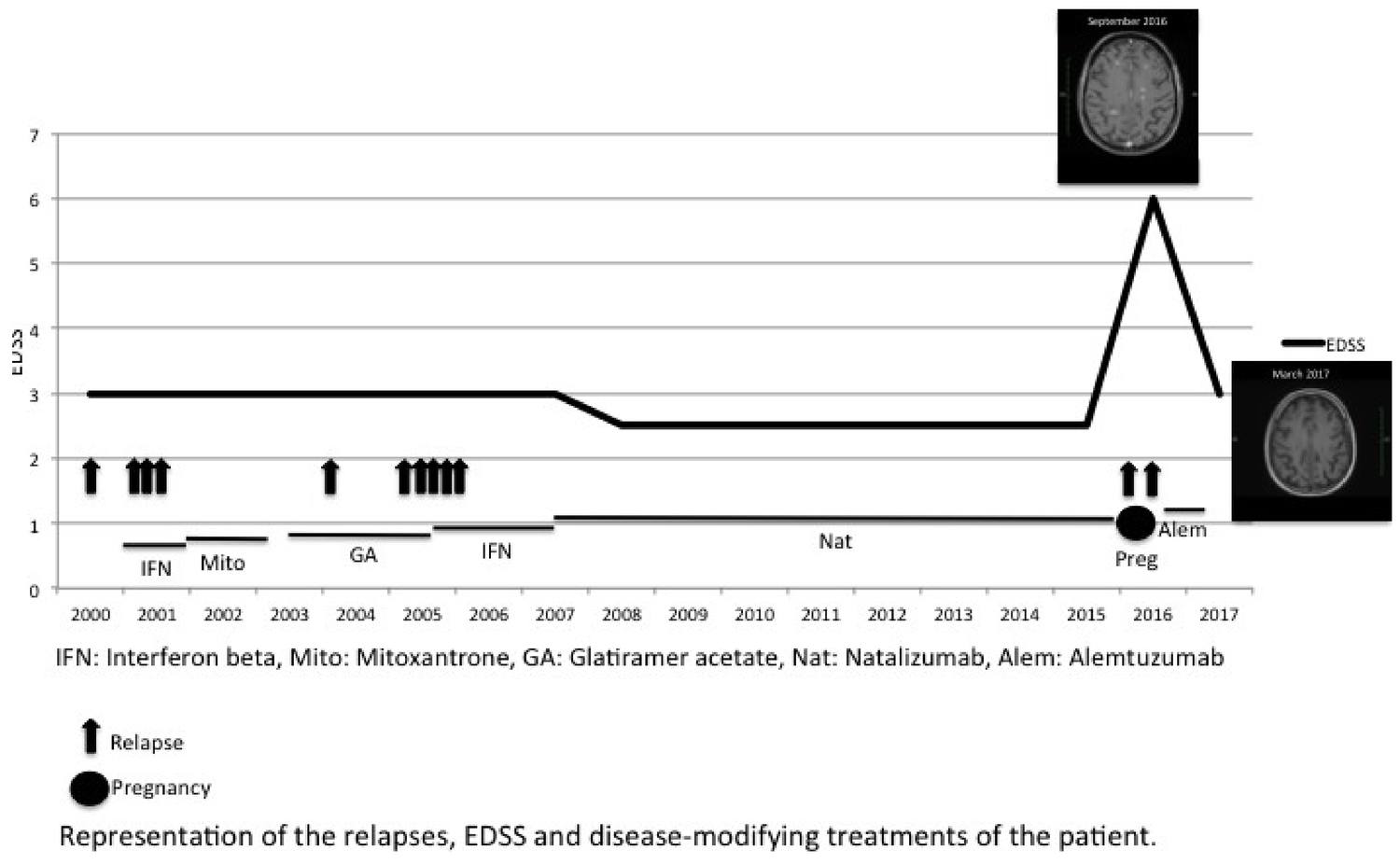
Background. The relapse rate of multiple sclerosis (MS) declines during pregnancy and increases in the first trimester post-partum. There is not agreement on which disease-modifying drug (DMD) to start after the pregnancy, particularly in women with high active disease.

Case report. We describe the case of a 33-year-old woman, who became pregnant during natalizumab treatment. The disease onset and the diagnosis of MS were in 2000 (17 years-old). Due to the high activity of the disease despite interferon beta, mitoxantrone was started in December 2001. Subsequently, glatiramer acetate, interferon beta were administered. Because the aggressive course of MS, in November 2007 natalizumab was started (EDSS 3.0). The anti-JC antibodies analysis was negative until June 2012. The patient was relapse free and the MRI lesion load was stable, with the exception of the brain MRI performed during a 3-month pause after 24 natalizumab infusions.



Representation of the relapses, EDSS and disease-modifying treatments of the patient.

On December 2015 she became pregnant and natalizumab was stopped after 84 infusions (EDSS 2.5). On week 30 of pregnancy, the patient referred perioral paraesthesia, spontaneously resolved. On August 12, 2016, she delivered a healthy baby. After 15 days, she referred instability and paraesthesia of the legs, with walking possible only with aid (EDSS 6.0). The brain MRI showed more than 50 new Gd-enhancing lesions. On October 2016, the brain MRI showed other new Gd-enhancing lesions and the patient started alemtuzumab (EDSS 6.0). Gradually, the clinical conditions improved until partial recovery of post-partum symptoms and at present her EDSS is 3.0. The last brain and spinal cord MRI, performed in March 2017, did not show new or Gd-enhancing lesions.

Conclusions

The patient described presented a very high post-partum MS reactivation, probably due to the combined effect of post-partum period and to a delayed rebound of natalizumab masked by the protective effect of pregnancy. The high activity of the disease from onset, and the occurrence of relapse during pregnancy, suggest the need to start a DMD soon after the partum. The choice of alemtuzumab instead of natalizumab was done considering the high risk of progressive multifocal encephalopathy (1:44). Alemtuzumab was able to resolve in a few months this high post-partum MS inflammatory. It can be taken into account as a rescue therapy in catastrophic MS post-partum activity, in particular when other efficacious treatments, such as natalizumab, have a high adverse event profile.