Autologous hematopoietic stem cell transplant in concomitant aggressive multiple sclerosis and autoimmune hepatitis: a case report.

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BACKGROUND: Relapse remitting multiple sclerosis (RRMS) and other autoimmune diseases sometimes seem to cluster. In the event of such an unfortunate coincidence, standardized RRMS treatment strategies may be difficult to pursue. Autologous hematopoietic stem cell transplantation (AHSCT) is a sledgehammer approach for treating RRMS. It is experimentally used in attempts to reboot the immune system, when the disease is refractory to other treatment options. The goal is that the new immune cells will no longer attack myelin or other brain tissue, providing a completely new immune system.

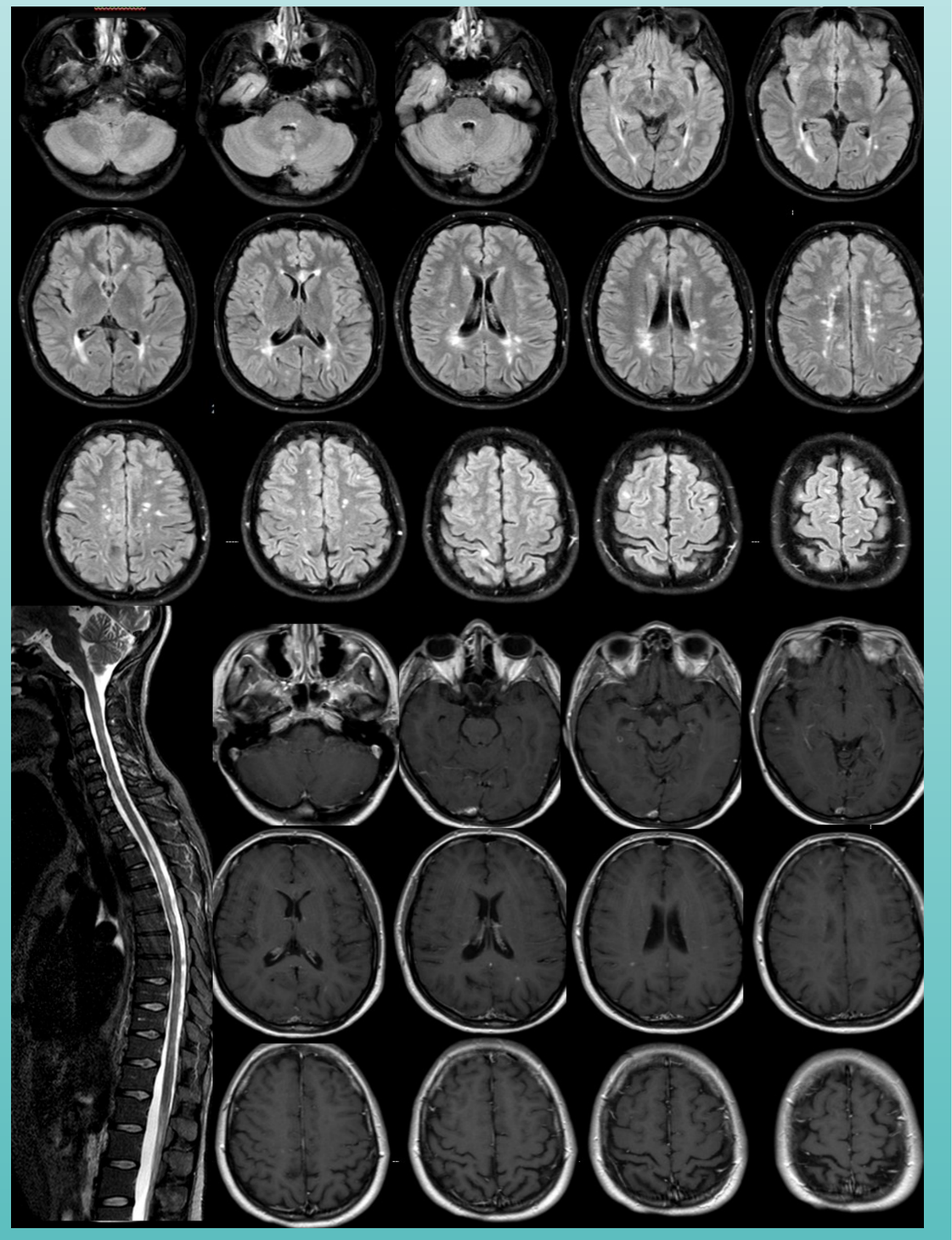
OBJECTIVES: to describe a rare case of concomitant aggressive RRMS and autoimmune hepatitis where AHSCT was used as a successful first line treatment approach for both diseases.

MATHERIALS AND METHODS: case report.

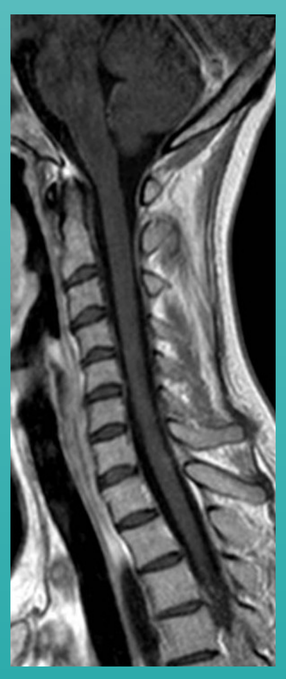
RESULTS: A 29-years-old woman was diagnosed RRMS after four unrecognized sensitive and brainstem relapses between 2009 and 2014, a multifocal severe relapse in February 2015 and a spinal cord relapse in May 2015. Considering the number of relapses, the relevant brain and spinal cord lesion load and a positive antiJCV status, she was screened to start a second line treatment with alemtuzumab. Two weeks before the treatment initiation, she suffered gradual onset of right hypochondrium pain with liver enzymes elevation. Concomitant brain MRI detected 5 new gadolinium enhancing lesions. Liver ultrasound resulted normal, while blood tests and liver biopsy were diagnostic for autoimmune hepatitis; therefore, a high dose intravenous steroid treatment (methylprednisolone 1 gram qd for 5 days) was administered and followed by oral tapering with progressive slow reduction and subsequent normalization of liver enzymes. While still on low dose oral steroids, she received intense immunosuppression (mobilization with cyclophosphamide and filgrastim, conditioning with fotemustine, cytosine-arabinoside, etoposide and melphalan) followed by AHSCT. No significant adverse events were registered during the procedure. No clinical relapse, nor brain and spinal cord new or enhancing lesions were detected during a six month follow up. Steroid treatment was furtherly tapered off without any liver enzymes elevation.
A follow up brain and spinal cord MRI performed in October 2016 did not detect any new lesions or gadolinium enhancement.

DISCUSSION AND CONCLUSIONS: Though a longer observation is necessary to confirm the result, our case report shows that AHSCT may be used in selected cases of aggressive RRMS as a first line treatment with successful stabilization of disease activity and concomitant treatment of other autoimmune diseases, when other treatments are not feasible.

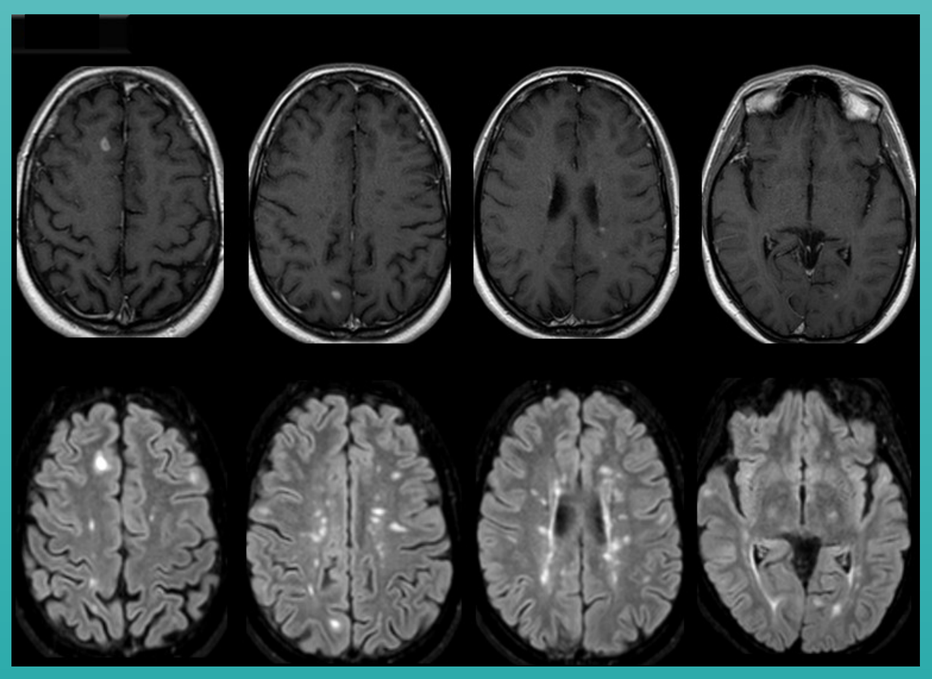
Baseline MRI



First relapse MRI



Second relapse MRI



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