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Case report

Substantial disease exacerbation in a patient with relapsing-remitting multiple sclerosis after withdrawal from siponimod

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ABSTRACT

Among patients with multiple sclerosis, discontinuing highly effective disease-modifying treatments can potentially lead to severe disease recurrence, especially cessation of natalizumab and fingolimod. Similar to fingolimod, siponimod is a sphingosine-1-phosphate receptor modulator that inhibits the egress of a lymphocyte subpopulation from lymph nodes. In the present case report, we describe a patient with MS who experienced substantial disease exacerbation after withdrawal from siponimod.

1. Introduction

Among patients with multiple sclerosis (MS), discontinuing highly effective disease-modifying treatments can potentially lead to severe disease recurrence, especially cessation of natalizumab and fingolimod [1]. Siponimod is a drug that has been investigated in patients with relapsing-remitting MS (RRMS) and secondary progressive MS (SPMS) [2]. It is a sphingosine-1-phosphate (S1P) receptor modulator that inhibits the egress of a lymphocyte subpopulation from lymph nodes. In contrast to fingolimod, siponimod selectively binds to only two S1P receptors (S1P1 and S1P5), does not require in vivo phosphorylation, and has a shorter half-life and elimination time. In the present case report, we describe a patient with MS who experienced substantial disease exacerbation after withdrawal from siponimod.

2. Case report

A 24-year-old woman was diagnosed with RRMS after experiencing two relapses over a period of four years[annualized relapse rate (ARR) = 0.5, Expanded Disability Status Scale (EDSS) = 2.5]. Following the second relapse (December 2009), the patient was enrolled in a clinical trial with siponimod [2]. On trial initiation, the patient had a gadaolinium-enhacing lesion in the left forntal lobe (Fig. 1A–D). She remained in this trial until its completion in July 2016. During the last four years of the trial, she received siponimod at a daily dose of 2 mg. Upon trial completion, the patient was in clinical remission

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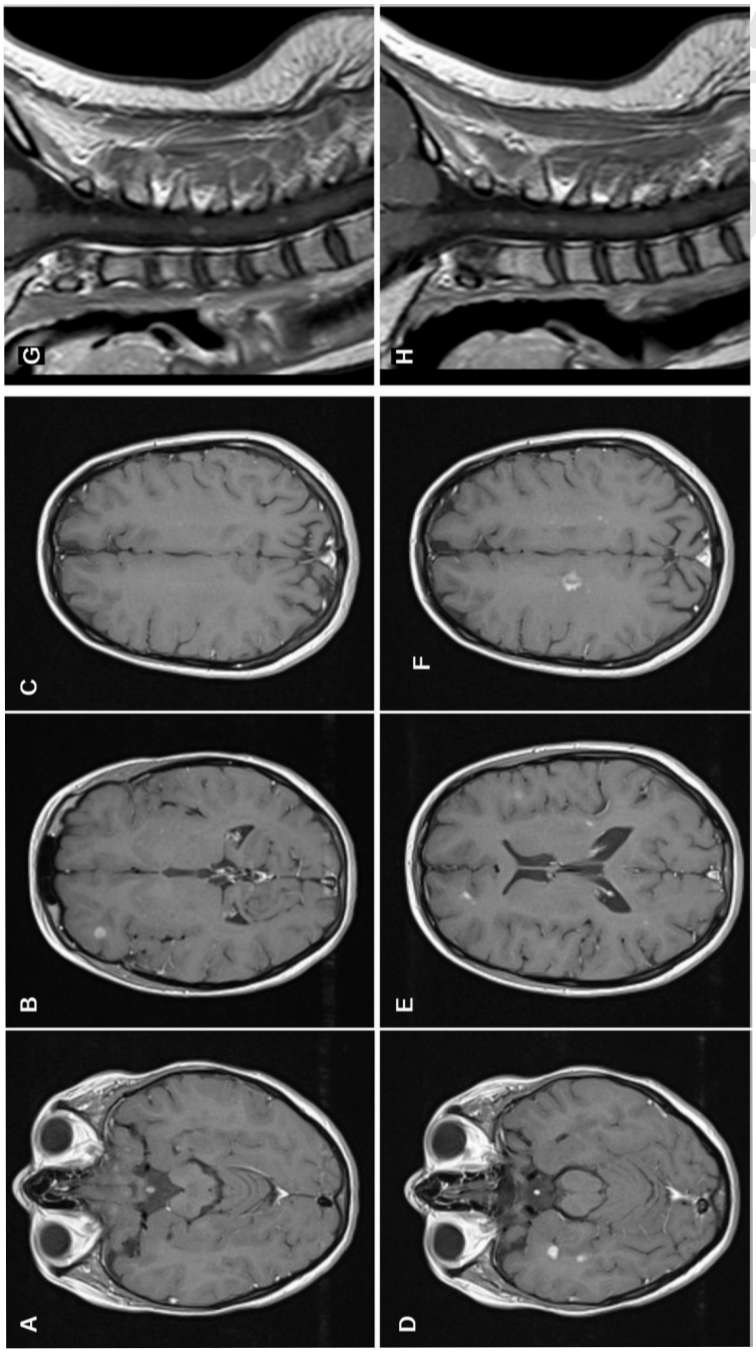

Fig. 1 – MRI of a 31-year-old female patient with RRMS reveals multiple gadolinium-enhancing lesions after siponimod discontinuation. Upon siponimod cessation, we observed a single gadolinium-enhancing lesion in the right frontal lobe (A–C). Three months later, the patient presented with left-sided hypoesthesia, and MRI revealed multiple gadolinium-enhancing lesions in both brain hemispheres (D–F). At that time, we also detected multiple gadoliniium-enhancing lesions in the cervical spinal cord (G, H).

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