Combining secukinumab with dimethyl fumarate for treatment of a patient with psoriasis and recent diagnosis of multiple sclerosis

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Results

We report the case of a 44-year-old male patient referred to our department in 2006 for evaluation and management of psoriasis and psoriatic arthritis not responding to previous topical therapies and to conventional systemic treatments. On initial evaluation, his Psoriasis Area and Severity Index (PASI) was 23 so it was decided to start a biological therapy. Etanercept was firstly introduced with partial control of both cutaneous and articular manifestations and stopped after 2 years due to a loss of efficacy. Then, other different biological drugs were administered but discontinued for loss of efficacy or no clinical response. In 2017, we started a treatment with secukinumab with significant clinical improvement. These results were still maintained after 2 years. In January 2019, due to several episodes of hypoesthesia and paraesthesia, the patient performed a neurological examination and a brain magnetic resonance imaging (MRI) with gadolinium revealing multiple encephalic and spinal hyperintense lesions compatible with focal demyelinated areas. A diagnosis of relapsing-remitting multiple sclerosis was made and therapy with dimethyl fumarate (240 bid) started. Secukinumab therapy was maintained but decreasing the dose to 150 mg/month in order to reduce the immunosuppressive risks. After 12 months of follow-up, the patient tolerates the association of the two therapies and presents good control of both diseases.

To the best of our knowledge, this is the first case of a combination of two immunosuppressive drugs, secukinumab and dimethyl fumarate, for the treatment of a patient with concomitant psoriasis and multiple sclerosis. Among the widely different conventional therapies available to treat these two diseases, only dimethyl fumarate has been approved for both conditions. Moreover, interleukin 17 (IL-17) appears to play a key role in the pathogenesis of both diseases; it is produced by lymphocytes Th17, but also by CD8+ cells, Tγδ lymphocytes and some cells of the central nervous system, such as astrocytes and oligodendrocytes, in the context of active lesions of multiple

sclerosis. Currently, the efficacy of anti IL-17 has been described only in few cases of multiple sclerosis. In conclusion, our case emphasizes the potential efficacy and safety of combination therapy of secukinumab and dimethyl fumarate, which may be a therapeutic option for such challenging patients.