A 69-year-old woman affected by multiple sclerosis for 35 years was diagnosed with bullous pemphigoid (BP) at a dose of 120 mg twice per day for 7 days and then increased to 240 mg twice per day after first-line therapies of BP. DMF is now under evaluation with an investigator-initiated prospective controlled trial in patients with BP to determine the efficacy and safety of adjuvant DMF. To our knowledge, this is the first case of BP successfully treated with DMF in the literature.

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matched background populations, as shown in a recent Danish study (Kibsgaard et al., 2017).

MS is strongly associated with BP; therefore, we reasoned that DMF could be used as treatment for both conditions in our patient. BP treatment involves medications that reduce inflammation, such as corticosteroids (CS) as the first-line treatment. However, patients with BP usually need adjuvant therapies (e.g., azathioprine, tetracycline, and nicotinamide) to lower the dose of CS because CSs have detrimental side effects, especially in elderly patients in the long term (Feliciani et al., 2015). The common effect of all adjuvant therapies is suppression of the immune system to provide sustainable remission in BP, which is also the suggested mechanism for DMF.

DMF has been licensed to treat psoriasis and MS in the last few decades and has recently been shown to be effective in treating epidermolysis bullosa acquisita (subepidermal blistering AIBD like BP) in a murine model (Müller et al., 2016). DMF has been shown to reduce inflammation by activating Nrf2 protein, which regulates antioxidant genes involved in protecting cells from damage, and to create a stimulus-dependent inhibitory activity via its inhibiting effects on PI3K/Akt- and p38 MAPK signaling pathways (Müller et al., 2016). DMF is now under evaluation in an investigator-initiated, prospective, controlled trial in patients with BP to determine the efficacy and safety of adjuvant DMF (ERA-Net E-Rare, 2018). In the study, DMF is expected to reduce blisters and other symptoms by reducing the inflammation process in BP, which can help control the disease (Müller et al., 2016).

To our knowledge, this is the first case in the literature of BP that was successfully treated with DMF. Our patient had sustained remission with only DMF therapy after ceasing other established drugs. Further studies and larger case reports could provide more evidence with regard to its optimal use for BP and AIBD.

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Fig. 1. (A) Erythematous urticarial plaques with erosions and bullae on the chest during first visit. (B) Some erythematous plaques and post inflammatory changes on the chest before Dimethyl fumarate therapy. (C) Complete remission of BP lesions after dimethyl fumarate therapy for 1 year.