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Letter to editor

# Apremilast: a possible alternative to local treatment of Beceht's disease

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Dear Editor

This letter aims to raise awareness about Behcet's disease (BD) and its impact, particularly in Honduras. BD is a chronic inflammatory disease that affects different organs. It is recurrent and of unknown origin. It is characterized by neurological, ocular, vascular, gastrointestinal, and mucocutaneous alterations that could be fatal[1]. Among the mucocutaneous manifestations, we can mention oral ulcers, also known as thrush, which are usually painful and harm the quality of life of people who suffer from them[2]. These mouth ulcers begin as lesions of oral mucosa, gums, tongue, or lips. They are characterized by being rounded and raised and quickly transform into painful ulcers. The sores heal in one to three weeks, although they reappear[3]. The cause of BD is unknown. It is believed that there could be a genetic predisposition that has been demonstrated by its association with HLA genes (HLA B51/B5, MICA gene) and other non-HLA genes (1-ICAM gene, TNF gene, MEFV gene) and also requires other factors such as the participation of microorganisms such as *streptococci*, *mycobacteria* and *Helicobacter pylori*[4,5].

Among the treatments used orally, we have colchicine (1-2 mg/day), thalidomide (100-200 mg/day), dapsone (50-150 mg/day), azathioprine (100-150 mg/day) or low dose oral glucocorticoids[5].

BD is a common disease in countries of the Middle and Far East with a prevalence between 20 and 420/100,000 inhabitants; the number of cases decreases in the Western Mediterranean (< 10/100,000) and in the rest of the world (< 2/100,000)[2], specifically, Honduras lacks data [6] (figure 1).

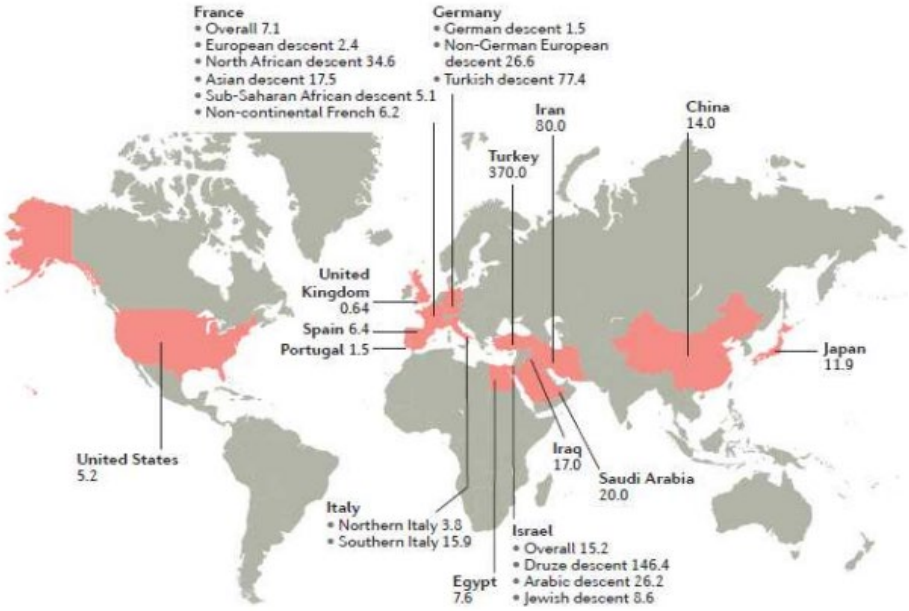


**Figure 1. BD prevalence in the world [6]**



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Although the prevalence in Honduras is unknown, it is common for patients with canker or mouth sores to come to dental clinics and pharmaceutical establishments to seek treatment to relieve the pain and discomfort they cause when chewing or swallowing. Part of this lack of knowledge is that it is a complex disease to diagnose, and the country's pathognomonic laboratory tests are unavailable. Delay in diagnosis increases the morbidity and mortality of patients with this disease; in addition, the symptoms are debilitating, disabling, having emotional (even stigmatizing) and economic repercussions.

In Honduras, treatments for canker sores are alcohol-free mouthwashes, some *Rheum palmatum*-based tinctures, and topical gels containing only hyaluronic acid. The limited availability of treatments for this disease can negatively impact patients' quality of life and the effectiveness of health systems in addressing and treating the disease. To achieve this, it is necessary to develop new treatments, especially those for topical application, that present advantages over the oral route, such as localized action, reduction of systemic side effects, greater ease of application, and rapid therapeutic action[7].

Proposals such as using phosphodiesterase 4 (PDE4) inhibitor drugs could be an excellent therapeutic option for BD since they suppress the release of cytokines and regulate inflammatory mediators (e.g., nitric oxide, interleukins, necrosis factor alpha tumor). Within this group is Apremilast (AP), used to treat certain skin conditions, such as psoriasis and psoriatic arthritis, as well as rheumatoid arthritis[8]. This is sold only orally. To this end, we propose to develop a mucoadhesive AP gel that contains polymers such as poloxamer 407, carbomers, or xanthan gum since these have the advantage of adhering more easily to moist tissues such as the oral mucosa, they are biocompatible, and due to their significant porosity, the drugs are released. More quickly, it improves the permeation of the active ingredients, lacks cellular toxicity, and some accelerate healing. Likewise, this gel could treat ulcers on the genitals and skin (also caused by ME). Other authors have already demonstrated the easy preparation of gels to maintain AP with simple technology[9]. Clinical trials and quality controls would be necessary to investigate the effectiveness of this new treatment.

In conclusion, Behcet's Disease is a debilitating condition with a significant impact on patients' quality of life. While current treatments in Honduras offer limited relief, the potential of Apremilast as a topical therapy warrants further investigation. We urge dental professionals to be more attentive to recurrent oral ulcers and emphasize the importance of interdisciplinary teams for timely diagnosis and comprehensive treatment plans. Early diagnosis and improved treatment options can significantly improve BD patients' lives.

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