

CASE REPORT

Association of psoriasis and periodontitis: case report

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Abstract

We describe a case of psoriasis complicated by periodontitis and discuss the relationship between the two conditions.
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Introduction

Psoriasis, a chronic inflammatory skin condition, is often found to be associated with various comorbidities such as diabetes, psoriatic arthritis, hypertension and cardiovascular diseases¹. This cutaneous disease has recently been linked with periodontitis - a chronic infection-driven inflammatory disorder which can lead to the loss of periodontal attachment, potentially causing gingival bleeding, periodontal pocket formation and is a risk factor for tooth loss. Some recent epidemiological studies have indicated periodontitis to be an independent risk factor for developing psoriasis³.

We report here a case of a 42-year-old female who was referred to the dermatologist with chronic plaque psoriasis in 2012 and five years later was diagnosed with moderate-severe periodontal disease. The patient's other medical history included mild von Willebrand disease and depression. She had stopped smoking ten years before presentation. Psoriasis was initially treated with high potency corticosteroid creams and a short course of ultraviolet (UV) therapy. She had a poor response to the topical creams and discontinued UV therapy due to travel requirements that prevented her from attending sessions. She was prescribed cyclosporin, which provided minimal relief for her palmoplantar psoriasis. In 2016, she was started on biologics for ongoing symptoms, firstly adalimumab

and then secukinumab. She remained stable on secukinumab until 2019.

In 2018 she complained of progressive gum recession and sensation of food packing between her teeth. Dental advice was sought. The periodontist confirmed the presence of gum recession with localized probing depths of 4-6 mm and horizontal bone loss of 60% of the molars and generalized mild horizontal bone loss of 20% based on radiographs. The periodontist also confirmed that the patient had good oral hygiene as evidenced by localized interproximal biofilm and localized sub-gingival calculus. The patient was diagnosed as having moderate to severe periodontitis of the molars and premolars. A poor prognosis was predicted for her based on her risk factors (history of smoking and psoriasis) and clinical findings. She was treated with an initial course of non-surgical debridement on the day and given oral hygiene instructions with a plan to consider surgical treatment for non- responding sites.

In 2019, the patient was trialled on risankizumab (interleukin-23 inhibitor) for the psoriasis, after secondary failure to secukinumab. This provided adequate control of her symptoms. In an effort to improve the response further, risankizumab was substituted by tildrakizumab in 2020. This has provided the best symptom control to date. Upon review with the periodontist in 2020, the patient's periodontitis was

found to be stable, with no active progression of her periodontal disease.

Discussion

A link between psoriasis and periodontitis has been supported by two recent meta-analyses. The first, in 812 patients with psoriasis, concluded that the status of periodontal disease is worse in patients with psoriasis³. The second showed that patients with periodontitis are at increased risk of developing psoriasis.⁴ Both conditions share common risk factors such as infection and smoking.^{1,5} The activation of Th-1, Th-17 and Th-22 T cells and production of associated cytokines such as interferon-gamma, tumour necrosis factor (TNF), interleukin (IL)-17 and IL-22 occur in both conditions.² Recent studies have speculated that the keratinocyte dysfunction observed in psoriatic skin can lead to tooth mortality.^{6,7} In addition, a direct linear relationship between periodontal clinical parameters and severity of psoriasis⁶ has been demonstrated.⁶ Novel treatments for psoriasis should may therefore provide effective treatment of periodontitis, due to the shared immunopathology. Studies investigating the role of TNF inhibitors in patients with rheumatoid arthritis and coexisting periodontal disease have shown promising results in treating periodontal inflammation and bone resorption.⁸ This suggests that biologic agents may be the preferred treatment option in patients with coexisting psoriasis and periodontitis. Further studies are needed to establish the role of these agents in patients with psoriasis and periodontitis. We highlight to dermatologists the link between periodontal health and psoriasis in patients who present with the latter condition. A referral to a periodontist may be required.

In summary, chronic periodontitis is a further comorbidity of psoriasis. It is easily recognisable clinically and when treated early it can have a substantial positive impact on the patient's quality of life.

Provenance Externally reviewed

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Conflicts of Interest: None declared

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