Dermatology Practical & Conceptual

Risankizumab for the Treatment of Palmoplantar Pustular Psoriasis: a Report of Two Cases

Luigi Gargiulo[1,2], Carlo Alberto Vignoli[1,2], Giulia Pavia[1,2], Alessandra Narcisi[1,2], Antonio Costanzo[1,2], Chiara Perugini[1]

1 Dermatology Unit, IRCCS Humanitas Research Hospital, Rozzano, Milano, Italy
2 Department of Biomedical Sciences, Humanitas University, Pieve Emanuele, Milano, Italy

Key words: psoriasis, palmoplantar pustular psoriasis, risankizumab, biologics, anti-IL-23

Citation: Gargiulo L, Vignoli CA, Pavia G, Narcisi A, Costanzo A, Perugini C. Risankizumab for the Treatment of Palmoplantar Pustular Psoriasis: A Report of Two Cases. *Dermatol Pract Concept.* 2023;13(2):e2023097. DOI: https://doi.org/10.5826/dpc.1302a97

Accepted: July 27, 2023; **Published:** April 2023

Funding: None.

Competing Interests: Antonio Costanzo has been a consultant and/or speaker for Abb-Vie, Almirall, Amgen, Janssen, Leo Pharma, Eli Lilly, Galderma, Boehringer, Novartis, Pfizer, Sandoz, and UCB. Alessandra Narcisi has been a consultant and/or speaker for Abb-Vie, Almirall, Amgen, Janssen, Leo Pharma, Eli Lilly, Boehringer, Novartis, Pfizer and UCB. Luigi Gargiulo, Carlo Alberto Vignoli, Giulia Pavia and Chiara Perugini have nothing to disclose.

Authorship: All authors have contributed significantly to this publication.

Corresponding Author: Dr. Carlo Alberto Vignoli, MD, Dermatology Unit, Department of Biomedical Sciences, IRCCS Humanitas Research Hospital, Humanitas University, Rozzano (MI), Itlay. Tel: +39 0282244050 Email: c.alberto.vignoli@gmail.com

Introduction

Palmoplantar pustular psoriasis (PPPP), according to the ERASPEN (European Rare And Severe Psoriasis Expert Network) guidelines, is defined as primary, persistent (>3 months), sterile, macroscopically visible pustular eruption on palms and/or soles [1,2]. It can present with or without concomitant plaque psoriasis [2].

The pathophysiology of this condition is not fully understood, both the innate and adaptive immune systems are involved [2]. A primary role is played by the increased expression of interleukin-8 (IL-8) and by IL-17 related cytokines (including L-17A/F, IL-23A, IL-23 receptor). A role has been proposed also for the antimicrobial peptide LL-37, which may contribute to neutrophil recruitment by upregulating IL-8, IL-23, IL-17C, IL-1 [2]. Only limited data are available regarding the treatment of PPPP with biologics and no standardized guidelines have been published yet [3].

Case Presentation

We present 2 patients with PPPP who were successfully treated with risankizumab, an anti-IL-23 monoclonal antibody.

The first patient is a 32-year-old woman, affected by PPPP and plaque psoriasis since 2020. On clinical examination, we observed pustular lesions on the palms and soles (Figure 1) along with erythematous and scaly plaques on the scalp. Palmoplantar investigator global assessment (ppIGA) score was 3 on a 5-point scale. Psoriasis Area Severity Index (PASI) was 5.2. As topical corticosteroids had previously been ineffective, given the age of the patient, acitretin was not recommended. Because of the impact of the disease on her quality of life (Dermatology life quality index [DLQI] was 12), we prescribed risankizumab 75mg, two subcutaneous injections at weeks 0, 4, and then every 12 weeks.

After 16 weeks the patient returned showing only a slight improvement, but at week 28 we observed complete skin

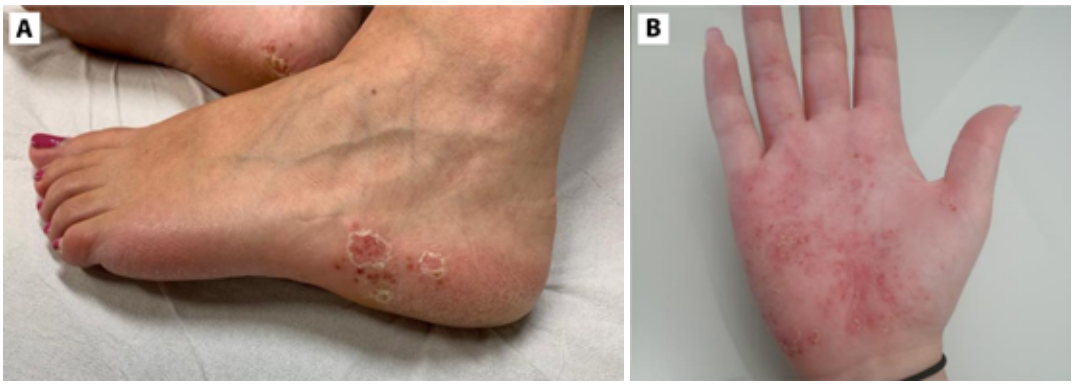

Figure 1. (A,B) Sterile pustules on erythematous skin with moderate scaling on the left foot (A) and on the right palm (B) of a 32-year-old woman, before the start of the therapy.

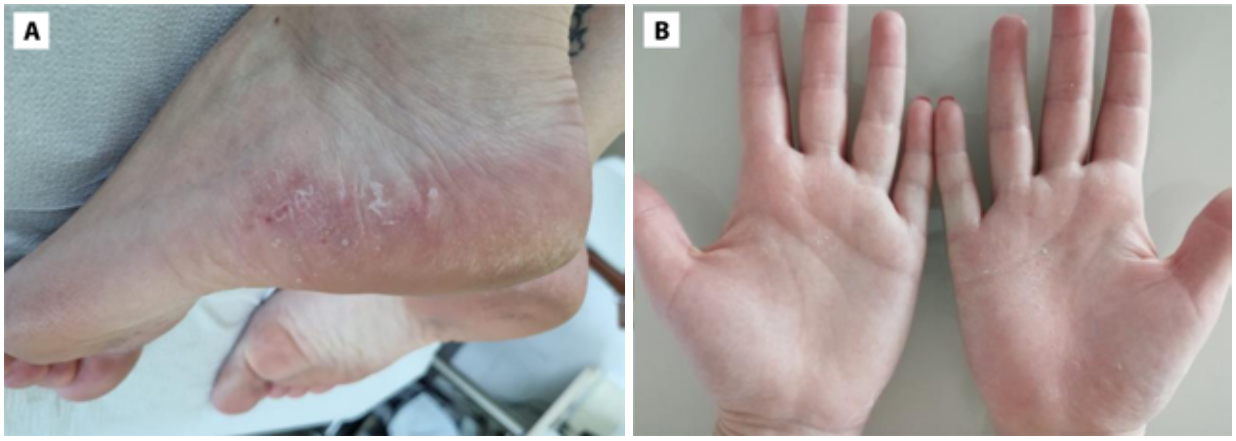

Figure 2. (A,B) Clinical appearance of the patient soles (A) and palms (B) after 28 weeks of therapy with risankizumab. Complete resolution of the pustules is observed, with the persistence of only slight erythema and scaling.

clearance, with a ppIGA of 0 (Figure 2). The patient to date has completed a year of therapy and she has maintained the remission.

The second patient is a 47-year-old woman, affected from PPPP since 2018, previously unsuccessfully treated with acitretin. She had a history of hepatitis B with positive anti-HBc and anti-HBs. On physical examination we observed erythematous, scaly patches on the palms and palmoplantar pustules (ppIGA=3, PASI=11.3). Given her comorbidities and the concomitant presence of plaque psoriasis, with the consensus of the hepatologist, we started risankizumab. At week 16 she achieved complete skin clearance and she has maintained the remission after two years (ppIGA=3). Both patients had provided written consent for retrospective study of data collected during routine clinical practice (demographics, clinical scores).

Conclusions

In scientific literature there is paucity of data regarding the efficacy of biologics in pustular psoriasis, especially for palmoplantar subtype. A few data from real-life experiences and case reports are available for guselkumab, secukinumab and apremilast, which have demonstrated a moderate efficacy [4]. We decided to prescribe risankizumab for multiple reasons: our favorable experience with this drug, including a patient with a flare of generalized pustular psoriasis [5]; the high safety profile, even in patients with serological evidence of viral hepatitis [6]; the high effectiveness on difficult-to-treat areas [5]. In the first patient, we observed a slower response compared to our experience with risankizumab in psoriasis vulgaris, however this is expectable given the resistance of these areas to treatment [5].

To our knowledge, the experience on the effectiveness of risankizumab in PPPP is limited. Further data, corroborated by longitudinal studies with higher numbers of patients, are needed to assess the role of risankizumab and other biologic drugs for the treatment of PPPP.

References

1. Navarini AA, Burden AD, Capon F, et al. European consensus statement on phenotypes of pustular psoriasis. *J Eur Acad Dermatol Venereol*. 2017;31(11):1792-1799. DOI:10.1111/jdv.14386. PMID: 28585342.

2. Uppala R, Tsoi LC, Harms PW, et al. "Autoinflammatory psoriasis"-genetics and biology of pustular psoriasis. *Cell Mol Immunol*. 2021;18(2):307-317. DOI:10.1038/s41423-020-0519-3. PMID: 32814870. PMCID: PMC8027616.
3. Wang WM, Jin HZ. Biologics in the treatment of pustular psoriasis. *Expert Opin Drug Saf*. 2020;19(8):969-980. DOI:10.1080/14740338.2020.1785427. PMID: 32615817.
4. Mrowietz U, Bachelez H, Burden AD, et al. Secukinumab for moderate-to-severe palmoplantar pustular psoriasis: Results of the 2PRECISE study. *J Am Acad Dermatol*. 2019;80(5):1344-1352. DOI:10.1016/j.jaad.2019.01.066. PMID: 30716404.
5. Borroni RG, Malagoli P, Gargiulo L, et al. Real-life Effectiveness and Safety of Risankizumab in Moderate-to-severe Plaque Psoriasis: A 40-week Multicentric Retrospective Study. *Acta Derm Venereol*. 2021;101(11):adv00605. DOI:10.2340/actadv.v101.283. PMID: 34596230. PMCID: PMC9455321.
6. Gargiulo L, Pavia G, Valenti M, et al. Safety of Biologic Therapies in Patients with Moderate-to-Severe Plaque Psoriasis and Concomitant Viral Hepatitis: A Monocentric Retrospective Study. *Dermatol Ther (Heidelb)*. 2022;12(5):1263-1270. DOI:10.1007/s13555-022-00726-w. PMID: 35460018. PMCID: PMC9110615.