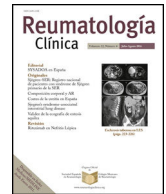




Sociedad Española
de Reumatología -
Colegio Mexicano
de Reumatología

Reumatología Clínica

www.reumatologiaclinica.org



Letter to the Editor

Paradoxical reaction after switching between adalimumab biosimilars in a patient with psoriatic arthritis



Reacción paradójica tras el cambio entre biosimilares de adalimumab en un paciente con artritis psoriásica

Dear Editor,

We present the case of a 56-year-old female patient with a history of cutaneous psoriasis. She presented with several months of progressive swelling and pain in proximal interphalangeal (PIP) joints of the right hand, accompanied by morning stiffness. Laboratory evaluations revealed: ESR 19 mm/h, CRP 0.5 mg/dL, anti-cyclic citrullinated peptide antibodies: 7 U/mL. A doppler ultrasound of the right hand showed significant increased vascularity in PIP joint. Treatment with methotrexate was initiated and titrated to 25 mg subcutaneously per week without achieving clinical improvement.

Adalimumab (Hyrimoz®) was then started, resulting in a highly favorable response. However, three months after initiating Hyrimoz®, the patient's health insurance replaced it with another adalimumab biosimilar, Amgevita®. Two months later, she developed new psoriasiform lesions on her hands and feet, along with recurrence of joint swelling and pain (Fig. 1A and B).

Given the appearance of new and severe skin lesions and worsening joint symptoms, two clinical questions emerged: Was this a paradoxical reaction to the anti-TNF agent, suggesting a need to switch therapeutic class? Or could reintroduction of the previously effective biosimilar be considered? Treatment with Hyrimoz® was resumed, leading to marked and sustained improvement after three months (Fig. 1C and D).

Psoriasis is a chronic, immune-mediated skin disorder affecting 2–3% of the global population.¹ Anti-TNF agents have revolutionized the management of inflammatory diseases. However, they are associated with paradoxical reactions.^{2–5} Paradoxical adverse events can occur with both biologics and biosimilars.⁶ These reactions involve the unexpected onset or worsening of an immune-mediated condition typically treated by the same drug. While they often improve after discontinuing or switching the biologic, some cases may reflect a class effect, requiring complete withdrawal of anti-TNF therapy.^{7,8}

In this case, the recurrence of symptoms appears to have been related specifically to the biosimilar switch rather than a class effect. Reintroduction of the original biosimilar (Hyrimoz®) led to a favorable clinical response, highlighting the importance of individualized evaluation when managing treatment with biosimilars.



Fig. 1. Skin lesions after the first switch to a biosimilar and the subsequently improvement after reintroduction of the first one. (A, B) Lesions post-Amgevita®. (C, D) Improvement of the skin lesions after Hyrimoz® reintroduction.

References

- Parisi R, Iskandar IYK, Kontopantelis E, Augustin M, Griffiths CEM, Ashcroft DM. Global psoriasis atlas. National, regional, and worldwide epidemiology of psoriasis: systematic analysis and modelling study. *BMJ*. 2020;369:m1590. <http://dx.doi.org/10.1136/bmj.m1590>.
- Wendling D, Prati C. Paradoxical effects of anti-TNF- α agents in inflammatory diseases. *Expert Rev Clin Immunol*. 2014;10:159–69. <http://dx.doi.org/10.1586/1744666X.2014.866038>.
- Puig L, Gulliver W. Adverse reactions to biologics. In: Puig L, Gulliver W, editors. *Adverse reactions to biologics. Current problems in dermatology*, vol. 53. Basel: Karger; 2018. p. 49–63.
- Gisoni P, Bellinato F, Girolomoni G. The risk of paradoxical psoriasis in patients with inflammatory bowel disease treated with anti-TNF- α agents: a systematic review and meta-analysis. *J Crohns Colitis*. 2021;15:1266–74. <http://dx.doi.org/10.1093/ecco-jcc/jjab046>.
- Armstrong AW, Soliman AM, Betts KA, Wang Y, Gao Y, Puig L, et al. Comparative efficacy and relative ranking of biologics and oral therapies for moderate-to-severe plaque psoriasis: a network meta-analysis. *Dermatol Ther (Heidelb)*. 2021;11:885–905. <http://dx.doi.org/10.1007/s13555-021-00511-1>.
- Collamer AN, Battafarano DF. Psoriatic skin lesions induced by tumor necrosis factor antagonist therapy: clinical features and possible immunopathogenesis. *Semin Arthritis Rheum*. 2010;40:233–40. <http://dx.doi.org/10.1016/j.semarthrit.2010.04.003>.

7. Munera-Campos M, Balleca F, Carrascosa JM. Paradoxical reactions to biologic therapy in psoriasis: a review of the literature. *Actas Dermosifiliogr* (Engl Ed). 2018;109:791–800, <http://dx.doi.org/10.1016/j.ad.2018.04.003>. English, Spanish.
8. Toussirot É, Aubin F. Paradoxical reactions under TNF- α blocking agents and other biological agents given for chronic immune-mediated diseases: an analytical and comprehensive overview. *RMD Open*. 2016;2:e000239, <http://dx.doi.org/10.1136/rmdopen-2015-000239>.

Mariano F. Palatnik^{a,b,1}, Emilce S. Fonseca^{a,1},
María Lorena Brance^{a,b,c,*,1}

^a *Rheumatology and Bone Diseases, Rosario, Santa Fe, Argentina*

^b *Rosario National University, Argentina*

^c *National Scientific and Technical Research Council (CONICET), Argentina*

* Corresponding author.

E-mail address: lorenabrance@gmail.com (M.L. Brance).

¹ Statement of equal contribution: Author 1, 2 and 3 contributed equally to this study.