

Infliximab exposure, clinical response, and inflammatory biomarkers in patients with rheumatoid arthritis: a descriptive study

Miriam Casellas-Gibert¹, Helena Colom², Francisco Javier Juanola-Roura¹, Ariadna Padullés Zamora¹, Javier Narvaez¹, Jordi Bas Minguet¹, Francisco Morandeira Rego¹, and Núria Padullés Zamora¹

¹Hospital Universitari de Bellvitge

²University of Barcelona

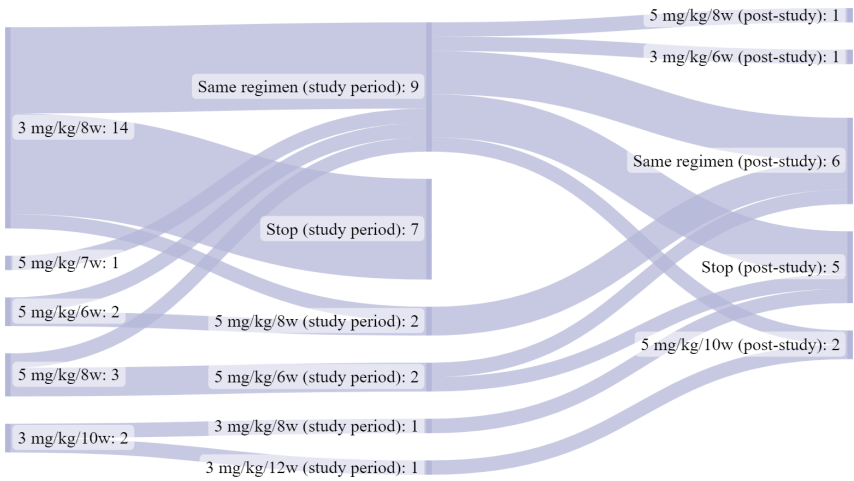
April 25, 2024

Abstract

Aim: The anti-TNF antibody Infliximab (IFX) has therapeutic efficacy in rheumatoid arthritis (RA). However, some patients do not respond. We aimed to identify factors associated with IFX exposure, of clinical response, and of the response at immunologic level. **Methods:** We performed a prospective observational study of repeated measures in patients with RA treated with IFX from July 2014 to August 2020 at Bellvitge University Hospital. For IFX exposure, we measured IFX trough concentrations (Cmin), and antibodies towards IFX (ATI). For the clinical response we evaluated the Disease Activity Score-28 for Rheumatoid Arthritis using erythrocyte sedimentation rate (ESR) (DAS28-ESR) and C-reactive protein (CRP) (DAS28-CRP). For the immunologic response, we determined total serum concentration of TNF, and IL-6. Finally, we performed a mixed-effects analysis to determine factors associated with IFX Cmin, clinical response and IL-6 and TNF concentrations. **Results:** We collected a total of 120 samples corresponding to 22 patients. IFX Cmin were associated with ATI presence and serum IL-6. DAS28-ESR was associated with sex, ESR, CRP, and serum IL-6 influenced DAS28-ESR. Finally, IL-6 concentration was associated with ESR and CRP, and TNF concentration with CRP, IFX Cmin, and IL-6 concentration. **Conclusions:** IFX Cmin was highly associated with the presence of ATI. IFX Cmin significantly contributed to TNF serum concentrations in patients with undetectable ATI and IL-6 concentration, which in turn was associated with serum TNF and DAS28-ESR score. Additional population pharmacokinetic analysis with rich sampling are warranted to confirm our results.

Hosted file

BJCP_IFXREU_article.docx available at <https://authorea.com/users/774347/articles/869280-infliximab-exposure-clinical-response-and-inflammatory-biomarkers-in-patients-with-rheumatoid-arthritis-a-descriptive-study>



Made with SankeyMATIC

