

REAL-LIFE ANALYSIS OF THE DEVELOPMENT OF ANTI-DRUG ANTIBODIES IN ADULT PATIENTS WITH INFLAMMATORY BOWEL DISEASE AND THERAPEUTIC APPROACH

S. GARCIA GARCIA¹, M. LARROSA GARCIA¹, X. SERRA RUIZ², E. CESPEDES MARTINEZ², V. ROBLES ALONSO², S. CLEMENTE BAUTISTA¹, C.M. HERRERA DE GUISE², M.T. SANZ MARTINEZ³, J.B. MONTORO RONSANO¹, N. BORRUEL SAINZ², M.Q. GORGAS TORNER².

¹PHARMACY DEPARTMENT, ²CROHN'S AND COLITIS ATTENTION UNIT- DIGESTIVE SYSTEM SERVICE, ³IMMUNOLOGY, VALL D'HEBRON BARCELONA HOSPITAL CAMPUS, BARCELONA, SPAIN.

Background and importance

Loss of response to infliximab and adalimumab therapy may occur due to development of **anti-drug antibodies (ADA)**, leading to treatment failure in inflammatory bowel disease (IBD).

Aim and Objectives

To **assess the immunogenicity of infliximab and adalimumab in adult IBD patients** undergoing therapeutic drug monitoring (TDM), **along with therapeutic approach** and potential **factors contributing ADA development.**

Material and methods

Retrospective observational study

January/2019 - September/2024



Adult IBD patients treated with infliximab and adalimumab undergoing TDM

Standard dosage regimen:

- Adalimumab 40 mg/14 days.*
- Infliximab 5mg/kg/8weeks.*

*Intensified dosage involved either shortening interval or increasing dose, following the Vall d'Hebron Hospital protocol.

Adalimumab, infliximab and ADA concentrations were measured by chemiluminescence. Concretely, ADA if patients had infliximab ≤ 3 $\mu\text{g/ml}$ and adalimumab ≤ 5 $\mu\text{g/ml}$ concentrations (drug-sensitive assay).

Results



729 patients

Adalimumab – 462 (63.4%)

Infliximab – 267 (36.6%)

Antibodies analysis

Adalimumab antibodies (AAA)

– 434 samples from 200 (43.3%) patients

infliximab antibodies (ATI)

– 391 samples from 160 (59.9%) patients

Adalimumab and infliximab concentrations were < 1 mg/ml in all patients with ADA.

Adalimumab treatment group

All patients with **Crohn disease**

Adalimumab antibodies developed by
– 17 (3.7%) patients

- 9 (52.9%) females
- Mean age: 40.9 (11.4) years
- BMI: 26.4 (7.4) kg/m².

Seven (41.2%) patients had been on adalimumab for < 1 year.

Adalimumab antibodies detection

6 (35.3%) patients
- adalimumab SD -

6 (35.3%) patients

- receiving immunosuppressants -

Discontinuation of adalimumab

Fourteen (82.4%) patients

Adalimumab intensification and AAA negativization.

AAA= 22 ng/ml

AAA= 133 ng/ml

AAA= 107,9 ng/ml

Poor adherence was suspected in 7 (41.2%) patients

Infliximab treatment group

IBD diagnosed: **Crohn disease** in 13 (59.1%) and **ulcerative colitis** in 9 (40.9%)

Infliximab antibodies developed by
– 22 (8.2%) patients

- 9 (37.5%) females
- mean age: 46.9 (14.6) years
- BMI: 25.2 (5.6) kg/m².

Thirteen (59.1%) patients had been on adalimumab for < 1 year.

Infliximab antibodies detection

13 (59.1%) patients
- infliximab SD -

12 (54.5%) patients

- receiving immunosuppressants -

Discontinuation of infliximab

Fifteen (68.2%) patients

Infliximab intensification and ATI negativization.

ATI= < 30 ng/ml

ATI= 100.6 ng/ml

ATI= 171.7 ng/ml

Poor adherence was confirmed in 6 (27.3%) patients

Conclusion and Relevance

A proportion of IBD patients developed ADA, with a **higher incidence observed in those receiving infliximab.**

- **Enhancing adherence** could reduce the risk of ADA development.
- **Intensifying treatment** may be effective in achieving ADA negativization.

