STUDY OF THE PREVALENCE OF IMMUNOGENICITY IN PATIENTS TREATED WITH ANTI-TUMOUR NECROSIS FACTOR MONOCLONAL ANTIBODIES

Hospital Universitario Reina Sofía, Hospital Pharmacy, Murcia, Spain.
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Introduction

The loss of response in patients treated with anti-TNFα monoclonal antibodies is relatively frequent. One of the reason is the development of immunogenicity, causing treatment failure.

Objective

To determine the prevalence of immunogenicity in patients with anti-TNF monoclonal antibodies.

Materials and methods

• Retrospective observational study.
• We included all patients with serum levels of adalimumab, infliximab or etanercept (May 2015-September 2017).
• Serum samples are routinely collected every six months before the next drug injection.
• Samples were analyzed by enzyme-linked immunosorbent assays (ELISA).

Results

- 310 patients → 50.3% women, mean age: 46.2 (SD: 15.1) years.
- Frequent diagnoses
  - Crohn’s disease (26.5%)
  - Rheumatoid arthritis (19.4%)
  - Ankylosing spondylitis (16.8%)
- The 53.4% had not received prior treatment with biological drugs, 29.1% were treated with one biological and the 17.5% received two or more.

<table>
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<tr>
<th>Mean serum trough concentrations (mcg/mL)</th>
<th>Infliximab 6.0(SD: 4.8)</th>
<th>Adalimumab 6.4(SD: 4.3)</th>
<th>Etanercept 2.2(SD: 2.1)</th>
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<tbody>
<tr>
<td>36.1% were below the therapeutic range</td>
<td>19.4% were higher the therapeutic range</td>
<td>44.5% were in range therapeutic</td>
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Antibodies were analyzed in 60 patients → 27 patients presented antibodies

- 44.4% against infliximab
- 55.6% to adalimumab
- No patient with etanercept

(p = 0.229)

- 85.2% of patients with antibodies had received a previous biologic therapy, compared to 14.8% who had not received previous treatment(p<0.001).
- The 8.7% presented antibodies, in all cases it was changed to another biological drug.

Conclusion

- The 8.7% of our population has presented antibodies against these drugs, which prevents to get the therapeutic objective in these patients, this percentage is lower than the published studies show.
- The monitoring of biological drug levels and the analysis of antibodies provide an improvement in the management of the patient.