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Predictive role of rheumatoid factor and anti-cyclic citrullinated peptide regarding the response to anti-tumor necrosis factor therapy in rheumatoid arthritis

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Background: The introduction of biologic therapy has revolutionized the treatment of rheumatoid arthritis (RA). Despite these advances, 20-40% of the patients are declared non-responders to at least one of the therapies.

Objectives: Evaluating the predictive role for the response to anti-tumor necrosis factor therapy of rheumatoid factor (RF) isotypes IgM, IgA, anti-cyclic citrullinated peptide (anti-CCP) and the evolution of serum levels of these biomarkers under biologic treatment. We have also assessed the status of this biomarkers and the response to treatment.

Methods: Prospective and observational study including 64 patients was followed for 12 months with active RA, uncontrolled by conventional synthetic DMARDs or declared non-responders to one of the biologic DMARDs.

Results: Lower baseline titres of RF type IgM (51.36 ± 95.359 U/ml, $p=0.01629$), IgA (22.45 ± 61.256 U/ml, $p=0.03336$) and anti-CCP (60.82 ± 26.331 ng/ml, $p=0.00011$) had predictive value for achieving a good EULAR response at 6 months. Grouping patients in 2 categories (responders/non-responders), we identified significant differences between groups only for anti-CCP and response at 6 months (responders 96.04 ± 50.355 ng/ml, non-responders 146.16 ± 41.68 ng/ml, $p=0.02834$). For the EULAR response at 12 months, lower baseline titres for RF type IgM (92.93 ± 120.22 U/ml, $p=0.01032$) and IgA (49.96 ± 98.08 U/ml, $p=0.00247$) had predictive value for achieving a good response at 12 months. We didn't obtain other information grouping patients in 2 categories. Monitoring the evolution of serum levels, we noticed reduction in all three biomarkers tested, statistically significant at 6 and/or 12 months from baseline. Regarding the status (positive/negative) pretreatment and the response to anti-TNF agents, we noticed significant differences regarding status for RF IgA isotype and response to treatment at 12 months ($p=0.004$).

Conclusion: It can be concluded that, beside their diagnostic role, these biomarkers can be used for other purposes in RA.

Biography

Gavrilă B I did his PhD in Internal Medicine, and now he is an Assistant Professor at Dr. I Cantacuzino Clinical Hospital, Department of Internal Medicine and Rheumatology in Bucharest.

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