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The Impact of Biological Therapy on Cardiovascular Risk Factors in Patients with Rheumatic Disease – A New Therapeutic Target?

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Cardiovascular disease (CVD) remains the leading cause of death worldwide, accounting for about 32% of all deaths. One positive thing that stands out is that 80% of CVD is preventable, and this is mainly due to modifiable cardiovascular risk factors. Rheumatic diseases have been shown to be independent cardiovascular risk factors and may increase the risk of atherosclerotic disease by 50%, even in the subclinical or early stages of the disease; this is due to the fact that the two pathologies have the same pathophysiological substrate, which is inflammation, and share the same cardiovascular risk factors. In order to reduce cardiovascular risk, optimal management of these patients requires control of both risk factors and inflammation. Biological disease-modifying antirheumatic drugs (bDMARDs) has demonstrated its positive effects by improving clinical status, quality of life and inflammatory syndrome, slowing or stopping the progression of the disease. Due to their greater efficacy and safety profile, the use of bDMARDs has increased significantly over the last decade. Several studies have been conducted lately in order to establish the impact of bDMARDs on cardiovascular risk. Given that atherosclerosis is recognized as an inflammatory disease and that patients with rheumatic pathology have an increased inflammatory status, it has been hypothesized that bDMARDs may reduce cardiovascular risk by improving inflammation and, thus, slowing the progression of atherosclerosis. Therefore, for example, two molecules targeting inflammatory cytokines, Canakinumab (targeting interleukin (IL) 1 β) and Tocilizumab (targeting IL-6), have been studied in CANTOS (Canakinumab Anti-Inflammatory Thrombosis Outcome Study) and ASSAIL-IM (Assesing the effect of anti-IL-6 treatment in Myocardial Infarction (MI)) trials, with results demonstrating reduction in acute cardiovascular events. In addition to the effect of bDMARDs on the atherosclerosis process, studies have shown that they can also influence the profile of cardiovascular risk factors (lipid profile, blood pressure (BP), or metabolic syndrome). In conclusion, since patients with rheumatic diseases have an increased cardiovascular risk which cannot be explained by the inflammatory status alone, careful management of cardiovascular risk factors must be done. Given that biological therapy may exert anti-atherosclerotic and cardioprotective effects, early initiation of targeted bDMARDs in selected patients needs to be taken into consideration.

Biography

Diana Popescu completed my medical studies at the University of Medicine and Pharmacy "Grigore T. Popa" Iasi, Romania - Faculty of Medicine in 2016. In the following five years I completed the residency program in Medicine, specialty Internal Medicine. In 2019, I started my Ph.D. studies in Internal Medicine. The following year she became an assistant professor at the Department of Internal Medicine of the University of Medicine and Pharmacy "Grigore T. Popa".

In all these years of practice, she have actively participated in numerous national and international medical conferences, she have published more than ten articles in ISI-indexed journals. she was an assistant researcher in a demonstrative experimental project called "Public health risk mitigation of biochemical contaminants of recycled pharmaceutical and food packaging by spectral analysis based method in the TzH domain". she have also participated in a number of volunteer activities, training students and helping patients experiencing socio-economic deprivation.