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Evaluations on the Article 'Effect of Statin on Anticardiolipin Antibody Levels in Coronary Artery Bypass Surgery

'Koroner Arter Bypass Cerrahisinde Statinin Antikardiyolipin Antikor Düzeyleri Üzerine Etkisi' Makalesi Üzerine Değerlendirmeler

Sertaç Ketenci [1]

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I read with interest the article by Levent Enver et al. titled "Effect of Statin on Anticardiolipin Antibody Levels in Coronary Artery Bypass Surgery" published in your journal (1).

In their study, the authors have presented data on anticardiolipin antibody levels in patients using and not using statins. However, there are several critical points regarding this publication that warrant attention.

Antiphospholipid syndrome is a rheumatological condition associated with arterial and venous thromboses or recurrent pregnancy morbidities in the absence of provocation. Diagnosis of this syndrome requires a significantly high positive result for at least one of the following: lupus anticoagulant, anti-beta-2-glycoprotein I IgG/IgM, or anticardiolipin IgG/IgM antibodies (2). Therefore, in the presence of anticardiolipin antibodies, antiphospholipid syndrome must be ruled out initially. Additionally, in rheumatology, positive anticardiolipin antibody levels may be observed in conditions such as systemic lupus erythematosus (SLE), rheumatoid arthritis, certain vasculitides, and even inflammatory bowel diseases. In fact, some individuals in the healthy population may carry antiphospholipid antibodies without clinical significance (2).

The authors suggest that statin use may have beneficial effects in the early phase. However, the presence of anticardiolipin antibodies alone does not have clinical relevance. The prevalence of these antibodies increases with age, and this is particularly notable in the elderly population with coronary artery disease. In healthy individuals, anticardiolipin positivity has been observed to reach 21% and anti-beta-2-glycoprotein positivity up to 50% in a study involving centenarians (3). Consequently, anticardiolipin antibody levels associated with antiphospholipid syndrome are defined as 40 GPL U/ml for IgG and 40 MPL U/ml for IgM. Moreover, various medications and past viral or bacterial infections can also contribute to the positivity of these antibodies. Hepatitis B, HCV, HIV infections, and pneumonias are among the conditions that may increase antiphospholipid antibody levels. Notably, studies conducted after SARS-CoV-2 infection have found that up to 50% of patients exhibited positive results for these antibodies (4).

Anticardiolipin antibody positivity has also been observed in hematological malignancies and solid tumors. For instance, individuals with gastrointestinal cancers have been found to have a five-fold higher level of anticardiolipin antibodies (5).

It is worth noting that these biomarkers, being antibodies, can result in long-lasting positivity. The average half-life of IgG antibodies is approximately three weeks. Monoclonal antibodies, currently used in treatments, benefit from this long half-life of IgG, which aids in their therapeutic application (6). Therefore, it is less likely that an antibody-based marker will yield meaningful results if monitored as frequently as acute-phase reactants. Given the potential for positivity due to infections or other factors, it is advisable to assess control values 12 weeks after the initial detection to better understand the clinical impact.

Considering these possibilities, establishing a relationship between statin use and anticardiolipin levels in the study subjects is quite challenging. It would be important to measure and compare antibody levels in healthy individuals with similar clinical conditions. Although the values reported by the ELISA kit may show differences, these lower values of anticardiolipin antibodies might not be clinically significant. Patients should be carefully screened for all potential rheumatological conditions, viral, bacterial, and atypical infections, and inflammatory bowel diseases before being included in the study. Particularly in a post-pandemic

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context, it is crucial to mention the SARS-CoV-2 status of the patients. Additionally, medications such as monoclonal antibodies and interferons, which can induce anticardiolipin positivity, should be reviewed. The likelihood that the observed changes in the patient group are attributable to statin use alone seems low. The study could be more valuable with a larger sample size and longer follow-up duration. Therefore, I believe that the results of the study should be carefully evaluated.

KAYNAKLAR

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