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Influenza vaccination of patients with autoimmune rheumatic disease

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Objectives: Compared to the healthy population, patients suffering from autoimmune rheumatic diseases have a significantly increased risk of various infections.

Methods: Our study includes three groups of patients (99 in total) with stable diseases status, suffering from: 30 patients with systemic lupus erythematosus (SLE), 37 with rheumatoid arthritis (RA) and 32 with Sjögren's Syndrome (SjS). 46 patients were immunized with an inactivated trivalent split vaccine (15 µg HA A/California/7/2009 (H1N1), 15 µg HA A/Pert/16/2009 (H3N2) and 15 µg / HA B Brisbane / 60/2008) whereas 52 patients did not accept the proposed vaccination. These three groups of patients were divided into two subgroups depending on vaccination: Vaccinated - SLE1 (19), RA1 (15) and SjS1 (14), and unvaccinated - SLE2 (11), RA2 (22), SjS2 (18). In the following six months parameters of disease activity and the titer of antibodies against influenza A H1N1 were monitored. We used hemagglutination inhibition test (according to the method of the Center for Disease Control and Prevention (CDC) with antigen A/California/7/2009

influenza virus (H1N1), and turkey erythrocytes for the detection of antibodies against the A H1N1.

Results: The incidence of viral and bacterial infections among vaccinated patients was significantly lower, compared to the non-vaccinated group. Influenza occurrence was significantly associated with previous respiratory infections ($p=0.001$). ST levels for all vaccinated patients (84.17) were significantly higher than in non-vaccinated patients (8.80) ($p=0.008$) and were associated with last vaccination in all patients and in SLE group ($p=0.012$, $p=0.039$ respectively). Seroprotective rate for all vaccinated patients was 48% compared to 15% in unvaccinated ($p=0.014$) and it was highest among SLE patients (53%) ($p=0.049$).

Conclusions: Based on several years of monitoring respiratory infections in our patients, it is clearly visible that a high risk for exacerbation of the underlying disease was linked to viral or bacterial infection and practically never to the vaccination itself.

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