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Influenza vaccination of patients with autoimmune rheumatic disease

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Compared to the healthy population, patients suffering from autoimmune rheumatic diseases have a significantly increased risk of various infections. The issue of vaccinating against the seasonal flu in these patients is still surrounded by numerous dilemmas about its efficiency and the possible harmful effects of exacerbation of the underlying disease.

Our study includes three groups of patients (99 in total) with stable underlying diseases status, suffering from systemic lupus erythematosus (SLE) 30, rheumatoid arthritis (RA) 37 and Sjogren's Syndrome (SjS) 32. In November 2016, 48 patients were vaccinated against influenza using trivalent inactivated split vaccine (Vaxigrip-Aventis Pasteur). 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). During the following year disease activity parameters (SLEDAI for SLE), presence of viral and bacterial infections and concentration of A H1N1 antibodies were monitored in vaccinated and unvaccinated patients. Previous respiratory infections from 2013-2015 were regarded as a potentially significant predictor of a more frequent future onset of influenza and secondary bacterial complications.

In this paper, we have in general confirmed the efficiency and safety of applying a modern influenza vaccine during the stable status of the underlying disease in patients suffering from SLE, RA and SjS, with no significant differences between different diseases. Among vaccinated patients, there were significantly fewer who contracted influenza and had other (secondary) bacterial complications, and there were no cases of exacerbation of the underlying disease.

Based on several years of monitoring respiratory infections in our patients, we have concluded that a significantly higher risk of exacerbation of the underlying disease was linked to infections than to vaccination.

Disease n (%)	*SLE 1 N19*	*SLE 2 N11*	*p*	*RA 1 N15*	*RA 2 N22*	*p*	*SjS 1 N14*	*SjS 2 N18*	p
INFLUENZA	1 (5%)	4 (36%)	*	1 (7%)	7 (32%)	*	1 (7%)	7 (39%)	*
VIRAL INFECTIONS TOTAL	4 (21%)	9 (82%)	**	3 (21%)	17 (77%)	**	3 (22%)	14 (78%)	**
BRONCHITIS	1 (5%)	3 (27%)	*	1 (7%)	3 (14%)		0 (0%)	6 (33%)	**
PNEUMONIA	1 (5%)	2 (18%)		0 (0%)	1 (5%)		1 (7%)	2 (11%)	

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).