



Arthritis News

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PNEUMOCOCCAL VACCINATIONS PROVE ACCEPTABLE FOR PATIENTS WITH RHEUMATOID ARTHRITIS

SAN ANTONIO, TEXAS—Pneumococcal vaccinations help to protect patients with rheumatoid arthritis against serious pneumococcal infections of the lungs, brain, blood and ears according to research presented this week at the American College of Rheumatology Annual Scientific Meeting in San Antonio, Texas.

Rheumatoid arthritis patients have an approximately two-fold increased morbidity and mortality in infections compared to people without the disease. Consequently, potential infections resulting from pneumococcal disease can loom as life threatening. Previous studies of the influenza vaccination program in the U.S. and vaccination against pneumococcus have indicated immunization does not worsen the disease in patients with rheumatoid arthritis, but the safety of the immunization had not been tested in these patients. Additionally, there was concern that patients with rheumatoid arthritis would not respond to pneumococcal vaccinations because of the effects of the disease or the treatment used for the disease on the ability of the body's immune system to respond to the vaccination.

Researchers monitored 149 patients with established rheumatoid arthritis and 47 patients without arthritis for effects generated by pneumococcal vaccinations, inoculating each patient with a standard dosage of commercially available vaccine. Of the 149 rheumatoid arthritis patients, 50 were taking methotrexate and either etanercept (Enbrel®) or infliximab (Remicade®) TNF-blockers. TNF-blockers reduce the action of proteins in the body that can contribute to inflammation and joint damage. Of the remaining rheumatoid arthritis patients, 62 were on TNF-blocker therapy alone or with some other disease-modifying anti-rheumatic drugs (DMARDs), and 37 were taking methotrexate only. The four groups were measured for antibodies associated with invasive infections prior to and four to six weeks after vaccination.

Study results showed that immune response to the vaccine was highest in patients on TNF-blockers without methotrexate, intermediate in patients on TNF-blockers combined with methotrexate and lowest in patients on methotrexate alone.

“The essence of the current study is that rheumatoid arthritis patients treated with TNF-blocker can be safely vaccinated against pneumococcal infections under the same premises as patients with other diseases, while methotrexate-treated rheumatoid arthritis patients should be vaccinated preferably before initiation of this treatment,” said Pierre Geborek, MD, PhD, Department of Rheumatology, Lund University Hospital, Lund, Sweden, and an investigator in the study.

The American College of Rheumatology is the professional organization for rheumatologists and health professionals who share a dedication to healing, preventing disability and curing arthritis and related rheumatic and musculoskeletal diseases. For more information on the ACR's annual meeting, see www.rheumatology.org/annual.

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Editor's Notes: Dr. Geborek will present this research during a scientific session at the ACR Annual Scientific Meeting from 2:15–2:30 PM CT (3:15–3:30 PM ET) on Wednesday, October 20, in Ballroom A of the Henry B. González Convention Center.

Response to Pneumococcal Vaccination in Patients with Rheumatoid Arthritis Treated with TNF-Blockers and/or Methotrexate

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Aim: To compare serological response to 23-valent pneumococcal vaccine in normal controls and patients with long-standing RA treated with TNF-blocker and/or methotrexate (MTX).

Patients and methods: Altogether 149 patients with established RA and 47 healthy volunteers were vaccinated. 50 patients were treated with TNF-blockers (etanercept or infliximab) and MTX, while 62 patients were treated with TNF-blockers alone or with other DMARDs. 37 patients were treated with MTX without TNF-blockers. The vaccination was performed with commercially available vaccine (Pneumovax, Merck) in standard dosage. There were no demographic differences between the groups except that the controls were significantly younger. ELISA was used to measure level of antigen-specific IgG antibodies directed against pneumococcal capsular polysaccharides 23F and 6B, both known to be associated with invasive infections. Antibody levels were measured prior to and 4–6 weeks after vaccination. The results are presented as immunization response i.e. the ratio between post- and prevaccination concentrations. Statistical analyses were performed using Mann-Whitney U-test. Also a positive immunization response was defined as a twofold or higher increase of prevaccination antibody concentration.

Results: The prevaccination antibody levels for both 23F and 6B were similar in all 4 groups. Postvaccination antibody concentrations increased significantly in groups regardless of treatments modality. Patients treated with TNF-blockers without methotrexate showed better response to vaccine compared to those treated with TNF-blockers in combination with MTX or MTX alone. RA patients taking MTX alone had the lowest positive immunization responses (table).

Immune response to pneumococcal vaccination

		23F		6B	
		immunization response	≥2-fold increase in antibody level	immunization response	≥2-fold increase in antibody level
Treatment	Number	Median	Percent	Median	Percent
TNF-blocker without MTX	62	2.8*	68	3.4**	68
TNF-blocker + MTX	50	2.0	54	1.8	46
MTX	37	1.4	24	1.6	35
Healthy controls	47	2.3	55	2.2	51

* p= 0,0002 vs MTX; p=0,04 vs TNF blockers+MTX; p=0,12 vs healthy controls

** p=0,0002 vs MTX; p=0,004 vs TNF blockers+MTX; p=0,04 vs healthy controls

Conclusions: Patients treated with TNF-blockers showed similar response to vaccination as the healthy controls. In contrast, patients treated with MTX had reduced response regardless of anti-TNF treatments. The findings do not oppose the use of pneumococcal vaccination in RA patients undergoing treatment with TNF-blockers.

Disclosure: M. Crnkic, None; T. Saxne, None; A. Sjöholm, None; L. Truedsson, None; G. Jönsson, None; P. Geborek, None.