

# Assessment of the vaccination status in rheumatic disease patients treated with disease-modifying antirheumatic drugs

Brites L<sup>1</sup>, Costa F<sup>1</sup>, Freitas JP<sup>1</sup>, Silva S<sup>1</sup>, Duarte C<sup>1</sup>, Santiago M<sup>1</sup>

ACTA REUMATOL PORT. 2019;44:233-234

Dear Editor,

Patients with rheumatic diseases are at a higher risk for infections associated to the underlying pathology and immunosuppressive therapy, leading to an increased morbidity and/or mortality<sup>1-3</sup>. Effective vaccination is crucial for the prevention of a significant number of these infections, namely influenza and pneumococcal vaccination. Vaccination rates in this subgroup of patients are relatively low, with a little higher value in the elderly<sup>1-3</sup>. European League Against Rheumatism and Portuguese Society of Rheumatology recommend yearly anti-influenza vaccination for all patients with systemic inflammatory rheumatic disease (SIRD) regardless of current therapy and pneumococcal vaccination for patients with iatrogenic immunosuppression<sup>4-5</sup>.

During 2018 we applied a questionnaire (at the rheumatology appointment or by phone interview) to patients followed in our rheumatology department who had at least one appointment in 2017, using convenience sampling as the method for data collection. The

questionnaire covered topics such as influenza and pneumococcal vaccination status, reasons for unvaccinated status, who advised for vaccination and associated complications to the procedure. Influenza vaccination was considered completed if the patient was vaccinated in the last year and pneumococcal vaccination was considered completed according to the national recommendations<sup>6</sup>.

Four hundred and thirty two patients, 75.2% female, answered the questionnaire. The majority had rheumatoid arthritis (60.2%, n=260), followed by spondyloarthritis (15.3%, n=66), systemic lupus erythematosus (13%, n=56), psoriatic arthritis (7.6%, n=33), vasculitis (2.5%, n=11) and juvenile idiopathic arthritis (1.4%, n=6). About 84% of patients (n=362) were treated with at least one conventional disease-modifying antirheumatic drug (cDMARD) at any point of the disease and 46.8% (n=202) with biologic DMARD (bDMARD). Influenza vaccination rate was 58.8%. However, pneumococcal vaccination rate was below 30% mainly due to the patient's own initiative (Table I). Also, a significant association was found between bDMARD treatment and influenza and pneumococcal vaccination rate ( $p \leq 0.002$ ) but not with cDMARDs.

<sup>1</sup> Serviço de Reumatologia, Centro Hospitalar e Universitário de Coimbra

**TABLE I. VACCINATION RATE AND THE REASONS FOR NON-VACCINATION STATUS**

	Influenza vaccine	Pneumococcal vaccine (Prevenar®)	Pneumococcal vaccine (Pneumo-23®)
Vaccination rate	58,8% (n=254)	17,8% (n=77)	28% (n=121)
Reasons for non-vaccination	Influenza vaccine (n=170/178)*	Pneumococcal vaccine (Prevenar®) (n=290/355)*	Pneumococcal vaccine (Pneumo-23®) (n=247/311)*
Own initiative	73.6%	36.9%	41.2%
No knowledge	11.2%	13.2%	12.9%
Fear	4.5%	2%	2.3%

\*Unvaccinated patients

Only two patients reported flu-like episodes after influenza vaccination. The majority of the vaccine prescriptions was done by rheumatologists (41.9%) and general practitioner (18.8%).

Despite current recommendations, influenza and pneumococcal vaccination rates still remain very low among patients with systemic inflammatory rheumatic diseases and physicians should be aware of this treatment gap in health care. Our data reinforce the need to build a doctor-patient relationship based on trust and communication. The patient should be informed about his or her clinical condition. The risks of infection due to immunosuppression should be clarified and the importance of vaccination in this subset of patients should be explained. A greater effort from all physicians is required to improve these results and to make the difference.

#### CORRESPONDENCE TO

Luisa Brites  
 Serviço de Reumatologia  
 Centro Hospitalar e Universitário de Coimbra  
 Praceta Prof. Mota Pinto  
 3075 Coimbra  
 E-mail: luisapbrites@gmail.com

#### REFERENCES

1. Krasselt M, Ivanov JP, Baerwald C, Seifert O. Low vaccination rates among patients with rheumatoid arthritis in a German outpatient clinic. *Rheumatol Int.* 2017 Feb;37(2):229-237. doi: 10.1007/s00296-016-3608-y. Epub 2016 Nov 22.
2. Feuchtenberger M, Kleinert S, Schwab S, Roll P, Scharbatke EC, Ostermeier E, et al. Vaccination survey in patients with rheumatoid arthritis: a cross-sectional study. *Rheumatol Int* (2012) 32:1533–1539. Doi: 10.1007/s00296-011-1808-z
3. Luque Ramos A, Hoffmann F, Callhoff J, Zink A, Albrecht K. Influenza and pneumococcal vaccination in patients with rheumatoid arthritis in comparison with age and sex matched controls: results of a claims data analysis. *Rheumatol Int.* Doi: 10.1007/s00296-016-3516-1
4. Cordeiro I, Duarte AC, Ferreira JF, Gonçalves MJ, Meirinhos T, Rocha TM, et al. Recommendations for Vaccination in Adult Patients with Systemic Inflammatory Rheumatic Diseases from the Portuguese Society of Rheumatology. *Acta Reumatol Port.* 2016;41:112-130
5. van Assen S, Agmon-Levin N, Elkayam O, Cervera R, Doran MF, Dougados M, et al. EULAR recommendations for vaccination in adult patients with autoimmune inflammatory rheumatic diseases. *Ann Rheum Dis.* 2011 Mar;70(3):414-422
6. Norma 011/2015 da Direção Geral de Saúde. Vacinação contra infeções por *Streptococcus pneumoniae* de grupos com risco acrescido para doença invasiva pneumocócica (DIP). 23/06/2015 atualizada a 06/11/2015