RE 21P

The effect on smoking cessation on disease activity in rheumatoid arthritis (RA)

Data from BARFOT, a multicenter study of early RA

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Conclusion

A total of 17% of the RA patients smoked in 2010 in this large Swedish RA cohort. Smoking cessation after RA onset did not change the poor prognosis of smokers in RA. This could be due to a preprogramming effect of smoking on the disease. There could also be a selection of subjects and the finding needs to be confirmed in other studies.

Background

An earlier study from the US showed that smoking cessation did not have effect on disease activity in rheumatoid arthritis (RA) (1).

Aim

To assess the effect of smoking cessation on disease activity in patients with RA in a 15-year follow up.

Methods

Between 1992 and 2005, there were 2800 adult patients included in the BARFOT early RA study in Sweden. Disease Activity Score 28 joints (DAS28), C-reactive protein (CRP), Health Assessment Questionnaire (HAQ), rheumatoid factor (RF), anti-CCP, general health and pain visual analog scales (VAS), EULAR response and remission criteria and treatment were registered at inclusion and at follow-up, 3 and 6 months, 1 year, 2, 5, 8 and 15 years. In 2010, a self-completion postal questionnaire was sent to 2102 patients enquiring about life style factors, inclusive demographics, such as socioeconomic class (SEI), and smoking habits including smoking cessation.

Results

A total of 1460 adult RA patients with disease duration ≤ 24 months were included in this study. A total of 17% smoked in 2010. A total of 127 patients stopped smoking. Smoking cessation after inclusion in the study was negatively associated to EULAR outcome at 8 years (N=560, OR 0.44, 95% CI 0.22-0.86, p=0.02), adjusted for age, disease duration, sex, socioeconomic class, smoking status, RF and DAS28. Higher DAS28 and male sex predicted better EULAR response at 8 years and SEI class “Other” and RF predicted poor EULAR response.

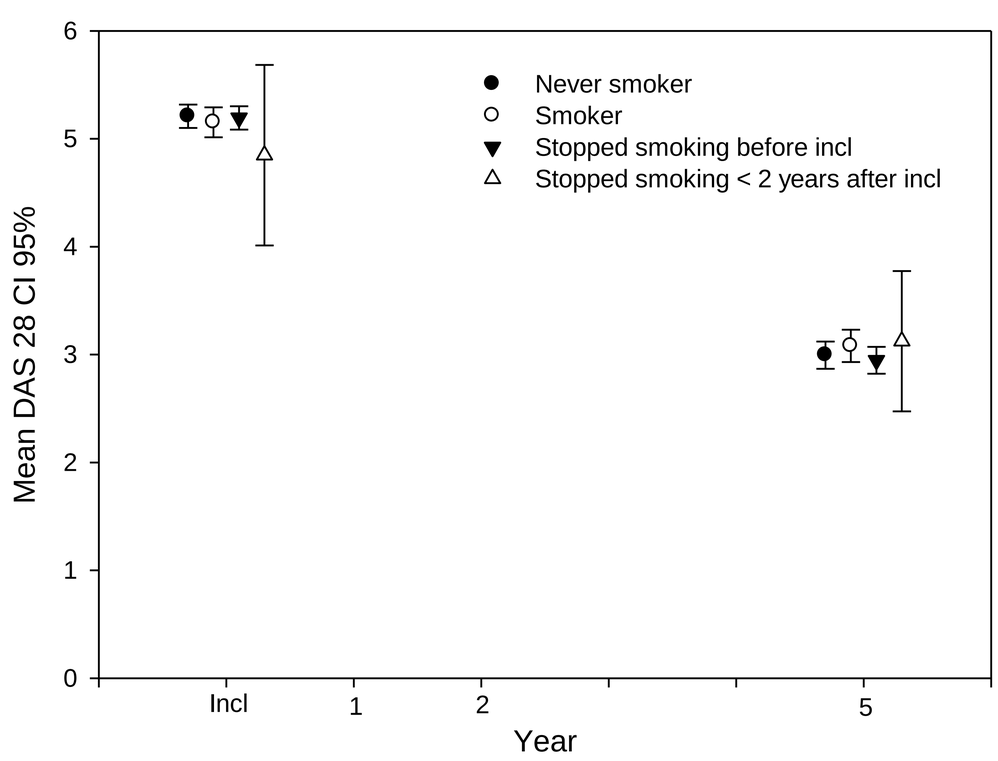

Figure 1. Mean DAS28 values (with 95% CI) up to 5 years of follow-up, stratified according to smoking status.

Table 1

Multiple logistic regression analysis with outcome EULAR good vs. no or moderate at 8 years. A total of 560 patients were included in the regression model. The variables were baseline data for RF, age, sex, DAS28 and disease duration. Smoking and socioeconomic class was assessed by the 2010 questionnaire. The references for smoking class were never smokers and for SEI class blue-collar worker.

Variable	OR	95% CI	P
Current smokers	0.62	0.37-1.04	0.07
Smoking cessation before inclusion	0.73	0.48-1.10	0.13
Smoking cessation after inclusion	0.44	0.22-0.86	0.02
Age at inclusion	0.99	0.97-1.00	0.07
Disease duration (months)	0.99	0.94-1.03	0.53
DAS28	1.19	1.03-1.37	0.02
Male sex	2.20	1.44-3.36	0.0001
SEI lower white collar	0.97	0.67-1.41	0.87
SEI upper white collar	0.83	0.40-1.71	0.61
SEI self-employed	0.52	1.12-2.20	0.37
SEI Others	0.25	0.06-0.98	0.047
RF	0.60	0.41-0.87	0.007

DAS28 = Disease Activity Score (28 joints), RF = rheumatoid factor, SEI= socioeconomic class.

Reference

(1) Fisher, MC. et al. Smoking, smoking cessation and disease activity in a large cohort of patients with RA. J Rheumatol 2012; 39 (5):904-9.

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