

Does cigarette smoking influence disease expression, activity and severity in early rheumatoid arthritis patients?

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Abstract

Objective

To investigate the association of cigarette smoking with clinical expression, disease activity and severity in a cohort of Greek patients with early rheumatoid arthritis (RA).

Methods

From January 1993 until December 2002, 293 patients with early RA were diagnosed and followed up in our rheumatology clinic. All patients fulfilled the American College of Rheumatology criteria for RA, had disease duration of less than one year, without prior treatment of disease modifying anti-rheumatic drugs (DMARDs) or steroids. The patients were treated with at least one DMARD, and 287 of them had a last follow up during the year 2004. The demographic, personal, clinical, laboratory, radiological and therapeutic features were compared at entry and at the last follow-up, according to their smoking habits at entry.

Results

Among the 293 patients, 6 were lost to follow-up, thus 287 patients were evaluated. There were 200 females (67.7%) and 87 males (30.3%). Eighty-two (28.6%) were current smokers, 21 (7.3%) ex-smokers and 184 (64.1%) non-smokers at presentation. RA smoker patients displayed the disease at a younger age than the non-smokers. Additionally, the smokers presented at disease onset more prominent features of articular involvement as was evaluated by the higher number of total joint count with tenderness and swelling and by the higher disease activity for 28 joint indices score (DAS-28). Smokers also presented a higher Larsen's score and higher frequency of IgM and IgA rheumatoid factors as compared to non-smokers. At the end of the study, the smoker patients presented more active and severe disease as evaluated by the higher total number of tender and swelling joint count, the higher DAS-28, and higher Larsen's score as compared to non-smokers. Furthermore, the smokers more frequently had rheumatoid nodules than the ex-smokers and non-smokers. The association of smoking with disease activity and severity was independent of sex, age, educational level, alcohol consumption, and follow-up duration. Finally, no significant differences were observed concerning the therapeutic procedure among the three groups.

Conclusions

In our early RA patients, cigarette smoking was associated with increased disease activity, and severity, independently of several other possible confounders and despite the early disease treatment.

Key words

Early rheumatoid arthritis, cigarette smoking, DAS-28, Larsen's score, activity, severity.