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The impact of smoking on rheumatoid arthritis activity

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Background and Aim: The Rheumatoid arthritis (RA) is a chronic, inflammatory, systemic disease that is usually the most evident and commonly manifested on diarthrosis joints. The initial etiological factors that trigger the immuneinflammatory response still remains unknown. RA is result of the simultaneous influence of genetic risk factors, external factors and changes in immune system. The goal of this study was to determine the mutual correlation between smoking and RA activities expressed by the quantitative values of laboratory and disease activity parameters.

Method: The open clinical retrospective study included 100 RA patients stages from I to IV aged from 21 to 77 ys. There were 85 (85%) females and 15 (15%) males selected by randomization. The study analysed: age, gender, smoking, duration of smoking, sedimentation rate (ESR), rheumatoid factor (RF), C-Reactive Protein (CRP) anti-cyclic citrullinated peptide (anti-CCP) antibodies and X-ray. Statistical analyses was done with SPSS software, Student's t-test and chi-square test.

Results: The quantitative values of laboratory parameters are directly related with the smoking period. All inflammatory markers were increased in both groups, but more elevated in smoker's group. The only statistical significance was found in anti-CCP where this test was significantly higher compared to non-smokers. There was no statistical significance in the onset of disease, gender, ESR, CRP, RF, and radiological changes between two groups, although smokers had some more higher values.

Conclusions: Smoking plays significant role in RA activity and leads to longer duration of symptoms and increased disability. All inflammatory markers were increased in both groups, but more elevated in smoker's group, with the only significancy in anti-CCP level. The cessation of smoking should be part of disease management process.