Abstract #34830

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Clinical Joint Involvement Is Decisive For Radiographic Progression

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These authors will be published in a supplement of the *Arthritis & Rheumatism* journal (on-line only) as well as the abstracts section of the My Annual Meeting website (www.ACRannualmeeting.org). **Miriam Gärtner**[1], Farideh Alasti[1], Gabriela Supp[1], Josef S. Smolen[2] and Daniel Aletaha[1], [1]Medical University of Vienna, [2]Medical University of Vienna and Hietzing Hospital

Abstract Text
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Background/Purpose:

Today's therapeutic targets in rheumatoid arthritis (RA) are remission or low disease activity, but it was shown that joint damage may continue to progress despite these favourable clinical states.[1;2] While progression of joint damage is related to joint swelling,[3] radiographic damage may progress even without evidence of clinical synovitis, at least in early RA.[4]

It was the aim of this study, to evaluate the frequency of radiographic progression in clinically persistently inactive joints of patients with established RA.

Methods:

We included 134 RA patients (mean disease duration: 7.12±9.5yrs.) who showed a radiographic progression (increase>1) in any of the joints assessed by the Sharp van der Heijde (SvdH) score over an observational period of 3-5 years. To conform with the records of clinical joint assessment, we only considered radiographic progression in any of the 22 hand/finger joints (10 proximal interphalangeal joints, 10 metacarpophalangeal joints, 2 wrists), but excluded the feet (not assessed by the 28 joint count). Clinical data on individual joints (swelling and tenderness) from each clinical visit performed between one year prior to the baseline x-ray until the time of the x-ray endpoint were collected from the patient charts. We evaluated associations of clinical joint activity (swelling and tenderness) and radiographic progression on the individual joint level.

Results:

The mean±SD time between x-rays was 3.5±0.4yrs and the mean number of clinical visits per patient was 16.2±4.6. A total of 195 (6.6%) of the 2948 evaluated joints showed progression in erosions and 343 (12.7%) worsened in joint space narrowing (JSN). Of all joints with progression in erosions, 64 (32.8%) were never swollen during the observation period (in 40 patients) and only 18 (9.2%) never showed any activity also by tenderness.

In the total patient population, progression was higher in joints with clinical swelling (during the observation period) compared to joints without swelling (1.76±1.06 vs 1.28±0.68; p=0.01). We found a significantly higher baseline SvdH Score in patients with radiographic progression in clinically inactive joints vs. active joints (68.2±78.8 vs 42.5±51.2; p=0.022). The overall sensitivity for progression of damage of any joint activity during the observation period was 73.1% for erosion, and 73.5% for JSN. Only 25.6% of the patients showing radiographic progression in clinically inactive joints were treated with a biological during the majority (>50%) of the observation period.

Conclusion:

Only 9% of joints with radiographic progression in patients with established RA show continued absences of clinical activity by both swelling and tenderness, and their degree of progression is low. Thus, structural progression without evidence of clinical activity is a negligible event on joint level. Risk factors of this are high baseline radiographic scores and absence of biological treatment, but the strongest risk factor for progression remains to be clinical joint involvement.

Reference

(1) Aletaha D et al. *Arthritis Rheum*2009; 60(5)

(2) Molenaar ET et al.. *Arthritis Rheum*2004

(3) van Riel PL et al. *J Rheumatol*1995

(4) Klarenbeek NB et al. *Ann Rheum Dis* 2010

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