

Influence of pain score measured by a visual analog scale (PS-VAS) on the Health Assessment Questionnaire Disability Index and 28-joint Disease Activity Index with C-reactive protein in rheumatoid arthritis patients

Ichiro Yoshii , Tatsumi Chijiwa, ... [See all authors](#) >

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Abstract

Background

Pain is a serious burden for rheumatoid arthritis (RA) patients. However, the effect on Health Assessment Questionnaire Disability Index (HAQ-DI) and 28-joint Disease Activity Score (DAS28) has not been presented. The aim of this study is to evaluate them in a case series.

Methods

Three hundred and eighty-two RA patients who were treated for more than 5 years were studied. The parameters assessed included average value of the DAS28 with C-reactive protein (DAS28-CRP), the HAQ-DI score, the Sharp/van der Heijde Score (SvdHS), age, and the pain score measured by a visual analog scale (PS-VAS). Relationships among these factors and the relationships between the HAQ-DI score and the other factors, and the relationships between the change in HAQ-DI scores and the changes in other factors were evaluated statistically with multivariate linear regression analysis. The effect of PS-VAS on HAQ-DI was compared with that of DAS28-CRP on the overlapping data of each parameter.

Results

HAQ-DI demonstrated significant positive correlations with all parameters. However, PS-VAS demonstrated a stronger effect than DAS28-CRP, also demonstrated without overlapping data. After minimizing the effects of DAS28-CRP, age and SvdHS, there was a significant correlation between HAQ-DI and PS-VAS in all analyses. The change in HAQ-DI demonstrated a significant correlation with the change in PS-VAS.

Conclusions

These results suggested that HAQ-DI is deeply influenced by PS-VAS. The effect of DAS28-CRP overlapped with the effect of PS-VAS in a major way. Pain control for RA patients is the most important factor contributing to activities of daily living, as well as disease activity control.

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