Reviewer's report

Title: The impact of rheumatoid arthritis on foot function in the early stages of disease: a clinical case series

Version: 2 Date: 9 October 2006

Reviewer: Keith Rome

Reviewer's report:

General

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

'I declare that I have no competing interests'

Summary

The article relates to the function and disability of early rheumatoid arthritis and will be of interest to those clinicians interested in the rheumatoid foot. Twelve female rheumatoid patients with disease duration less than 2 years were compared to 12 non-rheumatoid patients. Kinematics, kinetic data was collated and disease impact was measured using the Leeds Foot impact Scale (LFIS) along with standard clinical measures of disease activity, pain and foot deformity.

Overall

The authors have undertaken a series of clinical and gait measurements. However, some of the clinical measurements require further explaining. The authors have not conducted any hypothesis testing due to the low numbers and descriptive data is provided. Therefore, any conclusions from the study are based upon the current descriptive data rather than inferential statistics. The patients have a wide-range of disease activity, under the umbrella of early RA. The analysis is well described although tables need to be more succinct. The discussion chapter needs further clarification.

Specific

Page 2: Moderate-to-high of foot impairment and related disability were detected amongst the patients - please add rheumatoid before patients.
Page 2: conclusion states “analysis detected small but significant changes in foot function in a small cohort of RA patients with disease duration <2 years.” However, as the authors have stated – there is no formal hypothesis to test. Perhaps the authors are reporting trends rather than significant changes.
Page 5: early RA is defined less than two years. Is this based on the time the patient was diagnosed or any other criteria? If based on diagnosis only I assume the ACR criteria were used. Please can the authors clarify and reference to ACR criteria.
Page 5: How was the swollen, tender and painful foot joint counts measured? Furthermore, please clarify in table 1 0-12 and 0-14 scores?
Page 5: Can the authors explain the Structural Index (SI) score? Table 1 states forefoot scores of 0-12 and
Page 5: goniometer readings – the assumption is that one person has taken all the measurements – please clarify the type and the procedure.

Page 5: Disease impact was measured using the Leeds Foot Impact Scale for impairment/footwear (LFISIF) and activity limitation/participation restriction (LFISAP). There is a need to explain to the reader the LFIS – how is the measure broken-down into low, moderate and severe? Furthermore, is there an overall LFIS score? Also please explain Table 1 – the scoring system.

Page 10: did the authors investigate the relationship between impairment, clinical disease activity and function in early RA or was it just tends?

Page 10: The authors state that “our study showed high levels of disease impact in the foot associated with varying levels of clinical disease activity, pain, deformity and altered function.” But this was the case in only 3 patients.

Page 10: The principal author states unpublished work – I suggest removing this reference.

Page 10: The authors state that “The LFIS may be an important predictive measure of future localised disease impact since it correlates highly with HAQ.” Please can the author’s reference this statement as reference 18 relates to the HAQ questionnaire and not the newly developed LFIS.

Page 12: prevalence of pes planovalgus – is this related to RA or in the general population?

Page 12: We detected both the underlying cause- disease activity was detected in the tibiotalar, subtalar and talonavicular, and the associated consequence- 9/12 patients on standing had an exaggerated valgus heel posture above the normal values. Will the authors re-word statement as the statement is unclear?

Page 12: Please can the authors clarify the following statement “When the two varus heel patients were removed from the analysis, these two motion deficits were clearly identified in this patient cohort.” The removal of data would lead to a bias opinion of the results especially in there were only 12 patients to start.

Page 12: gastocnemius-soleus muscle group is usually weak in RA – please can the authors explain weak – reduced range of motion, torque angular velocity?

Table 1: a mixture of both left and right – can the authors explain? Why did the authors not measure both left and right of all RA patients? The table must also include all demographic information of the non-RA group.