Reviewer's report

Title: Changes in the size and prevalence of calcaneal spurs in men & women: random population from trauma clinic

Version: 1 Date: 6 November 2013

Reviewer: Catherine Bowen

Reviewer's report:

This paper presents baseline information on the prevalence of plantar and posterior heel spurs within participants recruited from a trauma clinic population that has potential to provide a useful contribution to the field. The introduction clearly sets out this aim for the study and there is some useful information that describes the prevalence of these spurs at different ages and in men and women. The first two bullet points of the significance and innovation section clearly articulate the key findings of the study. However, I have a number of concerns over the detail related to study design and potential assumptions being made about inferences on the observational data that affect the balance of the discussion and conclusions:

Major compulsory revisions

1. The title and abstract do not accurately convey what has been found. I cannot see where within this paper that the statistical evaluations for change over time have been conducted to claim the title ‘Changes in size and prevalence …..’. The difference in numbers of spurs noted within different age groups is a noteworthy observation ie. that the percentage of spurs is highest in the middle-age groups and that there are none in the children’s age groups, however much less in the older age (>80) group. It would be of value to know if there was statistical significance of these group differences.

2. On Line 95 the authors’ state the study was conducted in accordance with the declaration of Helsinki, however this should be rephrased such that ethical approval for the study is confirmed as obtained (with the REC number) and that all participants gave informed written consent.

3. In this section on materials and methods, the study design should be clearly outlined. It is not entirely clear whether this is cross-sectional retrospective analysis of clinical trauma records and radiographs or whether this was a planned longitudinal prospective study?

4. It is commendable that the authors randomly selected 1080 lateral view ankle radiographs for analysis, however we do not know form what population these radiographs were selected? Therefore although prevalence data is given we do not know the total number of people attending the trauma clinic within the given period. Similarly, we do not know if the population was healthy? Or why were they attending the trauma clinic?

5. Line 98: Please explain the procedure for taking the radiographs.
6. Please also explain whether all radiographs include both feet (the sentence on line 107 ‘where bilateral radiographs were available ..’ confuses this)

7. Line 101: What was the 2001 National Consensus data? Can this be compared to 5 years later? A reference to this data should be included.

8. Age was stratified according to decades and 120 participants were randomly selected to each group. How was the number of 120 per group decided? Whilst the population sample of 1080 is large, once participants have been stratified is statistical power still sufficient for the analyses conducted? Especially when the age groups were dichotomised again for large and/ or small spurs (lines 138-139)?

9. Line 108: A key weakness of this study is that the scoring criteria for the decision as to what constitutes a large or a small spur is not clearly defined and the figures do not adequately demonstrate this.

10. Line 113: what were the kappa values for agreement between the observers?

11. Where r-values are presented within the results, the p-values should also be included so that the interpretations of strong or weak correlations are clarified by being statistically significant.

12. Within the results and discussion, the authors should consider the assumption that spurs increase with age, unless any statistical analyses were performed such as between group differences?

13. Lines 201-202: I think here the limitations of study in terms of statistical power and lack of analyses of between group differences should be acknowledged.

14. There should be some acknowledgements to limitations of the study within the discussion.

Minor essential revisions

1. Male, female and men and women are used interchangeably throughout the manuscript. As male and female are adjectives it is more appropriate to use the terms men and women unless the adjective is required (ie they are not male spurs, but spurs observed within men).

2. Line 121: should access be assessed?

3. Line 181: More explanation is required here as to why the most significant findings are relevant to rheumatology? Some discussion about the enthesis-organ concept and pathology at these sites relative to spondylarthropathies might be useful to add context, for example:


4. Figure 1 legend: The figures are examples of a small and large spur and not a
classification scheme.
5. Figure 4 legend: this should be the prevalence of plantar spurs in men and women by age category.
6. Figure 5 legend: this should be the prevalence of achilles spurs in men and women by age category.
7. Table 1: please add p-values to all data within the table.
8. For all figure and table legends, I suggest omitting the explanatory notes as this is within the main results section.

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

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests