Reviewer's report

Title: Baseline new bone formation does not predict bone loss in ankylosing spondylitis - 10-year follow-up.

Version: 4 Date: 20 February 2011

Reviewer: Jesus Garrido

Reviewer's report:

1. The relationship between the mean and standard deviation is unuseful to prove hypothetical Gaussian distribution. There are different tests, Kolmogorov-Smirnoff or Shapiro-Wilks, that serve this purpose. If variables depart from normality, it would be preferable to use nonparametric statistics, Mann-Whitney and Kruskal-Wallis for comparison between two or more independent samples and Wilcoxon for comparing two related samples.

I agree that in Table 1 include medians and percentiles 25 and 75. However, this table requires some revision since while in the first column points that the means and standard deviations in brackets are in the same row, in the body of the table means and standard deviations displayed in separate rows.

2. If it is possible to assume a parametric analysis, 2-way ANOVA allows testing both the main effect of time and the main effect of the group. The main effect of time is the same that has been analyzed by T test, comparing the 15 initial scores with the 15 scores obtained 10 years later. The main effect of group was analyzed “visually”. There is not disadvantage in trying hypothesis testing. The results should be accompanied by a power analysis because due to the sample size, it is possible that power be very small.

B. The small size of the strata supports the use of nonparametric statistics.

3. The interaction effect is a little different from author’s statement in their response. Interaction effect tests whether the change between baseline and follow-up in the advanced group, about 23 mg / cm³, is different of change between baseline and follow-up in the early group, about 14 mg / cm³.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests