Reviewer's report

Title: Interaction and Efficacy of Keigai-rengyo-to extract and acupuncture in male patients with acne vulgaris: A study protocol for a randomized controlled pilot trial

Version: 1 Date: 22 February 2011

Reviewer: Andrew Vickers

Reviewer's report:

Major comments

1. The introduction and objectives are written as for a fully powered trial: “considering these methodologic flaws [in the current literature], we will conduct a trial to assess the interaction effect and efficacy of Keigai-rengyo-to extract (KRTE) and acupuncture”. The entire statistics section is then written in terms of tests to determine differences between groups. But then right at the end, the authors reveal that it is a feasibility study with only 11 patients per group. If the trial truly is only a feasibility study, then i) this has to be made more explicit in the background and objectives; ii) the statistics section has to be rewritten changing from efficacy objectives to feasibility objectives. For example, in place of tests to address “did acupuncture reduce acne?”, the statistics section should look at things such as accrual rate, proportion of drop-outs, blinding, compliance with questionnaire completion and so on.

2. The randomization section is vague. The authors need to be absolutely explicit as to methods for preventing researchers guessing allocation before a patient is unambiguously registered on study or changing allocation after registration. A password protected database, or fax registration to a central statistical office would be examples.

3. This is a complex four-arm trial and the statistical methods must be presented more clearly. It is not enough to say that an ANCOVA will be conducted controlling for baseline “and other covariates”. The predictor variables have to be made absolutely explicit. My guess is that the model is follow-up score = b1.baseline score + b2.acupuncture + b3.herb + b4.acupuncture + herb.

4. Percentage change is highly inefficient. In place, raw baseline and follow-up scores should be entered into the statistical model.

Minor comments

1. Some of the inclusion criteria are vague. For example, it states that patients will be excluded for having bloods outside the normal range but then does not state specifically what bloods will be assessed, merely giving examples. Inclusion and exclusion criteria have to be 100% explicit, so that two different researchers applying the criteria to 100 patients, would select exactly the same patients to be eligible.
2. Mean percentage change of inflammatory lesion counts from baseline to the end of the trial is given as both a primary and secondary outcome measure.

3. Statistics section: “A two-way analysis of variance (ANOVA) test will be performed for comparison of baseline values”. Testing of baseline values is irrational and the null hypothesis is known to be true.

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

**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'