Reviewer's report

**Title:** Evaluation of the effects of Botulinum toxin A injections when used to improve ease of care and comfort in children with marked cerebral palsy: A double blind randomized controlled trial.

**Version:** 1 **Date:** 22 February 2012

**Reviewer:** Annet J Dallmeijer

Reviewer's report:

This is a well written paper, describing the study protocol of a relevant study evaluating the efficacy and safety of Botulinum toxin A treatment in non-ambulant children with CP. This study follows an double blind RCT protocol, using a sham treatment for the control group, which is an excellent design for answering the research question.

There are however two points in the manuscript that need clarification: 1) description of the primary/secondary outcomes, and 2) background, aim, and analysis of the second phase of the trial.

Major

1. Please describe aim in abstract once, and indicate primary and secondary outcome measures, explain how they are related in the introduction, and make sure that this description is consistent throughout the paper. Further explanation of what is measured by the COPM would help. It is for example not clear whether ‘pain, and health status’ are part of ‘ease of care and comfort’?

2. With respect to the overall design of the study there is some confusion about the two phases of the study, especially the aim and additional value of the second phase remains unclear to me. In the abstract it is stated that the aim is to describe the efficacy and safety of repeated BoNT-A injections, but no background was given in the introduction, and it is not described what kind of analysis will be applied to answer this question. So please clarify, by adding information to the introduction about why this research question concerning repeated injections is of interest, and describe the outcome measures and analysis plan for the second phase.

Other comments (minor):

3. Title suggestion: in my opinion, ‘non-ambulant’ would be a better description of the population than ‘marked’ CP.

4. Background: give a description of GMFCS level IV as well (p.3)

5. ‘spasms’ are not expected in this group, please delete (p.3)

6. What is meant by ‘significant overall reduction in pain’? Did both groups improve? (so no effect of BoNT treatment? (p.4 last paragraph)

7. What was the diagnosis of the pediatric population? (p. 5, second paragraph)

9. Aims are repeated in the study design part. My suggestion is to transfer this part to the end of the introduction. (p. 7/8)

10. Please give some more information about COPM, eg explain what is measured by 'performance and satisfaction in areas of concern' using the COPM (p.8, hypothesis 1). Same applies to hypothesis 5 in which the outcome is described as ‘individual family concerns’. (p.8)

11. Change 4 months to 16 weeks (or what is appropriate, but in line with abstract) (p.8)

12. Exclusion criterion 5: ‘Entry to study will be delayed..’ Please describe for how long?

13. Sample size: calculation is based on pain scores (secondary outcome), but not on the primary outcome measure. I assume that there are COPM data available to perform a power analysis (p. 10)

14. Randomization: the large age range (2-16) is a risk factor for unequal groups at baseline. Is stratification by age group considered to get comparable groups?

15. Explain ‘productivity’ p.16

16. The same care giver should be filling out the PPP. I think this applies to all questionnaires, especially COPM (p.18)

17. Analysis: please add an analysis plan for adverse events? (p.18)

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