Reviewer's report

Title: Genetic evidence of multiple loci in dystocia - difficult labour

Version: 4 Date: 23 April 2010

Reviewer: Héctor Lamadrid-Figueroa

Reviewer's report:

The authors have only partially addressed the major issues raised in my previous review.

There certainly is improvement relative to the previous version of the manuscript, such as recognizing that the reference groups are not real “controls” and acknowledging the lack of comparability. However, there are issues raised by this reviewer that were not addressed at all in this new version.

I quote my previous review:

“No new information relative to the selection process of the 107 healthy patient control group is provided in the new version of the manuscript other than an isolated phrase “Cases and controls were not matched”, and the inclusion of a descriptive statistics table. It seems to be rather odd since the description of the case sample is very detailed. There are several possibilities for the selection of the controls: Was it a random sample of subjects from the Swedish Multigeneration Registry? Was it a sample comprised of unaffected relatives of the cases? Were there unaffected women in the same hospital as the cases? All this possibilities relate to different potential biases that need to be discussed in the manuscript”

Why did the authors decide to ignore these questions? I will also add that we need to know if these 107 subjects had any inclusion criteria and if they gave consent to their participation in the study.

On a related note, on page 9 the authors state “We chose comparison with a healthy historic reference material for the re-sequencing of OXT and OXTR. Evidently this group differs from our cases regarding age, BMI, gestational length and birth weight but we did not manage to find any mutations. If we actually had found any mutations a comparison with matched controls would of course have been preferable.” I do not understand, according to table 6 there WERE mutations in the OXTR gene in both cases and “controls”, which allowed for statistical comparisons, would the authors clarify what they mean? Do they mean they did not find any statistically significant differences between cases and “controls”? Assuming this is what the authors meant, it is important to note that matching is done to reduce confounding and increase efficiency in the estimation of parameters. Thus, matching should be done a priori and not based on the results of unmatched analysis.

Level of interest: An article of importance in its field
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'