Reviewer's report

Title: Pedigree analysis and epidemiological features of idiopathic congenital talipes equinovarus in the United Kingdom: A case-control study

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Reviewer: Fergal Monsell

Reviewer's report:

This paper is a combination of three separate studies, analysing the clinical and epidemiological features of CTEV in three specific areas.

The studies involve the Scottish Talipes Register, the North of England Talipes Register and examination of a cohort of patients treated at The Hospital for Sick Children, Great Ormond Street.

I have been very peripherally associated with this paper in that, I agreed to my patients being included when I was a Consultant at The Hospital for Sick Children, Great Ormond Street. I did not however have any other input into the paper either in its conception or execution and I personally do not feel that this represents a conflict of interest.

There were 458 eligible patients from the three groups and my main criticism of the study is that 194 patients participated and 162 attended for only interview. This limits the study to 35% complete data. Cousin controls were used as a comparator and my interpretation of the data is that only 31% of available cousins were available to participate.

This creates a potentially major population bias. I accept the comments in the discussion highlighting that the sex ratio, predominance of bilateral disease and right over left sided involvement concurs with other reported series.

The relatively small proportion of patients that were available for interview may however represent a significant confounding variable, affecting the conclusions particularly in respect of the education of the parents and their smoking and drinking habits.

The authors should discuss in some detail, their perception of the reasons for the incomplete data set and they should comment on the potential effect that this has on their major conclusions, particularly in respect of the education of the parents.

They have also highlighted that there is a 4x risk of CTEV following caesarean section. In the discussion, they comment on the high rate of caesarean delivery in the affected versus control cases, but highlight that the frequency for caesarean deliveries for CTEV pregnancies was equivalent to that of the Scottish population in general.

It would be useful if the reasons for caesarean section could be explored and defined, although I appreciate that this data may not have been collected.

Overall however this is an interesting paper that does add to the literature provided that the methodological issues are appreciated by the readers.

In answer to the guidelines given in the instruction for reviewers:

1. The question posed by the authors is not new, but has not previously been evaluated in this detail.

2. The methods are appropriate and well described with sufficient detail to replicate the work.

3/4. Although there are deficiencies, it is a useful data set and the purpose of the study is clearly defined. The statistics however are very detailed and although superficially appear appropriate, my knowledge of statistics is not sufficiently developed to give an unqualified endorsement.

5. The discussion and the conclusions are well written and are supported by the data. I have made some
comments in previous paragraphs that the authors should attend to.

6. The title and the abstracts convey the details of the study.

7. The paper is well written in terms of the language