Reviewer’s report

Title: Microvascular changes in children and adolescents with type 1 diabetes detected by nailfold capillaroscopy, laser Doppler flowmetry, retinal vessel analysis and 24-hr ambulatory blood pressure monitoring: A pilot study.

Version: 1 Date: 18 June 2013

Reviewer: Anna Zampetti

Reviewer’s report:

The title should be shortened and focused on the pathogenetic aspects investigated by the procedures. Therefore a better title could be “Detection of microvascular changes in a paediatric and adolescent population with type I diabetes.

The abstract should be completely rewritten as the methods section is incomplete and giving unnecessary details like where the study was performed... etc... The section of methods should be clearly stated the criteria of enrollment and the techniques, how the population was divided or subdivided, which parameters were chosen to analyze the population.

The Results section should clearly summarized the data obtained and it currently is a bit confused since apparently there is no consequentiality between methods and results.

Finally in the Conclusions of the abstract, it is mentioned “educating adolescent population”. Was this a purpose of the study? If not this is a comment and should be placed in the general discussion.

The Background should focused on the review of data available about investigations used to analyze early microvascular changes up to date and not to describe how laser Doppler is performed, as this should be placed in methods.

The reader is usually not particularly impressed if no one has performed a similar study to yours. So avoid this kind of sentence. Usually the reader is more interested in results from authors.

In methods it is state that patients were enrolled between Feb and Oct 2010. This is a very short and it could be a big problem. First there is no follow up therefore the prediction of “early microvascular changes” is a debating matter.

The authors also mentioned that capillaroscopy was performed analyzing the 2nd and 4th finger. Why they did no include the V?.

How did they score the capillary abnormalities? I was unable to find any score.

The section of methods should also be summarized as too long.

The statistic should have and own section

Clinical parameters should be also list in a specific section
In the discussion the author underlined the relationship with the length of diabetes and the findings observed but as I have already observed, it is not clearly stated in methods how patients were subdivided according to the disease length.

They also mentioned autonomic disturbances. They should better explained how these alterations can induce the microvascular changes with appropriate references.

Furthermore they should discussed if abnormalities on retina could have different pathogenesis (is the autonomic dysfunction an explanation of these changes???)

The great limitation of the study as stated by the author is the absence of a control group.

**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