Reviewer's report

Title: Transcranial Doppler ultrasonography predicts cardiovascular events after transient ischemic attack

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Reviewer: Diederik Dippel

Reviewer's report:

This is an interesting study of the prognostic value of TCD and ECD parameters for vascular endpoints (MI, stroke and vascular death) in patients with a recent TIA.

Although its results are not entirely new, the observation that intracranial arterial stenosis or occlusion, detected with ultrasound, implies a risk of subsequent cerebrovascular and cardiovascular events is worth reporting. My suggestions only concern minor essential revisions, except for two, these have been indicated.

The research question posed by the authors is well defined, but the abstract could be improved by describing briefly what you mean by "abnormal TCD and ECD findings"

The methods are appropriate and well described, but assessment of outcomes should be described in more detail. Follow-up at a late point in time to assess possible TIA's or even minor strokes that may have occurred more than a year before is difficult and may lead to error.

Were the persons who carried out the follow-up interviews qualified or experienced?

How did you tackle uncertain events? Please add this information to the methods section.

In your assessment of plaque and stenosis, did you distinguish between the symptomatisc vessel and asymptomatic vessels? Please add this information to the methods section.

You did not indicate whether the personnel involved in follow-up assessment was unaware of the results of ultrasound studies, I assume that they were not formally blinded.

The data are sound in my opinion. The data set is not large, the number of outcome events is therefore small, but the study seems otherwise well conducted.

The explanation fot the lack of association between prolonged symptom duration and risk of recurrent cerebral ischemic events cannot be explained by "optimized TIA care" as you suggest. First of all, the relative reduction in risk would be
similar, and an association might still be discernable. Secondly you did not describe the distribution of time since onset of symptoms (why, please do so anyway). The absolute effect of "optimized TIA patient management" may be rather small in patients who are treated beyond 48 hours after onset.

I suggest to rephrase or delete this part.

The study is well reported, and the limitations of the work are clearly stated.

Other studies are discussed, but the paper might benefit from including the work of Van Wijk et al, Lancet 2005;365:2098 in your discussion of long term recurrence risk.

Do the title and abstract accurately convey what has been found?

yes, but see also my first comment concerning the description of methods in the abstract.

The writing is acceptable, but there are a few errors:

Page 11 replace "...be simply by...

At the end of the Discussion section there is a dot that should not be there.

Consider providing baseline characteristics for patients with and without "steno-occlusion" on TCD (discretionary revision).

**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 I have no competing interests.