Reviewer's report

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

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Reviewer: vijay sharma

Reviewer's report:

• Major Compulsory Revisions
  1. How do authors account for the difference in the relevance of lesions on ECD and TCD? I feel that the definition of abnormal ECD is very lax. Collateral flow patterns on TCD as a result of extracranial steno-occlusive lesions should not be merged with intracranial steno-occlusive disease. I would suggest the authors to categorise patients with collateral flow in the intracranial arteries with ‘extracranial steno-occlusive group’ (especially, if not intracranial steno-occlusive disease was noted to account for the collateral flow pattern).

• Minor Essential Revisions
  1. Why amaurosis was not considered as TIA? Carotid artery disease in the neck constitutes one of the commonest causes of amaurosis fugax and excluding amaurosis may not be justified.
  2. Cut-off peak systolic velocities have inherent problems for the diagnosis of moderate stenosis. Did the authors validate their ultrasound findings against any kind of angiography?
  3. What do they mean by cardiac insufficiency? Is it cardiac failure?
  4. Surprisingly, none of the patients had tandem lesions (stenooocclusive disease in carotid as well as ipsilateral intracranial artery).
  5. The language used in the manuscript needs lot of corrections. I advise the authors to use simple and short sentences.
  6. During follow up period, the clinical events are based on telephonic contacts and not proper clinical visits. How can we determine that the patients got cerebral ischemic events pertained to the affected artery (intracranial or extracranial). With these inherent limitations, it is very difficult to understand the pathogenic and prognostic value of the steno-occlusive lesions seen in this study. This limitation needs to be highlighted in the manuscript.

• Discretionary Revisions
  1. TCD and ECD are not limited to steno-occlusive disease. There are multiple factors responsible for the pathogenic potential of a lesion- plaque size and morphology, distal emboli detection, vasomotor reactivity, temporal progression of the disease, intima-media thickness, etc. Description of these parameters could add to the strength of the manuscript.
2. Collateral flow patterns on TCD can't be considered equivalent to intracranial stenosis. Intracranial stenosis may cause cerebral ischemic events by artery-to-artery embolization as well as hemodynamic failure. Collateral flow patterns on TCD represent compensatory attempt towards severe steno-occlusive disease in the cervical or intracranial arteries and may result in ischemic events due to hemodynamic failure in certain situations.

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

**Quality of written English:** Needs some language corrections before being published

**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'