Author's response to reviews

Title: High-Grade Symptomatic or Asymptomatic Carotid Stenosis in the Very Elderly: A Challenge for Proponents of Carotid Angioplasty and Stenting.

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Author's response to reviews: see over
Padova, March 16, 2006

Editor
BMC Cardiovascular Disorders.

Dear Editor:

Thank you for reviewing the manuscript entitled: “High-Grade Symptomatic and Asymptomatic Carotid Stenosis in the Very Elderly: A Challenge for Proponents of Carotid Angioplasty and Stenting”.

Uploaded, please find the revised version of our manuscript. The manuscript has been revised according to recommendations and suggestions of your reviewer. A point-by-point response to each comment by the reviewer is provided below.

We believe that the revised manuscript addresses the issues raised by the reviewer and is thus a stronger manuscript. Thank you for the opportunity to revise and resubmit the paper.

Reviewer 1 comments:

Major compulsory revisions.

1. Throughout the manuscript the authors speak of 30-day perioperative stroke or death rates. However, since most patients were discharged after 3-4 days after CEA it is unclear how these complications were assessed after discharge of the patients. Were all patients seen by a neurologist after 30 days? It seems more likely that the authors assessed the early perioperative stroke or death rates i.e. up to 72 h after CEA. If this is the case the manuscript should be modified accordingly.

# The reviewer’s doubt is correct. The findings from this study are consistent with and extend the results of our two recently-published analyses (references 20 and 21). As elsewhere reported:
“After discharge, visiting nurses monitored the patients’ blood pressure and neurological status. Clinical evaluation and DUS were performed systematically by a consultant neurologist and two experienced technologists in all surviving patients at 1, 6 and 12 months, and once every postoperative year thereafter, assessing any residual ICA stenosis, angulation, recurrent ICA disease, or occlusion with an Acuson Sequoia 512 ultrasound system (Mountain View, Calif)”.

We have added this information in the text (page 5, lines 7-12 of the revised manuscript).

2. The minor and major strokes need to be clearly defined e.g. “...not leading to disability or any significant impairment in activities of daily living”......”inducing a change in lifestyle” etc. Otherwise, these results cannot be compared with the major trials or other large case series.

# We have modified the definitions of major and minor stroke in the text as follows:
Minor stroke was defined as a focal neurological deficit of acute onset lasting more than 24 hours and not leading to disability. Major stroke was defined as a focal neurological deficit leading to disability and permanent handicap.

The "cardiac complications" also need to be defined.

Cardiac complications included: 1) myocardial infarction (MI), with a diagnosis made on the basis of creatine kinase enzyme levels and electrocardiographic (ECG) findings; 2) pulmonary edema confirmed by the official reading of the chest radiograph; 3) documented ventricular fibrillation or primary cardiac arrest; and 4) new complete heart block requiring a pacemaker.

We have added this information in the text (page 5, lines 14-19 of the revised manuscript).

3. In both groups the perioperative mortality and stroke rates should presented separately for symptomatic and asymptomatic patients. The minor and major stroke rates should also be given separately (Table 2).

Perioperative death and stroke occurred only in the younger group. There were 3 perioperative deaths: 2 due to myocardial infarction, and 1 to stroke. The only fatal perioperative stroke occurred in a patient with symptomatic disease undergoing CEA with patching to treat a severe ulcerated left ICA lesion. All remaining strokes (6 CEA procedures with patching, 4 eversion CEAs) occurred in symptomatic patients, and all but two were major in severity. In all cases stroke occurred within the first 24 hours of surgery, while the patient was in the recovery room: duplex US scan immediately confirmed an ICA occlusion in the patched patients, whereas it demonstrated ICA patency in the everted patients. Among the patched patients, 4 underwent re-operation consisting of a thrombectomy and new patch-plasty: there was some improvement in the neurological status of only one patient and none in the others. The remaining two strokes involved the hemisphere contralateral to the operated side (one of these was ipsilateral to an occluded ICA). Among the 4 strokes in everted patients, two were major and two were minor. Both major strokes occurred in patients (one of them was shunted) with a mildly diseased contralateral ICA and were probably embolic (from the aortic arch or from the heart), because cerebral CT scans demonstrated a cortical infarction in the territory of the middle cerebral artery. Both minor strokes were most likely hemodynamic in nature, as suggested by the CT images: one developed in the hemisphere contralateral to the revascularized ICA and ipsilateral to an occluded ICA.

We have added this information in the text (page 6, lines 1-3 from bottom and page 7, lines 1-14 of the revised manuscript) and modified table 2 as suggested by the reviewer.

4. How were the cardiac complications assessed? Were all patients screened for MI after CEA?

Preoperative cardiac work-up was tailored to each individual, on the basis of history, ECG findings, and symptoms. Patients with evidence of clinically important coronary artery disease (CAD) underwent echocardiography or dipyridamole-thallium stress tests followed by coronary arteriography as indicated.

A postoperative ECG was routinely obtained in all patients who had a history of CAD, CHF, or arrhythmia (rhythm other than sinus). Cardiac isoenzymes were obtained in all patients who had new findings on the postoperative ECG.

We have added this information in the text (page 4, lines 3-6 of the revised manuscript).
5. I agree that it is unlikely that a major stroke was overlooked, however, a minor stroke might have been missed. In my view the authors should point out that this could have contributed to the extremely low complications rates in both groups.

    # A complete pre- and post-operative neurological evaluation was done by 2 professional neurologists whose major interest is cerebrovascular disease. Therefore, it is highly unlikely that a stroke, including a minor stroke, was missed. Since a post-op MRI was not performed in this study, we cannot exclude “silent” brain infarcts.

Discretionary Revisions

1) Abstract-
   In the first sentence “…is recommended” should be changed to “is often considered as..”
   # We have modified the sentence as suggested by the reviewer.

2) Background
   Second sentence should be reformulated. ”Although older patients are typically seen in everyday clinical practice this important group of patients, i.e. those aged >= 80 years was rarely……
   # We have modified the sentence as suggested by the reviewer.

3) Line 8 ……or a less invasive procedure…should be changed to “ or a seemingly less invasive procedure”
   # We have modified the sentence as suggested by the reviewer.

Reviewer 2 comments. We thank professor Sandmann for his appreciation of our paper.

Thank you for your consideration of publication of our study. Please do not hesitate to contact me with any questions or for further information.

Sincerely,

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