

Carotid endarterectomy versus carotid artery stenting: what is really the standard of care?

 **Mirza Dilić***,
 **Dževdet Radončić,**
 **Amina Bičo,**
 **Alden Begić,**
Demir Bejtović

Clinical Center University of Sarajevo, Sarajevo, Bosnia and Herzegovina

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***ADDRESS FOR CORRESPONDENCE:** Mirza Dilić, Clinic of Heart and Blood Vessel Diseases, Clinical Center University of Sarajevo, Bolnička 25, 71000 Sarajevo, Bosnia and Herzegovina. / Phone: 387-61-147-072 / E-mail: mdilic@icloud.com

ORCID: Mirza Dilić, <https://orcid.org/0000-0002-7309-1455> • Dževdet Radončić, <https://orcid.org/0000-0001-5917-2956> Amina Bičo, <https://orcid.org/0000-0001-6937-1772> • Alden Begić, <https://orcid.org/0000-0002-5374-0892>

The main question in treating patients with symptomatic carotid artery stenosis, or asymptomatic but with high-risk unstable plaques or stenosis >70% is dilemma between surgical or interventional approach. Numerous clinical trials have compared carotid endarterectomy (CEA) with an alternative, less invasive treatment: carotid-artery stenting (CAS).^{1,2}

Evidence based medicine (EBM): ECTS (European Carotid Surgery) trial concluded that symptomatic carotid artery stenosis >80% is indication for CEA and that surgery has a significant advantage over medical treatment (MTx) in terms of mortality and morbidity. NASCET (North American Symptomatic Carotid Endarterectomy) trial for symptomatic carotid artery stenosis >70% showed that surgery has a significant advantage over MTx. CAVATAS (Carotid and Vertebral Artery Transluminal Angioplasty) study involved patients to undergo either angioplasty, with or without stenting, or surgery. Rates of stroke and death were similar in the two groups. SAPPHERE (Stenting and Angioplasty with Protection in Patients at High Risk for Endarterectomy) trial assigned patients to undergo either stenting or surgery i.e. group who had symptomatic stenosis > 50% or asymptomatic stenosis of > 80% and who were high-risk surgical candidates. The primary end point of stroke, death, or myocardial infarction strongly favored stenting over surgery. On the basis of these studies, the Food and Drug Administration (FDA) granted approval for carotid stenting for both symptomatic and asymptomatic patients. Further on, EVA 3S (Endarterectomy Versus Angioplasty in Patients With Symptomatic Severe Carotid Stenosis) trial was stopped early after an increased hazard was observed with CAS vs. CEA. In meta-analysis of clinical trials² authors concluded that CAS and CEA were associated with similar rates of periprocedural death and stroke, but the risk of long-term overall stroke was significantly higher with CAS.

EBM data are obviously conflicting in definitively decision making between surgical or endovascular approach and the most important question is - what is really the standard of care in this issue? According to the latest guidelines, optimal medical treatment is an essential part of the treatment but dilemma between CEA and CAS still remains.

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LITERATURE

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