LETTERS TO THE EDITOR

Implications of the 2014 updated American Heart Association/American Stroke Association guidelines for symptomatic carotid patients

The 2014 American Heart Association/American Stroke Association (AHA/ASA) guidelines[1] for symptomatic patients updated the previous 2011 AHA/ASA recommendations.[2] Because "these Guidelines are addressed to all clinicians who manage secondary prevention of stroke in symptomatic patients,"[1] it is important to analyze the expected implications of these recommendations.

Carotid endarterectomy (CEA) is once again recommended for symptomatic patients with ipsilateral severe (70%-99%) or moderate (50%-69%) carotid stenosis (Class I; Level of Evidence A and B, respectively).[1] Carotid artery stenting (CAS) is once again "indicated as an alternative to CEA for symptomatic patients"[1]; however, this is now a Class IIa (not a Class I)[2] recommendation.[1] Furthermore, a new recommendation was added suggesting that "it is reasonable to consider patient age in choosing between CAS and CEA."[1] CEA might be associated with improved outcomes compared with CAS for patients >70 years, and for younger patients the two procedures are equivalent (Class IIa; Level of Evidence B).[1]

Several recommendations of the 2011[2] and the 2014 AHA/ASA guidelines[1] were largely based on the Carotid Revascularization Endarterectomy vs Stent Trial (CREST).[3] Results of CREST were published on May 26, 2010[3] and was followed by three subgroup analyses: one according to symptomatic status on February 9, 2011[4]; one according to sex on May 5, 2011[5]; and one according to age on October 6, 2011.[6] Because the 2011 AHA/ASA recommendations were published on October 21, 2010,[2] they could not have included the subsequent three CREST subgroup analyses.[4-6] This limitation, however, does not apply to the 2014 AHA/ASA guidelines.[1] Consequently, based on the CREST subgroup analysis according to age,[6] the 2014 AHA/ASA guidelines made a new recommendation according to patient age.[1] A similar differentiation would be expected based on the results of the other two CREST subgroup analyses.[4,5] Such a differentiation, however, was not made.

The CREST subgroup analysis according to symptomatic status showed that symptomatic patients who underwent CAS had nearly twofold greater periprocedural stroke and death rates compared with CEA (6.0 ± 0.9% vs 3.2 ± 0.7%, respectively; $P = .02$).[4] Because this subgroup analysis[4] was completely omitted in the 2014 AHA/ASA guidelines, it might explain why CAS is still indicated as an alternative to CEA for symptomatic patients.[1] Furthermore, although this is no longer a Class I,[2] but a Class IIa recommendation,[1] the phrase used (ie, "CAS is indicated") is a phrase used for Class I recommendations ("should", "is recommended," "is indicated," or "is useful/effective/beneficial").[1] The suggested phrases for Class IIa recommendations are "is reasonable," "is probably recommended or indicated," or "can be useful/effective/beneficial," as is the case, eg, with age: "it is reasonable to consider patient age…".[1] Although the Class of this recommendation was revised, the recommendation itself remained virtually the same.

In the abstract of the CREST subgroup analysis according to sex, it is mentioned that "there was no significant interaction in the primary end point between sexes (interaction $P = .34$)."[5] This information is replicated in the 2014 AHA/ASA guidelines.[1] However, in the full CREST report it is mentioned that women who underwent CAS had >2.5-fold greater periprocedural stroke and stroke/death rates compared with women who underwent CEA (hazard ratio, 2.63; $P = .013$).[5] It would therefore be expected that besides patient age, the 2014 AHA/ASA guidelines[1] would also differentiate their recommendations according to patient sex.

The 2014 AHA/ASA guidelines[1] is an influential document that is expected to guide clinical practice not only in the United States, but worldwide. The 2014 AHA/ASA guidelines[1] have revised and improved many of their previous recommendations[2]; some of them, however, might still be misinterpreted. It is essential to avoid any potential misinterpretations that could harm rather than benefit patients.

Kosmas I. Paraskevas, MD

Sheffield Vascular Institute
Northern General Hospital
Sheffield, United Kingdom

Frank J. Veith, MD, FACS

Divisions of Vascular Surgery
New York University Langone Medical Center and The Cleveland Clinic
New York, NY and Cleveland, Ohio

REFERENCES

1. Kernan WN, Ovbiagele B, Black HR, Bravata DM, Chimowitz MI, Ezekowitz MD, et al. Guidelines for the prevention of stroke in patients with stroke and transient ischemic attack: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke 2014;45:2160-236.
2. Furie KL, Kasner SE, Adams RJ, Albers GW, Bush RL, Fagan SC, et al. Guidelines for the prevention of stroke in patients with stroke or transient ischemic attack: a guideline for healthcare professionals from the American Heart Association/American Stroke Association. Stroke 2011;42:227-76.
3. Brott TG, Hobson RW 2nd, Howard G, Roubin GS, Clark WM, Brooks W, et al. Stenting versus endarterectomy for treatment of carotid-artery stenosis. N Engl J Med 2010;363:11-23.
4. Silver FL, Mackey A, Clark WM, Brooks W, Timaran CH, Chiu D, et al. Safety of stenting and endarterectomy by symptomatic status in the Carotid Revascularization Endarterectomy Versus Stenting Trial (CREST). Stroke 2011;42:675-80.
5. Howard VJ, Lutsep HL, Mackey A, Demaerschalk BM, Sam AD 2nd, Gonzales NR, et al. Influence of sex on outcomes of stenting versus endarterectomy: a subgroup analysis of the Carotid Revascularization Endarterectomy versus Stenting Trial (CREST). Lancet Neurol 2011;10:530-7.
6. Voeks JH, Howard G, Roubin GS, Malas MB, Cohen DJ, Sternbergh WC 3rd, et al. Age and outcomes after carotid stenting and endarterectomy: the carotid revascularization endarterectomy versus stenting trial. Stroke 2011;42:3484-90.

http://dx.doi.org/10.1016/j.jvs.2014.05.045

Regarding "A simple technique to achieve bloodless excision of carotid body tumors"

We read with great interest the article by Spinelli et al[1] on "A simple technique to achieve bloodless excision of carotid body tumors," who described the "double-clamping" technique for Shamblin II-III carotid body tumor (CBT) resection to reduce