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Regarding an Apparently High Stroke Rate in Patients With Medically Managed Asymptomatic Carotid Stenosis at an Academic Center in the Southeastern United States

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► **To cite this version:**

Anne L Abbott, Oliseneku D Uyagu, Guillaume Goudot, Hrvoje Budincevic, Stavros Kakkos. Regarding an Apparently High Stroke Rate in Patients With Medically Managed Asymptomatic Carotid Stenosis at an Academic Center in the Southeastern United States. *Annals of Vascular Surgery*, 2022, pp.S0890-5096(22)00526-X. 10.1016/j.avsg.2022.08.017 . inserm-03879458

HAL Id: inserm-03879458

<https://inserm.hal.science/inserm-03879458>

Submitted on 30 Nov 2022

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1 **Revised Manuscript, CLEAN**

2 **31st July 2022**

3 **Cover Letter**

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5 **Letter to the Editor of Annals of Vascular Surgery**

6 **Anne L. Abbott, Oliseneku D. Uyagu, Guillaume Goudot, Hrvoje Budincevic and Stavros**

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9 **Regarding an Apparently High Stroke Rate in Patients With Medically Managed**
10 **Asymptomatic Carotid Stenosis at an Academic Center in the Southeastern United States**

11 S. Weiner, M. H. Benton, B. Guraziu, Y. Yange, J. He, Y. T. Chen, et al.

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46 **Number of words:** 458, including references

47 **References:** 5

48 **Key words:** Carotid stenosis, carotid stenting, carotid endarterectomy, trans-carotid arterial

49 revascularisation, medical (non-invasive) intervention, stroke prevention

50 **Funding Statement:** There was no specific funding for producing this manuscript. A/Prof Abbott is

51 a neurologist. She has received several grants for independent research on the topic of stroke

52 prevention. She was part academically funded by an NHMRC grant at the time of creating this
53 manuscript (APP1168295).

54

55 **Conflict of Interest:** The authors declare no conflict of interest or competing interests in relation to
56 this manuscript.

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Journal Pre-proof

Letter to the Editor of Annals of Vascular Surgery**By Anne L. Abbott, Oliseneku D. Uyagu, Guillaume Goudot, Hrvoje Budincevic and Stavros****Kakkos****Regarding an Apparently High Stroke Rate in Patients With Medically Managed
Asymptomatic Carotid Stenosis at an Academic Center in the Southeastern United States**

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Text

We respectfully disagree with Weiner et al and advise that it is premature to give up on current best non-invasive medical intervention (lifestyle coaching and medication) alone for patients with asymptomatic carotid stenosis (ACS).(1) Weiner et al reported an average annual ipsilateral 'stroke' rate of 2.9% (10 ipsilateral strokes, in 173 patients with >70% stenosis over 2 years). This is just a little more than for non-surgically managed patients in the Asymptomatic Carotid Atherosclerosis Study (2.3%/year in patients with 60-99% ACS) and significantly more than in the most recently published quality studies of non-invasively managed patients with ≥ 50 -75% ACS (approximately 0.8%/year).(2-4)

When study results are different, almost certainly the methods are different. In contrast to the quality studies included in previous meta-analyses showing falling stroke rates in non-invasively managed ACS patients(3, 4), the single-centre study by Weiner et al:

* Was retrospective

* Was without a definition of stroke and transient ischaemic attack (TIA). Including patients with a deficit lasting <24 hours as 'stroke patients' artificially elevates stroke rates.(4)

103 * Lacked explanation as to whether or not only the first ipsilateral stroke or TIA was included in the
104 analyses. Continuing to monitor patients for stroke after a TIA artificially elevates stroke rates.(5)
105 * Lacked explanation as to whether or not carotid endarterectomy associated strokes were included
106 in their analysis of outcomes with non-invasive intervention alone.

107

108 Moreover, the study was not designed to assess current best medical intervention. For example, it
109 was a study of clinician recommendations about medications, not of what medications were
110 taken. Furthermore, Weiner et al gave an overly simplified definition of 'optimal' non-procedural
111 medical management, including by not addressing all leading arterial disease risk factors, not
112 considering the importance of lifestyle factors, not providing current and reproducible definitions of
113 risk factors and medical interventions (including evidence-backed intervention targets) and not
114 providing information about any changes in patient risk factor profiles and non-invasive
115 interventions over the 2 years.(5)

116

117 In conclusion, the quality of medical intervention being received by the ACS patients at the
118 academic center in the south-eastern United States is incompletely documented. However, where it
119 is documented, the standard is poor. Rather than default to more carotid procedures, we recommend
120 that the authors are invigorated to optimise medical intervention at their institution. After all, there
121 is current evidence of significant patient benefit from non-invasive medical intervention.(3-5)

122 Further, there is no current randomised trial evidence that any carotid artery procedure provides
123 patient benefit compared to non-invasive medical intervention alone and there is known procedural
124 risk and cost.

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