Concomitant Asymptomatic Intracranial Atherosclerotic Stenosis Increase the 30-Day Risk of Stroke in Patients Undergoing Symptomatic Intracranial Atherosclerotic Stenosis Stenting

Jin Zhao, MD,*,† Xiaohui Li, MD,†,[1] Lu-Xiang Chi, MD,*,[1] Bing-Wu Ma, MS,‡ Yan-Hui Du, MS,‡ Gui-Sheng Chen, MD,‡ Hua-Dong Zhou, MD,§ Jing-Cheng Li, MD,§ Xiao-Jiang Jiang, MD,§ Qing-Wu Yang, MD,‖ Xiong-Fei Zhao,¶ and Xiao-Feng Yao, BM¶

Background: In the Stenting and Aggressive Medical Management for Preventing Recurrent Stroke in Intracranial Stenosis (SAMMPRIS) trial, 19.1% of ischemic strokes occurred out of the territory of previously symptomatic stenosis during the mean follow-up period of 23.4 months. However, it is unknown how many ischemic strokes were due to a previously asymptomatic intracranial atherosclerotic stenosis (ICAS). The objective of this study was to investigate whether the concomitant asymptomatic ICAS influences the outcome of patients undergoing symptomatic ICAS stenting. *Methods:* We retrospectively reviewed 576 consecutive patients with nondisabling ischemic stroke (modified Rankin scale score of ≤3) who were treated with symptomatic ICAS (≥70% stenosis) stenting with or without concomitant asymptomatic ICAS. The baseline characteristics and the 30-day primary end points (stroke or death after stenting) were compared by bivariate and multivariable logistic analyses. *Results:* The 30-day rate of primary end points was 5.2%, which was higher in patients with concomitant asymptomatic ICAS (≥50% stenosis) than in those without asymptomatic ICAS (no stenosis or <50% stenosis) (8.9% versus 3.8%, $P = .014$). In patients with concomitant asymptomatic ICAS, 25% of ischemic strokes occurred out of the territory of the stented artery, whereas in patients without asymptomatic ICAS, no ischemic stroke occurred out of the territory of the stented artery. Multivariable analysis showed that concomitant asymptomatic ICAS was an independent risk factor for 30-day stroke (odds ratio = 2.37, 95%

From the *Department of Cardiology, Southwest Hospital; †Center of Translational Medicine, College of Pharmacy, Third Military Medical University, Chongqing, China; ‡Department of Neurology, Affiliated Hospital of Ningxia Medical University, Yinchuan, China; §Department of Neurology, Daping Hospital; ‖Department of Neurology, Xinqiao Hospital, Third Military Medical University, Chongqing, China; and ¶Department of Neurology, Third Affiliated Hospital of Yanan University, Xianyang, China.

Received July 4, 2017; revision received September 12, 2017; accepted September 20, 2017.

Address correspondence to Xiaohui Li, MD, Center of Translational Medicine, College of Pharmacy, Third Military Medical University, Gaotanyan 35, Shapingba, Chongqing 400038, China. E-mail: lpsh008@aliyun.com.;

Address correspondence to Lu-Xiang Chi, MD, Department of Cardiology, Southwest Hospital, Third Military Medical University, Gaotanyan 30, Shapingba, Chongqing 400038, China. E-mail: chi68754271@126.com.

[1] These authors contributed equally to this work.

1052-3057/$ - see front matter

© 2017 Published by Elsevier Inc. on behalf of National Stroke Association.

https://doi.org/10.1016/j.jstrokecerebrovasdis.2017.09.032

confidence interval, 1.14-5.63; $P = .023$). *Conclusions:* Concomitant asymptomatic ICAS (≥50% stenosis) might increase the 30-day risk of stroke in patients undergoing symptomatic ICAS stenting. **Key Words:** Atherosclerosis—angioplasty—stroke—stent.

© 2017 Published by Elsevier Inc. on behalf of National Stroke Association.

Introduction

Symptomatic intracranial atherosclerotic stenosis (ICAS) is one of the most common causes of stroke and is associated with a high risk of recurrent stroke.[1] The recently published Stenting and Aggressive Medical Management for Preventing Recurrent Stroke in Intracranial Stenosis (SAMMPRIS) trial[2] pointed out that there was a higher risk of stenting for patients with symptomatic ICAS than of medical therapy. The occurrences of primary end points (any stroke or death) in the stent group versus the medical group was 14.7% versus 5.8% at day 30 ($P = .0016$), and 23% versus 15% during a median follow-up of 32.4 months ($P = .0252$). But even in the medical treatment group, the risk is high. When the perioperative strokes were excluded, the rates of subsequent ischemic strokes were almost the same in the 2 groups. Some registry studies of symptomatic ICAS stenting in China[3-5] reported a relative lower 30-day rate of primary end points (2.0%-7.8%). This discrepancy might be caused by the different selection of patients and the different treatment methods between them. Further studies are necessary to define the appropriate patient selection and the best therapeutic approach for various patients.

The SAMMPRIS trial did not exclude stenosis out of the territory of target intracranial lesion, and 19.1% ischemic strokes occurred out of the territory of the qualifying artery during the mean follow-up period of 23.4 months.[2] The ongoing Registry Study of Stenting for Symptomatic Intracranial Artery Stenosis in China excluded more than 70% stenosis in other intracranial arteries than the culprit artery,[6] and no ischemic stroke occurred out of the territory of the stented artery within 30 days after stenting.[3] Although the Warfarin–Aspirin Symptomatic Intracranial Disease (WASID) trial pointed out that the previously asymptomatic ICAS was the most commonly identified cause of ischemic stroke that occurred out of the territory of the previously symptomatic ICAS.[7] However, in the SAMMPRIS trial, patients with previously asymptomatic ICAS were not reported, so it is unknown how many ischemic strokes were due to previously asymptomatic ICAS.

In the present study, we retrospectively analyzed 576 consecutive patients with nondisabling ischemic stroke who were treated with symptomatic ICAS stenting with or without concomitant asymptomatic ICAS to evaluate whether the concomitant asymptomatic ICAS influenced the 30-day outcomes of symptomatic ICAS stenting in a Chinese population.

Methods

Patients

Under the approval of the institutional review board of each institution, we retrospectively reviewed the stroke databases of 5 participating institutions. Each institution had at least 100 intracranial stenting per year. Between October 2012 and February 2016, 576 consecutive patients with nondisabling ischemic stroke (modified Rankin scale score of ≤3) who were treated with symptomatic ICAS (≥70% stenosis) stenting with or without concomitant asymptomatic ICAS were selected. Ischemic stroke is defined as a new focal neurological deficit of sudden onset, lasting at least 24 hours, which is not caused by hemorrhage as shown on computed tomography (CT) or magnetic resonance imaging (MRI) of the brain. Symptomatic ICAS was defined as ICAS where the current neurological signs were related to the area of the brain supplied by it. Asymptomatic ICAS was defined as stenosis that had no relation to the current neurological signs and had no old visible infarction in neuroimaging in its respective vascular territory.[8] The degree of stenosis was calculated according to the WASID technique.[9]

According to the criteria used in the SAMMPRIS trial[10,11] we included patients who had a nondisabling ischemic stroke within the past 30 days, which were attributable to the 70%-99% atherosclerotic stenosis of 1 major intracranial arteries (intracranial internal carotid artery, middle cerebral artery [MCA] stem [M1], intracranial vertebral artery [VA], or basilar artery [BA]) confirmed by catheter angiography. Patients were excluded if they were over 75 years of age and had an acute ischemic stroke within 7 days; other strokes out of the territory of the symptomatic ICAS; a stroke caused by BA or MCA stenosis at the site of the origin of the perforator; more than 50% tandem ICAS that was proximal or distal to the target intracranial lesion; more than 50% bilateral intracranial VA stenosis; an uncertainty about which artery was symptomatic; an intracranial artery occlusion; more than 50% stenosis of an extracranial carotid artery or an extracranial VA; severe vessel tortuosity that precluded the deployment of endovascular devices; a stenosis greater than 15 mm in length or less than 2 mm in diameter;

Download English Version:

https://daneshyari.com/en/article/8595707

Download Persian Version:

https://daneshyari.com/article/8595707

Daneshyari.com