

Adiposity and cerebrovascular disease

Leonardo Roever¹, Poliana Rodrigues Alves Duarte¹, Anaisa Silva Roerver-Borges², Elmiro Santos Resende¹

Roever L, Duarte PRA, Borges ASR, et al. Adiposity and cerebrovascular disease. *J Vas Dis Treat*. 2018;2(1): 3.

EDITORIAL

Atherosclerosis is a systemic vascular disease characterized by involving of endothelial dysfunction, hyperlipidemia, lipid infiltration, inflammation, oxidative stress, and cerebral atherosclerosis is associated with of ischemic stroke, can be divided into extracranial and intracranial atherosclerosis (anterior and posterior circulation). Intracranial stenosis is a narrowing of an artery inside the brain that can lead to stroke. Stenosis is caused by a buildup of plaque inside the artery wall that reduces blood flow to the brain (1-5).

Karcher and colleagues made a volumetric magnetic resonance (MR) assessment of subcutaneous and visceral body fat in 25 patients with ischemic stroke. Visceral adipose tissue showed a significant correlation with the volume of lesion load of white matter (6).

Bodenant et al., analyzed the association waist circumference, waist-hip ratio, and waist-height ratio are better predictors of stroke risk. All of these measures were associated with the risk of stroke in men (7).

Kroll and colleagues compared with BMI associations with ischemic and hemorrhagic stroke. Increased BMI was associated with an increased risk of ischemic stroke but a reduced risk of hemorrhagic stroke and in women with the highest BMI and was associated with increased risk of ischemic stroke and with reduced risk of hemorrhagic stroke (8).

Adiposity is associated with stroke, cardiovascular disease and death (9). In a study of 4631 Iranians, overweight and obesity were associated with coronary heart disease, and obesity was associated with an increased risk of stroke (10).

Kang et al., in a study of 605 women and 727 male patients, observed that overall obesity measured by BMI and by waist-height ratio had similar effects on the functional outcome after stroke in males (11).

A large cohort study should be conducted to definitively determine the clinical significance of adiposity, its correlation with stroke. Potential treatments such as lifestyle modification, ectopic fat reduction, and medications should be investigated.

REFERENCES

1. Carvalho M, Oliveira A, Azevedo E, et al. Intracranial arterial stenosis. *J Stroke Cerebrovasc Dis*. 2014;23:599-609.
2. Pisciotta L, Bertolini S, Pende A. Lipoproteins, stroke and statins. *Curr Vasc Pharmacol*. 2015;13(2):202-8.
3. Tu Z, Huang D, Yang J, et al. Effect of dyslipidemia on intima-media thickness of intra- and extracranial atherosclerosis by regulating the expression of hsp70 in rabbits. *Int J Clin Exp Med*. 2015;8(4):5446-5453.
4. Kim JS, Nah HW, Park SM, et al. Risk factors and stroke mechanisms in atherosclerotic stroke: intracranial compared with extracranial and anterior compared with posterior circulation disease. *Stroke*. 2012;43(12):3313-8.
5. Wong KS, Ng PW, Tang A, et al. Prevalence of asymptomatic intracranial atherosclerosis in high-risk patients. *Neurology*. 2007;68(23):2035-8.
6. Karcher HS, Holzwarth R, Mueller HP, et al. Body fat distribution as a risk factor for cerebrovascular disease: an MRI-based body fat quantification study. *Cerebrovasc Dis*. 2013;35(4):341-8.
7. Bodenant M, Kuulasmaa K, Wagner A, et al. Measures of Abdominal Adiposity and the Risk of Stroke The MONica Risk, Genetics, Archiving and Monograph (MORGAM) Study. *Stroke*. 2011;42(10):2872-7.
8. Kroll ME, Green J, Beral V, et al. Adiposity and ischemic and hemorrhagic stroke: Prospective study in women and meta-analysis. *Neurology*. 2016;87(14):1473-1481.
9. Lacey B, Yeap BB, Golledge J, et al. Body Mass Index and Vascular Disease in Men Aged 65 Years and Over: HIMS (Health In Men Study). *J Am Heart Assoc*. 2017;6(12):e007343.
10. Boloukat RR, Ramezankhani A, Hasheminiya M, et al. Impact of blood pressure, cholesterol and glucose in the association between adiposity measures and coronary heart disease and stroke among Iranian population. *Clin Nutr*. 2017;S0261-5614(17):31355-9.
11. Kang K, Lee WW, Lee JJ, et al. Comparison of body mass index, waist circumference, and waist-height ratio in predicting functional outcome following ischemic stroke. *J Thromb Thrombolysis*. 2017;44(2):238-44.

¹Department of Clinical Research, Federal University of Uberlândia, Brazil; ²Master Institute of Education President Antonio Carlos - IMEPAC-Araguari, Brazil.

Correspondence: Dr. Leonardo Roever, MHS, Department of Clinical Research, Federal University of Uberlândia, Brazil. Telephone: +553488039878, e-mail: leonardoroever@hotmail.com

Received: January 24, 2018, Accepted: February 08, 2018, Published: February 14, 2018



This open-access article is distributed under the terms of the Creative Commons Attribution Non-Commercial License (CC BY-NC) (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits reuse, distribution and reproduction of the article, provided that the original work is properly cited and the reuse is restricted to noncommercial purposes. For commercial reuse, contact reprints@pulsus.com