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Obesity and Stroke



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The impact of obesity on stroke is well recognized and is not only a risk factor for stroke in older but also in younger adult populations (Mitchell et al., 2015). According to World Health Organization (WHO) overweight and obesity are defined as “the disease in which excess body fat has accumulated to such an extent that health may be adversely affected” (WHO, 2000). Overweight and obesity are measured by body mass index (BMI) (Komaroff, 2016). In adults, overweight is considered a BMI of 25 to 29.9 kg/m² and obesity as a BMI of ≥ 30 kg/m². Recent statistics reveal that in the European Union 51.6% of adults are overweight (Eurostat, 2014). Since there is a positive relationship between obesity and stroke incidence, the elevated obesity rates thereafter exert a great burden on the incidence of stroke.

There is growing body of evidence revealing that the association between obesity and stroke is partly mediated through diseases linked to obesity (Suk SH et al., 2003). In other words, three-quarters of the greater risk obesity imposes on stroke is due to diabetes mellitus, hypertension and elevated blood levels of cholesterol (Global Burden of Metabolic Risk Factors for Chronic Diseases Collaboration et al., 2014). Suk et al. (2003) argued that solely BMI may not be a good indicator for the risk of stroke. The researchers claimed that abdominal obesity, as measured by waist-to-hip ratio (WHR), may be a better predictor for stroke risk. Factors like heavy drinking, cigarette smoking and the decrease in lean body tissue observed as a result of aging, may interfere with the BMI/stroke relationship and as a result weaken this relationship. Other scientists have claimed an obesity paradox in stroke (Scherbakov et al., 2011). In other words, overweight or obese patients undergone stroke have a lower mortality rate than their normal or underweight counterparts. The obesity paradox in stroke suggested that BMI exerts a protective effect on secondary prevention of stroke. However, when the severity of stroke was taken into account the obesity paradox was diminished (Dehlendorff et al., 2014).

Obesity constitutes a risk factor that can be potentially altered. Obesity not only increases the risk for diabetes, hypertension and elevated blood lipids, all of which increase the risk for stroke, but also increases the risk for stroke independently especially abdominal obesity. Therefore, weight control is of utmost importance in order to reduce stroke risk. A holistic approach that puts emphasis on balanced

and healthy diet, exercise and behavioral changes should be promoted. As far as nutrition is concerned a low intake of saturated and trans fatty acids, refined carbohydrates and salt while an increase intake of fruits, vegetables, antioxidant-, potassium-, calcium- rich foods, complex carbohydrates, unsaturated fatty acids and adherence to the Mediterranean or “dietary approaches to stop hypertension (DASH)” diet seem to favorably affect stroke incidence(Global Burden of Metabolic Risk Factors for Chronic Diseases Collaboration et al., 2014; Foroughi et al., 2013).

To sum up, as we are becoming more obese, stroke incidence will also rise proportionally. To be able to effectively counteract stroke risk, healthy weight should be obtained.

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