Body-fat distribution may be better stroke risk predictor than body-mass index

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MedWire News: Markers of abdominal adiposity, in particular waist-to-hip ratio, were superior to body-mass index (BMI) in predicting the risk for stroke or transient ischemic attack (TIA) in a case-control study of people living in southwestern Germany.

"Waist circumference and related ratios, such as waist-to-hip ratio and waist-to-stature ratio, can better predict cerebrovascular events than BMI in a population of central Western Europe," write Yaroslav Winter (University of Heidelberg, Germany) and colleagues in an article published early online in the journal *Stroke*.

The study included 1137 participants - 379 cases recruited between February, 2005, and January, 2006, and 758 controls. Ischemic stroke occurred in 301 (79%) cases, intracerebral hemorrhage in 37 (10%), and TIA in 41 (11%); 141 (37.2%) of the cases were women. The mean age of cases was 67.3 years compared with 65 years for controls. The age difference was attributed to a lack of individuals younger than age 75 years among the controls.

In a model adjusted for age and gender, BMI was positively associated with the risk for stroke or TIA, but this association was no longer significant after adjustment for risk factors, including physical inactivity, smoking, hypertension, and diabetes.

The risk for stroke or TIA was increased in a graded manner with increasing waist-to-hip ratio. When adjusted for age and gender, patients in the highest tertile for waist-to-hip ratio had a 12.78-fold greater risk for cerebrovascular disease compared with the lowest tertile.

Even after adjusting for other risk factors, this association remained significant in both men and women. Waist-to-stature ratio and waist circumference were also significantly associated with risk for stroke or TIA after adjusting for risk factors.

The authors note that the risks for stroke or TIA related to abdominal adiposity are higher than in other studies on this subject, "possibly because of the inclusion of TIA as an important cerebrovascular event" which is lacking in other studies.