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## ESC 2014: Childhood Obesity and Hypertension



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According to a new study from Germany discussed in a Moderated Poster session at the ESC Congress 2014 in Barcelona, obese youngsters as defined by adiposity have nearly a six-fold greater risk of hypertension as compared to those of normal weight.

The new study used body fat distribution to assess the impact of childhood body weight. 22,051 children and adolescents from the Prevention Education Program (PEP) Family Heart Study, a prospective community-based observational study performed from 1995 to 2008 in Germany, were included in the study. Blood pressure, BMI, waist circumference, waist-to-height ratio (WHtR), skinfold thickness (SFT) and percent body fat (%BF) were measured by the researchers.

Professor Peter Schwandt from the Ludwig-Maximilian University of Munich-Nuremberg, Germany explained the study at a press conference. "These measures are simple, inexpensive, risk free and can be used in offices, schools and at home. However, they must be performed correctly, and age and gender specific cut-off values must be used."

The study researchers found that, when compared with normal weight children and adolescents, the risk of prehypertension (defined as a blood pressure reading between the 90th and 95th percentile of the blood pressure curve) was 1.6 fold higher in overweight and 2.4 fold higher in obese boys. Similarly, the risk of hypertension was 1.8 fold higher in overweight and 3.3 fold higher in obese girls. The association between obesity and hypertension was even more evident because the study found that the risk of hypertension in obese girls was 5.9 fold higher and in obese boys 4.3 fold higher.

Thus, the study found that obese girls had a six-fold higher risk of hypertension as compared to normal weight girls, and boys had a four-fold higher risk as compared to normal weight boys. The same risk was found with other measures of body fat including elevated skinfold thickness, weight-to-height ratio and abnormal adiposity. According to Schwandt, these findings are of great importance and highlight the need to track childhood weight into adulthood.

Another study was also presented at the same press conference. That study suggests that gender and age should be added to the risk stratification of resistant hypertension. The study included 120,000 subjects. The findings revealed subjects with resistant hypertension had a 17 percent greater risk of major adverse cardiovascular events as compared to those with non-resistant hypertension.

The study also showed that resistant hypertension increased the risk of stroke in females by 35 percent and in elderly patients by 20 percent. The study investigator, Dr. Kuo-Yang Wang, said that this was the first study of its kind to explore the relationship between age, gender and major adverse cardiovascular events in patients with resistant hypertension. Gender and age should be included when diagnosing resistant hypertension and could provide a more accurate prediction of stroke risk.

Source: European Society of Cardiology

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