

Obese kids said to show sign of “middle-age” heart disease

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Courtesy of the Heart and Stroke Foundation of Canada and World Science staff

Obese children have stiff blood vessels typical of much older adults with cardiovascular disease, who are at risk of early death, according to a new study.

“These obese children already have stiff blood vessels,” said researcher Kevin Harris of the British Columbia Children’s Hospital, presenting his findings at this year’s Canadian Cardiovascular Congress in Montreal.

Harris explained that obese children suffer something akin to premature aging of the aorta, the body’s largest artery, which distributes oxygen-rich blood to all other arteries. “The normal aorta has elastic qualities that buffer the flow of blood. When that elasticity is lost, aortic stiffness results – a sign of developing cardiovascular disease,” Harris told the meeting. “Aortic stiffness is associated with cardiovascular events and early death.”

Harris and colleagues evaluated 63 obese children, aged 13 on average, and compared them with 55 normal-weight youngsters. Children underwent a range of tests including ultrasound scans of the heart and blood vessels. These tests were to determine the Pulse Wave Velocity in the aorta, a measure of how fast blood flows and one of the measures used to assess aortic stiffness.

Ultrasounds showed that the Pulse Wave Velocity and other measures of arterial health were abnormal in obese youngsters, Harris said, though other measures of heart health such as blood lipid levels and blood pressure were not dramatically different.

To see actual changes to heart and blood vessel performance in obese children is extremely alarming, said Beth Abramson, a spokeswoman for the Heart and Stroke Foundation of Canada, which co-hosted the conference. “We know there is an association between unhealthy lifestyles and heart disease. Our kids are at risk,” she said. “Poor nutrition and inactivity are threatening their health and well-being. We must rethink the lifestyle standards we have accepted as a society.”

Childhood obesity rates have tripled over the last 25 years and continue rising, warned Abramson; over a quarter of Canadian children between the ages of two and 17 years are overweight or obese. She notes that the health risks include heart disease, high blood pressure, and type 2 diabetes.

Harris said the next step should be to determine whether these changes are reversible with treatment such as improved diet and exercise. This test may eventually be helpful in monitoring the progression of cardiovascular disease in children and young adults, he added.