

Hypertension Seen in 31% of Obese Adolescents

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OLD GREENWICH, CONN. — Be on the lookout for hypertension among obese children and teenagers. The problem is very common and it starts early, Dr. Mala Puri reported at a meeting of the Eastern Society for Pediatric Research.

Dr. Puri and her colleagues at the Montefiore Medical Center, N.Y., found that nearly one-third of a cohort of 167 obese,

mostly black and Hispanic adolescents had elevated blood pressure, compared with only 3% in nonobese control subjects from the same community.

As a whole, the study cohort had a mean age of 14 years. The investigators defined hypertension as resting systolic over diastolic blood pressure at or above the 95th percentile for age. The 167 obese youths had a mean BMI of 38 kg/m²; the 31 controls had a mean BMI of 20.

Thirty-one percent of the obese teens

met the criteria for hypertension, versus only 3.2% of controls—a nearly tenfold difference. The obese subgroup had a mean systolic pressure of 121 mm Hg, compared with 105 mm Hg in the control group, and the systolic over diastolic index was 0.95 among the obese kids vs. 0.83 among the controls.

The heavier teens also had markedly lower HDL (48 mg/dL vs. 66 mg/dL), and elevated triglycerides (113 mg/dL vs. 78 mg/dL).

Dr. Puri and her colleagues looked more closely at the obese cohort itself, comparing those who were hypertensive with those who were normotensive. They found that Hispanic and Caribbean teens who were obese were more likely to be hypertensive than African Americans (21% vs. 10%), and this was true of both males and females. Eighty percent of the hypertensive obese youth had family histories of hypertension.

"The vast majority of our obese patients have obese parents, and I'd say that the majority of the predisposing factors are related to diet and lifestyle," Dr. Puri told attendees at the conference, cosponsored by the Children's Hospital of Philadelphia.

While it is clear that inner-city black, Hispanic, and Caribbean youth are at high risk, there are other studies suggesting

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that the prevalence of hypertension among obese/overweight teens is similarly high in other communities. She noted that one study looked at public school populations in suburban, largely white

communities in Texas and found similar rates of hypertension among the obese teens.

"Obese young people are clearly showing elevated blood pressure and early-stage hypertension. We really need good strategies for treating this problem, especially among minority youth." However, Dr. Puri stressed that the Montefiore staff physicians, like most pediatricians, hesitate to start young teens on long-term drug therapies unless there are no other options.

She acknowledged the limitations of this study; it relied solely on office-based blood pressure measurements taken by nurses, and it can be difficult to know with certainty that these measurements reflect day-to-day blood pressure. The Montefiore team is starting a study of obese teens using 24-hour blood pressure monitoring to get a better sense of their overall cardiovascular health.

In addition, the Montefiore group is studying polycystic ovary syndrome (PCOS) in a cohort of obese teen girls, comparing them with a similar group of obese girls without PCOS. They are trying to determine if PCOS correlates with impaired glucose tolerance, insulin resistance, and diabetes among teens, as it does in adult women.

Dr. Puri noted that 30% to 40% of adults with PCOS show impaired glucose tolerance (IGT) or type 2 diabetes.

The Montefiore cohort comprises 92 girls with a mean age of 14 and a mean BMI of 37 kg/m². Roughly one-quarter of the cohort is African American; the remainder is Hispanic. Thirty-one of the girls had clear evidence of PCOS, defined as irregular menses, hyperandrogenism, and elevated free testosterone. ■



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