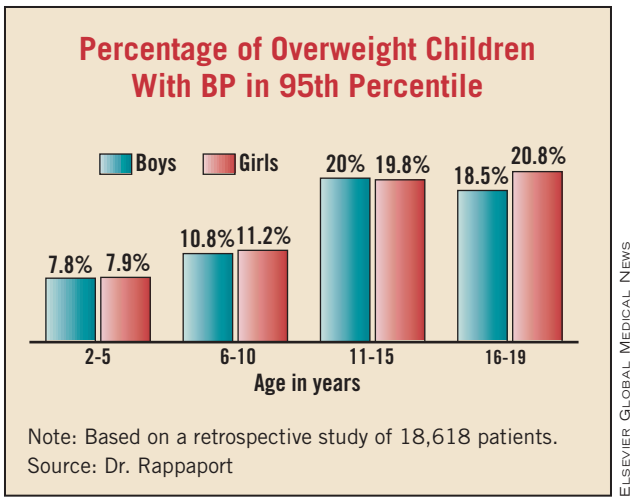

BMI, BP Tied in Young Children

BY ROBERT FINN
San Francisco Bureau

ATLANTA — Elevated blood pressure is associated with elevated body mass index in children as young as 2 years, according to results of a large study reported by Dr. Elizabeth B. Rappaport at the annual meeting of the International Society on Hypertension in Blacks.

Among boys who are aged 2-5 years with BMIs above the 95th percentile, 7.8% have systolic or diastolic blood pressures at the 95th percentile or above. This increases to 10.8% in boys who are aged 6-10 years, 20.0% in boys aged 11-15 years, and 18.5% in those aged 16-19 years. The results are similar in girls. (See chart).

The retrospective study involved 18,618 pediatric primary care patients seen during well-child visits in 2002 at a network of clinics in Delaware (J. Pediatr. 2006;148:195-200).

"This is a fairly efficient practice that has a routine of measuring blood pressure in nearly all the children down to age 2 as they come through the door," said Dr. Rappaport of Thomas Jefferson University, Philadelphia. "In most cases they do it by auscultation and they have the proper cuff sizes and so forth, so we felt these would be reasonably reliable blood pressures."

Blood pressure information was entered into electronic medical records at the time of the visit along with data on the child's height, weight, and insurance status. Insurance status was used as a surrogate for socioeconomic status; children with commercial or private insurance were considered to be better off than children with government or public insurance.

Although data on the child's race were included in the electronic medical record, the investigators regarded the information as being unreliable because the child's race was assigned by the registering clerk rather than by self-assignment.

Effective strategies for preventing childhood obesity must be applied at very young ages to stem the tide of increasing cardiovascular risk.

In a finding that was in agreement with other studies, the prevalence of overweight among the children was quite high. Overall, only 63.1% of the children had a BMI under the 85th percentile, which is considered normal weight. The prevalence of overweight—BMI at or above the 95th percentile—was 20.2%. The prevalence of children with BMIs between the 85th and 94th percentile, considered to be at risk for overweight, was 16.7%.

Although many of the children appeared to have elevated blood pressures, the fact that there was only a single blood pressure measurement prevented the investigators from making formal assessments of hypertension. The definition of hypertension in children and adolescents requires systolic or diastolic pressures to be at or above the 95th percentile on at least three separate visits.

Based on that single blood pressure measurement, more than 7.5% of the 2- to 5-year-old children and 10%-20% of the older children and adolescents would require follow-up measurements.

One unexpected result of the study was that government and public insurance was associated with lower blood pressure. This was surprising because a frequent finding in other studies is that lower socioeconomic status is associated with higher blood pressure, she said.

The results of the study suggest that effective strategies for preventing childhood obesity must be applied at very young ages to stem the tide of increasing cardiovascular risk, Dr. Rappaport said. ■

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