Don't Measure Fasting Insulin in Obese Child

BY MIRIAM E. TUCKER

NEW YORK — There is no reason to test overweight or obese children for insulin resistance, according to an international committee of experts in pediatric endocrinology and diabetes.

Five of its members presented the conclusions at a joint meeting of the Lawson Wilkins Pediatric Endocrine Society and the European Society for Pediatric Endocrinology. The evidence-based document, which the presenters intended to submitt for publication in October, will address the definition, measurement, risk assessment, treatment, and prevention of insulin resistance in children.

It is expected that the document will recommend against the use of fasting insulin levels—or any laboratory test—to screen for insulin resistance in children, and against the use of medication to treat children with insulin resistance in the absence of specific diagnoses such as type 2 diabetes or polycystic ovarian syndrome.

In adults, insulin resistance has been strongly linked to obesity, type 2 diabetes, and cardiovascular disease, and there is also some evidence linking it with a risk for those conditions among children, said Dr. Franco Chiarelli, panel cochair.

"But unfortunately for us pediatricians, there is a lack of clarity as to what insulin resistance means in childhood, how it is best assessed, what clinical disorders occur, and its consequences. And, there is debate on how to treat and possibly prevent insulin resistance in children," said Dr. Chiarelli, professor and head of pediatrics at the University of Chieti (Italy).

Dr. Claire Levy-Marchal, another panel cochair, said that population data on the distribution of normal insulin levels is fairly well characterized in adults but not in children, in whom fasting insulin levels vary by weight, nutrition, activity, gender, developmental stage, ethnicity, and other factors. Thus, there is no clear cutoff between normal and abnormal, said Dr. Levy-Marchal, of Robert Debre Hospital, Paris.

The strong stance against testing for insulin resistance was needed because the practice is common, Dr. Silva Arslanian, a panel member, said in an interview. "We get a lot of referrals of children with a 'high insulin level' and meanwhile the child is obese and the parent was never told that the child is obese. … That's why the insulin level is high."

Measuring insulin levels is an unnecessary health care expenditure, added Dr. Arslanian, the Richard L. Day Endowed Professor of Pediatrics at the University of Pittsburgh. "Why do that when your eyes can tell you—or the body mass index can tell you. If you're obese, the insulin level will be higher. You treat the obesity and the insulin comes down. You don't treat the insulin."

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DR. ARSLANIAN

She reviewed the literature regarding risk factors for insulin resistance in children, including obesity, high BMI, and high waist circumference. African American children are at greater risk, as are those entering puberty, when insulin sensitivity declines an average of 30%. PCOS also confers an increased risk as does intrauterine exposure to a mother's diabetes during pregnancy, she said.

Dr. Chiarelli summarized the group's recommendation for prevention of insulin resistance in children, which include efforts to reduce maternal and childhood obesity, and the promotion of breast-feeding as a means of reducing obesity for the child later in life. The breast-feeding recommendation sparked some debate and received only a "C" level of evidence, but there are data to support it, he said.

The statement has been endorsed by seven specialty societies and is financially supported by the Institut National de la Santé et de la Recherche Médicale (INSERM) and an unrestricted educational grant from the French pharmaceutical company Ipsen. ■