
What is the metabolic syndrome?

It is known that cardiovascular risk factors may cluster in individuals. This has been shown in adults and children. This concept has led to an attempt to characterize some of these clusters as the metabolic syndrome. The definition of the metabolic syndrome has been somewhat elusive even in adults; it is even less clear in children. In this issue, Retnakaran et al use factor analysis to evaluate clustering of cardiovascular risk factors in Canadian First Nation children aged 10 to 19 years. They included traditional (blood pressure, lipid levels) and non-traditional (C-reactive protein) risk factors in their analysis. They found that non-traditional risk factors appear to cluster with the traditional risk factors and that five core traits seem to make up the metabolic syndrome. Does this provide a definition of the metabolic syndrome in children? In her editorial, Goodman urges that we be cautious in how we interpret these results. It is likely that additional research including longitudinal studies will be required before a mechanistic understanding of the metabolic syndrome will emerge. This level of understanding will be important in the ultimate definition of the metabolic syndrome and understanding of its level of importance in assessing risk of future diabetes and cardiovascular disease in pediatric populations.

—Stephen R. Daniels, MD, PhD
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Beverage intake and the obesogenic environment

In this issue of *The Journal*, Striegel-Moore et al studied the correlation between beverage intake, body mass index (BMI), and nutrient intake in adolescent girls. This is a particularly revealing study because it analyzed black and white girls. Striegel-Moore et al demonstrated that milk consumption decreased and soda consumption increased over the period of the study. There was also a correlation with an increase in BMI with increasing soda consumption and, equally as important, there was a decrease in calcium intake.

In the accompanying editorial, Dietz carefully points out that the results of the study by Striegel-Moore cannot solely implicate beverage intake as the cause for increasing BMI in this population of young girls. Dietz agrees that the increased intake of sugar-sweetened beverages does, however, contribute to weight gain as well as the decrease in calcium intake in this teenage population.

Once again, the obesity epidemic seems to be “a perfect storm” as a result of the obesogenic environment in which children now live. Certainly the decrease in sugar-sweetened beverages and the increase in milk consumption would help decrease the epidemic of obesity, but without other nutritional changes as well as alterations in physical activity, the obesity epidemic will continue.

—Reginald L. Washington, MD
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page 152 (editorial)

Hypoglycemia and hyperinsulism in infants

Transient hypoglycemia is frequent after birth, particularly in infants exposed to high glucose levels in utero or who are growth restricted. Although infrequent, occasional infants have persistent hyperinsulism causing hypoglycemia that can be difficult to manage. Several mutations causing hyperinsulism have been described recently. Hoe et al describe a group of newborn infants who had hyperinsulism for months without the characteristics of known genetic abnormalities, which then resolved spontaneously. The causes of hyperinsulism in some neonates remain perplexing and in need of further study.

—Alan H. Jobe, MD, PhD
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“Incidental” vesicoureteral reflux

The management of urinary tract abnormalities detected by prenatal ultrasonography is problematic because of a lack of understanding of their natural history. The only way in which clear information about the long-term course of an incidental newborn finding can be established is through a carefully carried out cohort study. Ismaili et al have advanced our understanding in this area immensely through detailed studies of a cohort of children followed in their center from the time of recognition of an abnormal prenatal ultrasound. Some of their previous work has been published in *The Journal* over the past years.

In the current issue, this group addresses vesicoureteral reflux (VUR). As opposed to VUR detected in the course of investigating a child with urinary tract infection (UTI), this study examines the natural history of “incidental” VUR, detected because of the ultrasonographic finding of a dilated renal pelvis in an otherwise well newborn infant. With follow-up continuing to 2 years of age, over 90% of children with low-grade VUR has resolution of the finding. Although only about 20% of children with higher-grade VUR had resolution at 2 years, there was good news here as well. Most of these kidneys continued to have good maturation of renal function, despite persistent VUR. The few in which renal functional outcome was not good likely had abnormal renal parenchyma (dysplasia) from the outset.

The information in this well-conducted study, as well as other work from this group, will be helpful to practitioners counseling families of children found to have abnormal kidneys on prenatal ultrasounds.

—Thomas R. Welch, MD
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