Experts Debate New Iron Supplement Policy

BY LAIRD HARRISON

The new American Academy of Pediatrics guidelines for iron supplementation are drawing criticism from experts who say they go too far – and others who say they don't go far enough.

The AAP's Section on Breastfeeding wants to strike the recommendation that all breastfed children should get iron supplements. "No one has shown any benefit to doing that," said section chairperson, Dr. Richard J. Schanler, professor of pediatrics at Albert Einstein College of Medicine, N.Y.

By contrast, the AAP's local nutrition committee for a New York chapter would like to see a recommendation of iron supplements for all toddlers.

The guidelines, "Diagnosis and Prevention of Iron Deficiency and Iron-Deficiency Anemia in Infants and Young Children (0-3 Years of Age)," were published in November (Pediatrics 2010;126:1040-50), after the AAP's Committee on Nutrition spent 5 years soliciting comments from a wide range of sources, including the Section on Breastfeeding, said Dr. Frank R. Greer, an author of the guidelines.

"It's not without controversy," said Dr. Greer, professor of pediatrics at the University of Wisconsin, Madison. But he argued that the guidelines offer the most practical course for pediatricians advising parents of young children.

The debate over exclusively breastfed infants focuses on 2 months – the interval between 4 and 6 months of age. "Term, healthy infants have sufficient iron for at least the first 4 months of life," the guidelines state. "Human milk contains very little iron. Exclusively breastfed infants are at increasing risk of ID

[iron deficiency] after 4 completed months of age." They call for 1 mg/kg per day of oral iron supplements beginning at 4 months of age until the babies begin eating iron-containing foods.

The AAP already recommends that complementary foods containing iron be introduced after 6 months. So the question is whether exclusively breastfed babies should get oral iron drops for the last 2 months before beginning to eat solid foods.

The guidelines acknowledge that the prevalence of iron deficiency among children under 12 months of age in the United States is unknown. But the document cites a double-blind controlled trial showing benefits (J. Pediatr. 2003;143:582-6). Exclusively breastfed infants supplemented with iron between 1 and 6 months of age had higher hemoglobin concentration and higher mean corpuscular volume at 6 months of age; and better visual acuity and higher Bayley Psychomotor Developmental Indices at 13 months, than did children who did not get supplements.

At the very least, supplementing with iron does no harm, argues Dr. Greer. "All the formula-fed babies get iron in their formula," he said. "Where is the harm to those babies?"

But Dr. Schanler argued that at least one study has found potential risk (J. Nutr. 2002;132:3249-55). This controlled trial found slower growth among breastfed infants with normal hemoglobin who received iron supplements than those who did not receive supplements.

The two studies, one showing benefits and one showing detriments, are "of the same caliber," so more research needs to be done, Dr. Schanler said. "We're talking about millions of children, so you really have to make sure there's enough evidence to make a change," he said.

In its letter to Pediatrics (published online Oct. 28), the Section on Breastfeeding also faulted Dr. Greer and his colleagues for not discussing the possibility of delayed umbilical cord clamping as an alternative to iron supplementation. In theory, a significant amount of blood flows from the placenta to the newborn infant in the few minutes after birth. "There are data to suggest you increase red blood cell mass that way," said Dr. Schanler. "To me, if you're writing guidelines you should at least comment that there's another way to increase iron stores."

Dr. Greer said cord-clamping doesn't concern pediatricians. "That's a great idea," he said. "But we can't really recommend it if obstetricians don't do it."

In fact, the idea has not gained traction among obstetricians, said Dr. E. Albert Reece, the John Z. and Akiko K. Bowers Distinguished Professor and dean of the School of Medicine at the University of Maryland, Baltimore.

"I'm not aware of any movement afoot in the obstetrics community to prolong the time before cord clamping," said Dr. Reece, an ob.gyn. who specializes in maternal-fetal medicine. "The data now is very sparse to show that delayed cord clamping results in any substantial benefit." Dr. Reece said he supports the AAP Committee on Nutrition's recommendation to supplement breastfed infants.

Dr. Alvin Eden, chairperson of the Committee on Nutrition for AAP New York Chapter 2, also supports the national AAP infant supplement guidelines. But Dr. Eden, a clinical professor of pediatrics at Weill Medical College of Cornell University in New York, would like to see a recommendation that all toddlers get iron supplements.

The new guidelines recommend that children should be screened for anemia around 12 months of age by measuring hemoglobin concentrations and assessing risk factors associated with iron deficiency or iron deficiency anemia. For children whose hemoglobin level is less than 11 g/dL and in those at high risk of dietary iron deficiency, physicians should also measure serum ferritin (SF) and C-reactive protein (CRP) or reticulocyte hemoglobin (CHr), the guidelines say.

But evaluating the risk factors is difficult because it's hard to know how much iron a child is eating, said Dr. Eden. And measuring SF and CRP or CHr is invasive because these tests require venipuncture. "It's very expensive and a lot of labs are not doing it," he said. As a result, a lot of parents won't get the tests. "It puts the pediatrician in a difficult position. What I have been doing is putting all the toddlers on iron supplements for a year after they switch to solid foods."

Dr. Greer responded that the recommendation to do the iron deficiency testing only in those toddlers at risk – instead of all toddlers – was already a compromise intended to reduce the expense and invasiveness. And he thinks it would be even harder to get all toddlers to take iron supplements than to do the testing for iron deficiency.

Dr. Greer, Dr. Reece, and Dr. Eden said they had no relevant disclosures. ■