**JOURNAL WATCH**

**Selections from Journal Watch Pediatrics and Adolescent Medicine**

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**Lead: devastating impact even at low levels**

The relation between intelligence and blood lead levels greater than 10 µg/dL is well defined: IQ declines by 2 to 5 points with every increase of 10 to 30 µg/dL. The effect of lower lead concentrations is less certain. Investigators followed 172 children from age 6 months to 5 years, measuring IQ at ages 3 and 5 years and blood lead concentration at ages 6, 12, 18, 24, 36, and 48 months.

After accounting for 9 possible confounders, including maternal IQ and home environment, each increase of 10 µg/dL in lifetime average blood lead level was significantly associated with a 4.6-point decrease from the expected IQ scores in healthy children (P=0.004) in linear analysis. When the analysis was restricted to the 101 children whose maximum blood lead level never reached 10 µg/dL, the association between higher lead concentration and lower IQ was even stronger. In a nonlinear model, IQ declined by 7.4 points with increases in the lifetime average blood lead concentrations of up to 10 µg/dL. Beyond these lower concentrations, there were further, more gradual declines (an additional 2.5-point decrease for concentrations of 10 µg/dL to 30 µg/dL). These results were unchanged whether lead exposure was categorized as peak, concurrent with testing, or average in infancy.

**Comment**

As an editorialist notes, the CDC has repeatedly lowered its definition of elevated blood lead levels—it now stands at 10 µg/dL. It is gratifying that the median concentration in U.S. children has fallen almost 4-fold, from 15 µg/dL to 2 µg/dL since gasoline was deleaded. However, almost 300,000 children have lead levels above 10 µg/dL, and many more have levels above 2 µg/dL. What is the primary care physician to do? It is critical that infants receive enough iron, which reduces the gastrointestinal absorption of lead, and it remains important to measure blood lead levels in high-risk children, such as those living in houses built before 1960.

Howard Bauchner, MD
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**Daily inhaled steroids benefit patients with mild asthma**

The benefit of inhaled glucocorticosteroids for chronic severe asthma is well known. To examine the effect of once-daily inhaled budesonide in patients with less severe disease, researchers conducted a multicenter, placebo-controlled, randomized, double-blind trial in 7214 adults and children with mild persistent asthma (defined as reversible wheezing at least once weekly, but not daily, for less than 3 months).

The risk for a first severe asthma-related event was 44% lower in the budesonide group than in the placebo group. After 1 year of treatment than after 3 years. One asthma death occurred in the placebo group.

**Comment**

Treatment with budesonide had a strikingly beneficial effect in this large group of patients with mild persistent asthma. The number of subjects and the flexibility in the use of nonprotocol asthma medications are impressive and increase the credibility of the findings. The negative effects on growth are worrisome, but were previously known and appear to diminish over time.

F. Bruder Stapleton, MD
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**Shigella: a new use for azithromycin?**

There are numerous reports of multiresistant shigella in the developing world, and U.S. practitioners in states with large immigrant populations regularly face the problem of treating patients infected with these isolates. Because shigella is highly transmissible from a small inoculum, proper treatment is a public health priority. Options for treatment include many therapies that are effective yet not widely accepted. Investigators in Paraguay compared two such therapies for clinical efficacy and bacteriologic eradication.

Children with clinical dysentery were enrolled in the study and randomized to receive 5 days of oral azithromycin or cefixime. In children with laboratory-confirmed shigella, all isolates were sensitive to both drugs. Clinical improvement was seen at day 3 in 28 of 30 patients in the azithromycin group (93%) and in 25 of 32 patients in the cefixime group (78%). Bacteriologic eradication occurred on day 3 in 93% and 39% of children, respectively.

**Comment**

In this study, 5-day courses of azithromycin or cefixime for antibiotic-resistant shigella produced excellent results. Azithromycin provides an effective and familiar option for treatment; it had greater efficacy than did cefixime and had a narrower spectrum. It should be used only in cases of diarrhea known to be caused by shigella in which sensitivities demonstrate resistance to the more commonly used therapies, such as amoxicillin and TMP/SMX.

Peggy Sue Weintrub, MD
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**Strategies to prevent medication errors in hospital patients**

Each year in the U.S., more than 44,000 adult deaths are caused, at least in part, by medical errors. A similar situation exists in pediatric healthcare, and infants and children in intensive care units are especially vulnerable to lasting harm. Most medication errors involve dosage. Children present unique dosing challenges: Dosage depends on weight and age and must be calculated individually, and stock...
Can intensive glycemic control limit atherosclerosis progression in type 1 diabetes? ▶ In the landmark Diabetes Control and Complications Trial (DCCT), participants were randomized to receive intensive glycemic control or conventional control. The DCCT trial showed that intensive glycemic control was associated with lower incidence of microvascular complications, but not of adverse cardiovascular events, compared with those randomized to conventional control. However, the long-term consequences of intensive glycemic control are largely unknown. In this long-term follow-up study, investigators first surveyed 6338 seventh graders from 30 California and Oregon schools in 1985, and then reinterviewed 4265 (67%) of these students in twelfth grade and 3369 (53%) at age 23.

Early drinking: where does it lead? ▶ Underage drinking continues to be a problem in the U.S., and the long-term consequences are largely unknown. In this longitudinal study, investigators first surveyed 6338 seventh graders from 30 California and Oregon schools in 1985, and then reinterviewed 4265 (67%) of these students in twelfth grade and 3369 (53%) at age 23.