Breastfed Infants May Require Extra Vitamin D

Despite the known benefits of breast milk, exclusively breastfed infants may develop vitamin D deficiency, as detailed in a recent case study. The patient was a healthy 11-month-old African American girl living in Boston. A routine checkup showed undetectable blood levels of 25-hydroxyvitamin D, and radiographs of the wrists and knees revealed severe rickets (softening of the bones in children) and low bone mineral density. Vitamin D and calcium supplements were prescribed, and blood vitamin D levels subsequently improved.

Mothers living in extreme northern and southern latitudes are at risk for vitamin D deficiency in the blood and breast milk because of inadequate exposure to ultraviolet light. Further, African Americans are particularly at risk because dark skin synthesizes less vitamin D. Although sometimes asymptomatic, rickets can lead to stunted growth and bone deterioration.

The authors therefore conclude, “supplementation is required for strictly breastfed infants because they are at increased risk for vitamin D deficiency and its implications for skeletal and overall health.”

—Laura J. Ninger, ELS

DHEA Protects the Heart

The prohormone, dehydroepiandrosterone (DHEA), protects the heart via numerous mechanisms, according to recent research. Working with human samples obtained during cardiac catheterizations, researchers compared levels of DHEA and the adrenal hormone, aldosterone. Samples taken from patients with heart failure featured measurable aldosterone, but no DHEA. Normal control subjects, on the other hand, were found to secrete DHEA, but not aldosterone in cardiac tissues. "We postulated that DHEA and/or its metabolites exert a cardioprotective action through [suppression of heart enlargement] effects," researchers conclude in the journal Circulation.

Scientists at Virginia Polytechnic Institute further examined DHEA's cardioprotective effects. Working with both human and bovine endothelial cells harvested from the aorta, they conducted tissue culture experiments, which demonstrated that "...DHEA, at physiological concentrations, inhibited serum deprivation-induced apoptosis [cell death] of both bovine and human vascular endothelial cells." They conclude "this suggests that DHEA may be a pro-survival factor for the vascular endothelium."

—Dale Kiefer

Arthroscopic Surgery Not Better Than Conservative Treatment For Knee Pain

Arthroscopic surgery is no better than optimal physical and medical therapy for osteoarthritis of the knee, according to a recent study. In this study, adults with moderate-to-severe osteoarthritis of the knee were randomly assigned to treatment with arthroscopic surgery plus physical and medical therapy or physical and medical therapy alone (control group). Eighty-six patients in each group completed treatment. After two years, scores for both osteoarthritis severity and quality of life were similar in the surgery group and the control group, with minor differences that were not statistically meaningful.

The results confirm previous findings of a lack of superiority of arthroscopy versus placebo treatment for osteoarthritis. Interestingly, a recent study showed that patients with osteoarthritis often have a torn meniscus—a common reason for arthroscopy—yet meniscal damage is often unrelated to pain.

—Laura J. Ninger, ELS
