ASK THE EXPERT

Keeping Young Athletes With Arthritis in the Game

Approximately 2 out of 1,000 children in any given year are diagnosed with arthritis.

Decades ago these children would be easily identifiable because of their physical limitations. Today, however, the combination of increased awareness of the many guises of juvenile rheumatoid arthritis, early diagnosis, and therapeutic advances has substantially altered not only how children experience the disease but also how rheumatologists counsel and manage their young arthritis patients.

BY THOMAS J.A. LEHMAN, M.D.

The advent of disease modifying antirheumatic drugs (DMARDs) in particular has changed the face of juvenile rheumatoid arthritis by minimizing the scope of disease-related joint damage over time. Because of this reason, children are often able to keep functioning at relatively normal activity levels despite their disease.

However, because the quest for apparent normalcy is especially important to children and adolescents who fear being singled out from their peers for any reason, rheumatologists must walk a fine line between encouraging physical activity and stressing the possibility of problems if children don't listen to their bodies and proceed with caution, according to Dr. Thomas J.A. Lehman, chief of the division of pediatric rheumatology at the Hospital for Special Surgery in New York.

Awareness of this fine line is particularly relevant when caring for young athletes with arthritis, who may be loath to accurately reporting pain, stiffness, or disability for fear that doing so may cause them to be benched for a game, for the season, or forever.

In this month's column, Dr. Lehman offers guidelines for managing young athletes with arthritis.

Rheumatology News: In a young athlete with a new diagnosis of juvenile arthritis, what types of activities are off-limits or discouraged?

Dr. Lehman: We don't specifically make any activities off-limits, but rather advise common sense. Specifically, we tell patients not to participate in activities where other people are trying to hurt them, such as team tackle football or high school wrestling, because it's too easy to get hurt. Also, we tell them that if something makes them worse every time they do it, they shouldn't be doing it.

RN: Are juvenile arthritis patients at an increased risk for injury, compared with their peers, and if so why and what types of injury?

Dr. Lehman: Juvenile arthritis patients may be at increased risk of injury, but the most serious injury we see is the psychological one from being told what they can't do. It's more important to emphasize that they can be as normal as possible as long as they use common sense and accept the reality that there will be an occasional normal injury. For example, I once had a pediatric patient with juvenile rheumatoid arthritis who got much better with treatment. He got so much better he was climbing a tree and fell out. When he fell out he broke his leg. That's a normal injury—not a problem from the rheumatologist's viewpoint.

RN: What impact, if any, might prolonged use of medications have on a young athlete's ability to participate in sports, and how can management be designed to minimize any such impact without sacrificing safety and efficacy?

Dr. Lehman: Most of the medications have no impact on ability to participate in sports. The important thing is not to take pain medications to participate in sports. Unlike muscle activity where "no pain no gain" makes sense, if there is bone pain, there is never a gain, only more damage.

RN: What signs of trouble should rheumatologists be on the lookout for in young arthritis patients?

Dr. Lehman: Children who repeatedly engage in an activity that makes them worse should be stopped. They may feel they have to keep going because of pressure from their peers or even from parents or coaches. Everyone involved with these kids should be made to understand not to hold the children back but also not to allow them to injure themselves. ■

DR. LEHMAN *is chief of the division of pediatric rheumatology at the Hospital for Special Surgery and professor of clinical pediatrics at Cornell University in New York.*

Watch Preterm Babies for Early Signs of Rickets

BY PATRICIA L. KIRK
Contributing Writer

DALLAS — The best treatment for osteopenia of prematurity is prevention by early recognition of high-risk infants and making sure they get the best possible nutrition, Dr. Charles P. McKay said at a conference sponsored by the American Society for Parenteral and Enteral Nutrition.

Premature infants are at risk for osteopenia of prematurity, or neonatal rickets, due to insufficient accrual of calcium and phosphorus prior to birth, said Dr. McKay, director of the bone and mineral program at Alfred I. duPont Hospital for Children, Wilmington, Del.

If left untreated, this disease can result in fractures, rachitic changes, and shorter stature later in life, he said.

Dr. McKay noted that infants born prior to 28 weeks' gestation are at highest risk for osteopenia, which is usually diagnosed at age 2-4 months. He explained that the skeleton of at-term infants contains, on average, 25 g of calcium and 13 mg of phosphorus. Total bone calcium at 26 weeks' gestation, however, is just 5 g, and then accrues exponentially until term.

Premature infants, therefore, should be given formula or breast milk fortified with calcium (200-230 mg/kg per day), phosphorus (110-123 mg/kg per day), and vitamin D (400 mg/day) for normal bone growth to occur. Fortified milk should be started when the infant is tolerating 20-30 mL/kg per day of unfortified milk or breast milk.

Preterm infant formulas or fortified human milk should be continued until the infant is aged 6 months or the infant's growth rate is within the normal range, said Dr. McKay.

Length and weight should be followed carefully, he noted, as well as measuring calcium, phosphorus, and alkaline phosphatase every 1-4 weeks, depending on growth. "Be careful of ratios," he warned. "The infant can develop hypercalcemia, or if [minerals are] out of balance, they won't be absorbed. If you see hypercalcemia in an infant, the first thing you should suspect is low phosphorus."

Recent studies indicate that daily passive range of motion exercises increase bone mineral density in preterm infants, Dr. McKay noted, adding that he recommends extension, flexion, and range of motion exercises of both upper and lower extremities, taking care to avoid movements that could cause fracture or stress to the infant.

Diagnosis of osteopenia of prematurity is usually made using both lab results and radiologic tools. Low phosphate or high alkaline phosphatase is an indication of osteopenia. A radiologic diagnosis involves right forearm and chest x-ray to check for incidental fractures, or lucency of cortical bone, and/or bone density measurement with dual-energy x-ray absorptiometry or ultrasound. Additionally, Dr. McKay recommended monthly x-rays to look for incremental bone changes.

Findings from follow-up studies show that low bone density persists until at least age 8-12 years; however, the rate of incidental fractures is no higher than for the rest of population, Dr. McKay noted. ■

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Osteopenia (above) is usually diagnosed at age 2-4 months using lab results and radiologic tools.

SLE Therapy Did Not Up Risk for Minor Anomalies

Minor physical anomalies are not increased in infants born to women with systemic lupus erythematosus, according to the results of a new study that examined 30 babies of women with SLE.

The incidence of minor physical anomalies was 43% "consistent with the incidence in the general population," said Dr. Phyllis N. Bonaminio of Northwestern University, Chicago, and her colleagues (Ann. Rheum. Dis. 2006;65:246-8).

The minor physical anomalies included flat nasal bridge (five), hypoplastic nose (four), long philtrum (three), high-arched palate (three), and thin vermillion, posterior-rotated ears, low-set ears, and protruding ears in one infant each. Limb anomalies included syndactyly and polydactyly in one infant each, and length discrepancies in the second and third toes of two infants.

Flat nasal bridge, hypoplastic nose, and long philtrum are associated with fetal alcohol exposure and were found in some of the infants of the 10 women who reported substance abuse during pregnancy, the authors noted.

Neither prednisone (reported by 50%), nor aspirin (reported by 20%), nor maternal disease flare were associated with minor physical anomalies, reported the authors.

—Kate Johnson