Pitchers Should Not 'Play Through the Pain'

BY DAMIAN McNAMARA

MIAMI BEACH — Throwing a baseball too many times and throwing the wrong kinds of pitches can predispose a child athlete to shoulder and elbow injuries, Dr. Jordan D. Metzl said.

If pain limits the child's ability to participate or worsens over time, further evaluation of the injury is warranted. "We know sports are great for kids, but they can experience sports-related injuries," he said at a pediatric update sponsored by Miami Children's Hospital.

It is important to be extra careful with children, especially about getting them back into activity, Dr. Metzl said. Advise child athletes not to throw a ball until they are pain free.

" 'Play through the pain' is terrible advice. Their bones are developing and some of the injuries can have negative, long-lasting consequences," said Dr. Metzl, cofounder of the Sports Medicine Institute for Young Athletes and a pediatrician at the Hospital for Special Surgery in New York City.

The epiphysis in children is made of cartilage. If children who are baseball pitchers complain of shoulder pain, they might be pulling on their growth plate. Clinical consequences include a growth problem with that bone, or more seriously, the potential for the shoulder growth plate to split apart.

"The same thing can happen in the elbow," he said. Children have an open growth plate near the ulnar collateral ligament "and can pull it off."

An x-ray is recommended for initial evaluation. If available, a biomechanical assessment aids diagnosis of these sports injuries. It can illustrate how the pitch of one child athlete varies from another, and in some cases identify the etiology of the injury. "We know how you throw makes a difference, and the number of pitches makes a difference," Dr. Metzl said.

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The pitching motion and the number of pitches can affect the chance of injury.

He uses multiple cameras to observe the biomechanics of an individual patient's throwing. Every position in the pitching motion is assessed, including the stride and balance point (the position at which a baseball player raises one foot and rests on the other during a windup). Biomechanics also can reveal any flaws in the child's form that might cause an injury in the future.

Other injury prevention strategies include warming up for 5-10 minutes and performing strengthening exercises, Dr. Metzl said. Also, because a high frequency of pitching increases the risk of injury substantially, consider using pitch counts to set a maximum number of throws during practice, warm-up, and/or a game. ■

Disclosures: *Dr. Metzl said he had no relevant financial conflicts to disclose.*

Skin Reactions Main Event From Topical Diclofenac in Elderly

BY SHERRY BOSCHERT

LONG BEACH, CALIF. — A higher rate of adverse events in older patients with knee osteoarthritis treated topically for 12 weeks with a nonsteroidal anti-inflammatory drug, compared with placebo, was caused mainly by application-site reactions but included one serious cardiovascular event that might have been related to the drug treatment, a post hoc analysis of data on 538 patients found.

VITALS

Major Finding: Among older patients treated topically for knee osteoarthritis for 12 weeks, adverse events occurred in 56% using diclofenac sodium 1% gel and in 44% using placebo, with one serious adverse event in the drug group possibly related to treatment.

Data Source: A post hoc analysis of data on 538 patients aged 65 years or older from three double-blind, randomized controlled trials.

Disclosures: Dr. Barthel conducted the study under a research contract for Novartis, which makes the gel. His associates in the study were employees of Novartis or of Endo Pharmaceuticals, which markets the gel.

The investigators analyzed data on people aged 65 years and older with symptomatic knee osteoarthritis (433 of them with comorbid hypertension, diabetes, or cardiovascular disease). Their source was three larger randomized, double-blind trials—two of them unpublished—that had looked at broader populations. Patients applied 4 g/day of either diclofenac sodium 1% gel (Voltaren) or the drug's vehicle to one painful knee. (Those with bilateral knee osteoarthritis treated the more symptomatic knee for the study.)

One 80-year-old woman with hypertension and diabetes, among the 274 patients on diclofenac sodium 1% gel, developed deep vein thrombosis and pulmonary embolism that possibly was related to treatment, Dr. H. Richard Barthel and associates reported in a poster presentation at the annual meeting of the American Medical Directors Association.

Overall, 56% of patients on diclofenac gel developed adverse events, compared with 44% of 264 patients treated with placebo gel, added Dr. Barthel, a rheumatologist in Santa Barbara, Calif., who conducts research under contract for Voltaren's maker, Novartis.

The analysis did not assess statistical significance because the study was not powered to do so. Voltaren is approved to treat osteoarthritis pain in joints amenable to topical treatment, such as knees and hands.

Nonsteroidal anti-inflammatory drugs (NSAIDs) are known to increase risk for cardiovascular or renal problems in a dose-related fashion, especially in older patients and people with hypertension, diabetes, or cardiovascular disease. Topical formulations may reduce this risk by reducing systemic exposure to NSAIDs compared with oral formulations. The ad hoc analysis compared the gel only to placebo, not to oral therapy, and found higher rates of adverse events for the drug vs. placebo.

Application-site reactions occurred in 8.8% on diclofenac gel and 1.1% on placebo. Serious adverse events occurred in 2.6% on diclofenac and 1.1% on placebo. Adverse cardiovascular events were seen in 2.6% on diclofenac and 1.1% on placebo. Adverse renal events were seen in 1.1% on diclofenac and 0.4% on placebo.

Among more common adverse events, 11% of subjects on diclofenac and 10% on placebo reported headache, 8% on diclofenac and 7% on placebo reported arthralgia, and 8% on diclofenac and 6% on placebo reported back pain.

The analysis included 307 patients with hypertension, 84 with diabetes, and 42 with cardiovascular disease. In the hypertension subgroup, adverse events were seen in 54% of 159 people randomized to diclofenac gel, compared with 45% of 148 people using placebo. In patients without hypertension, adverse events occurred in 58% of 115 on diclofenac gel and 42% of 116 on placebo.

In the diabetes subgroup, adverse events occurred in 19 (51%) of 37 patients treated with diclofenac and in 21 (48%) of 47 treated with placebo. In patients without diabetes, adverse events occurred in 56% of 237 on diclofenac and in 44% of 217 on placebo.

In the subgroup with cardiovascular disease, adverse events occurred in 15 (56%) of 27 on diclofenac and in 2 (13%) of 15 on placebo, though none developed an adverse cardiovascular event. In patients with no cardiovascular disease, adverse events occurred in 56% of 247 on diclofenac and in 46% of 249 on placebo.

No renal adverse events were seen in patients with diabetes or cardiovascular disease in these short-term studies. ■

MY TAKE

Topical Shows 'Improved Safety'

The therapy of osteoarthritis remains insufficient in many patients. It is particularly problematic in the elderly, who often have concomitant diseases that limit our options for several of the oral medications, particularly nonsteroidal anti-inflammatory drugs and potent analgesics. The recent U.S. Food and Drug Administration approval of diclofenac has changed the therapeutic paradigm. Diclofenac gel 1% has been approved for osteoarthritis of the knee, hand, and other superficial joints, and Pennsaid has been approved for osteoarthritis of the knee.

In this analysis, we see an increase in irritation at the site of application, but a minimal increase in adverse events involving blood pressure, renal function, hepatic dysfunction, and gastrointestinal ulcer disease. Pharmacokinetic studies have demonstrated that systemic absorption of the topical diclofenac is 40 times less than oral diclofenac. This improved safety allows us to provide therapy to patients otherwise unable to receive anti-inflammatory drugs.

It will be no surprise if the guidelines for therapy of osteoarthritis from the United States will soon approximate those from Europe, where topical NSAIDs are part of the therapeutic algorithm for osteoarthritis. Are they completely safe? No. Is there no long-term cardiovascular risk? It has not been studied. Hence, the "black box" warning is applied to these agents that primarily list topical changes under adverse events.

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