

Experience Counts When Imaging a Limping Child

BY DOUG BRUNK
San Diego Bureau

LAS VEGAS — If a limping child presents to your office and imaging is being considered, make sure to consult a radiologist who has experience imaging the pediatric hip and spine, Dr. Melvin O. Senac Jr. advised at a meeting sponsored by the American Academy of Pediatrics' California Chapters 1, 2, 3, and 4 and the AAP.

"Have a radiologist you can trust," said Dr. Senac, medical director and chief of radiology at Children's Hospital San Diego. "The imaging modalities are changing so fast, whether it's the new 64-channel CT scanners or new sequences in

Septic arthritis is 'the scariest thing. ... Time is of the essence, as the proteolytic enzymes from the hip infection can rapidly destroy cartilage,' then the hip joint.

MRI, it's hard to really keep up. If you have a problem with one of your kids and you just don't know how to approach it from an imaging standpoint, pick up the phone and call or go by and talk to your radiologist. We're really trying to do the fewest [number of imaging] tests possible."

He discussed these causes of limping in children:

► **Diskitis.** This condition is marked by back pain, limping, failure to bear weight, and low-grade fever. It can affect infants less than 1 year old as well as teenagers.

In toddlers, nerve root irritation often causes hip pain that is worse than back pain, said Dr. Senac, who is also a professor of radiology at the University of California, San Diego. The white blood cell count is usually normal but the erythrocyte sedimentation rate is usually elevated.

Bacterial infection, usually *Staphylococcus aureus*, is the most common etiology of diskitis. The primary nidus is the vertebral end plate. Long-term sequelae include normal to severe kyphosis.

"One of the hallmarks of plain film findings in diskitis is narrowing of the disk space with end-plate irregularity," Dr. Senac said.

"It's usually going to be at L 3-4 or L 4-5. We see it throughout childhood, [but] it takes about 2 weeks for us to start seeing plain film findings of these irregularities. The earliest manifestation we see of diskitis is on MRI."

► **Developmental dysplasia of the hip (DDH).** The four radiographic hallmarks of this condition include a small or nonossified femoral head on the affected side, increased acetabular angle, a laterally displaced femoral head, and interruption of Shenton's line.

"The earlier you pick it up, the better that child is going to do," he said.

If the DDH diagnosis is made at under 6 months of age, treatment involves use of

a Pavlik restraint harness to position the hip in flexion and abduction. These children "do well and they'll go on to have a normal hip," he said.

If the diagnosis is made between ages 6 and 24 months, "those kids generally have to be hospitalized, put in traction, then taken to OR," he said. "Then, under general anesthesia, there's an attempt at reduction. Then they're put in a cast for 6-9 months."

If the diagnosis is made after the age of 24 months, treatment involves an open re-

duction. "Those kids will always have gait problems down the line," Dr. Senac said.

But even if a diagnosis is made early, several months of treatment is required. "If you pick it up in the first 6 weeks, then the average stay in a harness is about 3.5 months," he said. "If you don't make the call until 6 weeks to 3 months of age, the average stay in the harness is about 7 months. It goes up to 9 months if you diagnose it between 3 and 6 months."

To confirm DDH, Dr. Senac recommends ultrasound in children younger than 4 months of age and radiographs in children aged 4 months and older. He pointed out that there is a steep learning curve to performing hip ultrasound on young infants, "so if you don't have a pediatric radiologist who does this, I suggest that the family drive somewhere to a facility that's doing a lot of these."

► **Transient synovitis.** This is the most common nontraumatic cause of acute

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Helping Change the Cycle of Migraine

A RICHER UNDERSTANDING OF PATIENTS' MIGRAINE IMPAIRMENT



The renowned Diamond Headache Clinic recently hosted a meeting featuring the results of the landmark American Migraine Communication study (AMCS). The study revealed that, during office visits for migraines, patients heard mostly closed-ended or short-answer questions (91%), which prompted limited responses.¹ Such questions may tell you about frequency and severity but may fall short in clarifying the patient's total level of impairment due to migraine.

AMCS reveals prevention is often overlooked

Despite the fact that many patients met the American Migraine Prevalence and Prevention study criteria for prevention, discussions were initiated in only 50% of the office visits.¹

TOPAMAX Tablets and TOPAMAX Sprinkle Capsules are indicated for adults for the prophylaxis of migraine headache. The usefulness of TOPAMAX in the acute treatment of migraine headache has not been studied.

TOPAMAX is contraindicated in patients with a history of hypersensitivity to any component of this product.

IMPORTANT SAFETY INFORMATION

TOPAMAX has been associated with serious adverse events, including:

- Hyperchloremic, non-anion gap metabolic acidosis—lowering of bicarbonate levels in the blood. Measurement of baseline and periodic serum bicarbonate is recommended.
- Acute myopia and secondary angle-closure glaucoma—patients should be cautioned to seek medical attention if they experience

blurred vision or ocular pain.

- Oligohidrosis and hyperthermia—decreased sweating and increased body temperature, especially in hot weather. The majority of reports have been in children.
- Cognitive/psychiatric side effects including cognitive dysfunction, psychiatric/behavioral disturbances including suicidal thoughts or behavior, and somnolence and fatigue.

Most common adverse events associated with TOPAMAX 100 mg vs placebo were: paresthesia, 51% vs 6%; anorexia, * 15% vs 6%; fatigue, 15% vs 11%; nausea, 13% vs 8%; diarrhea, 11% vs 4%; weight decrease, 9% vs 1%; taste alteration, 8% vs 1%.

The possibility of decreased contraceptive efficacy and increased breakthrough bleeding should be considered in patients taking combination oral contraceptive products with TOPAMAX.

limp in children aged 5-10 years. The etiology is unknown but is thought to be a nonspecific anti-inflammatory response of synovium to an antecedent viral or bacterial infection.

Clinical exam may reveal limp, or hip or knee pain. Affected children have low-grade fever in about 25% of cases and a mildly elevated erythrocyte sedimentation rate in 50% of cases.

"It is a diagnosis of exclusion," Dr. Senac said. "If we do sophisticated MRI or [ultrasound], we'll find a little fluid in the joint. That's all we see."

Radiographs are usually normal but may show a small hip effusion. Scintigra-

phy is more sensitive but nonspecific.

Children can expect complete recovery within a few weeks.

► **Septic arthritis.** He called this condition "the scariest thing that we have to face in this age group [aged 1-4 years] in regard to the limping child." Affected kids experience severe pain in the involved joint, most often the hip. They usually have a fever and an elevated white blood count. On radiographs, "we're looking for widening of the joint space to see if there's evidence of a hip effusion," Dr. Senac said.

The condition is hematogenous, "so you commonly have underlying os-

teomyelitis coupled with the septic joint," he noted

If conventional radiographs are nondiagnostic and the physical exam is equivocal, then an MRI or a radionuclide bone scan should be obtained on an urgent basis. "Time is of the essence, as the proteolytic enzymes from the hip infection can rapidly destroy cartilage and subsequently the hip joint," he noted.

Treatment consists of draining the hip surgically and placing the child on intravenous antibiotics.

If there is adjacent osteomyelitis, then this bone needs to be drained, generally by drilling. ■

VERBATIM

'These meals and gifts give residents and trainees the idea that pharmaceutical largesse is all right and the way things work, but it taints the profession.'

Dr. Jerome P. Kassirer, p. 45

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COULD LEAD TO BETTER INFORMED TREATMENT DECISIONS.¹

Improving Communication Is Important to a Broader Assessment

Open-ended questions can help you gain a richer understanding of your patients' impairment during and *in between* their attacks.

The study showed that most patients gave brief yet informative responses to questions and prompts like these:¹

- "How do migraines make you feel—even when you aren't having one?"
- "Describe the total impact migraines have on your work, family, or social life."

A Subtle Communication Shift Can Help Make a Difference

You may find asking open-ended questions leads to a broader assessment of migraine impairment, and the disruption, disability, and frustration that can come with it. In fact, your patients' level of impairment may require a different treatment option.

Finding out if your patients are feeling trapped in a cycle of suffering, treating and worrying may open up an opportunity to discuss the need for preventive therapy. TOPAMAX can help stop migraines before they start—so your patients can get fewer of them.^{2,3} TOPAMAX offers proven efficacy and is the #1 prescribed brand for migraine prevention in the U.S.⁴

When evaluating migraine, consider using open-ended questions to assess the total degree of migraine impairment. Then talk about the possibility of preventive therapy with TOPAMAX.

The Migraine Discussion Continues

Look for the next installment of *Helping Change the Cycle of Migraine*, in which we'll continue to explore important topics regarding the migraine patient and strategies to help enhance patient care.

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Patients should be instructed to maintain an adequate fluid intake in order to minimize the risk of renal stone formation.

*Anorexia is defined as loss of appetite.

Please see brief summary of full Prescribing Information on following page.

Rx

Important
Avoid confusion with Toprol-XL[®] (metoprolol succinate) by spelling out TOPAMAX[®] (topiramate) on your prescription. Toprol XL is a registered trademark of the AstraZeneca group of companies.

References: 1. Hahn SR, Nelson M, Lipton RB. Provider-patient migraine discussions: Results of American Migraine Communication study (AMCS). Poster presented at: 58th American Academy of Neurology Annual Meeting, April 1-8, 2006; San Diego, California. 2. Silberstein SD, Neto W, Schmitt J, Jacobs D, for the MIGR-001 Study Group. Topiramate in migraine prevention: results of a large controlled trial. *Arch Neurol.* 2004; 61:490-495. 3. Brandes JL, Saper JR, Diamond M, et al, for the MIGR-002 Study Group. Topiramate for migraine prevention: a randomized controlled trial. *JAMA.* 2004; 291:965-973. 4. IMS Data. July 2006.