Otolaryngologist Gives Sinusitis Diagnosis Clues

BY GREG MUIRHEAD
Contributing Writer

MAUI, HAWAII — Look for clues and comorbidities to diagnose sinusitis, a condition that is overdiagnosed and misdiagnosed in children.

When examining with an otoscope or nasal speculum, look at the location and the character of the secretions, and see if they are clear, thin, and strandy, suggestive of an allergic process, or mucoid and purulent, suggesting infection, Dr. Seth M. Pransky said at a meeting sponsored by the University Children's Medical Group and the American Academy of Pediatrics.

See whether the secretions are truly coming from the sinuses. A foul odor may be present. A look after decongesting the nose may be helpful, said Dr. Pransky, director of pediatric otolaryngology at Rady Children's Hospital, San Diego.

Children with chronic sinusitis feel miserable, with primary symptoms of nasal congestion, cough, nasal discharge, and headache or facial pain, Dr. Pransky explained. He added that ancillary symptoms include foul breath, sore throat, postnasal drip and throat clearing, as well as nausea, vomiting, and other gastrointestinal complaints. But note that fever often is absent.

Sinusitis may complicate upper respiratory infections, which may develop six to eight times per year, with 10 days per episode, he said, "meaning a good proportion of the time, a child is going to be ill, especially in the winter months."

Gastroesophageal reflux disease (GERD) may be another factor. Most pediatric otolaryngologists believe there is some relationship between GERD and otitis, rhinitis, and sinusitis, as well as laryngeal problems, he noted. Reflux therapy has been supported by research that showed improvement of sinus symptoms for many patients with sinusitis (Arch. Otolaryngol. Head Neck Surg. 2000:126:831-6).

When considering the need for antibiotics he said, a culture should be taken from the middle meatus. "A culture from the nasopharynx is not sufficient, is not accurate, and does not reflect sinus disease."

Choices for treatment may include the use of antibiotics, oral or nasal steroids, antihistamine therapy with sprays or oral agents, a leukotriene receptor antagonist, anticholinergic sprays, mast cell stabilizers, nasal saline sprays, decongestants, mucolytics, and GERD medications. "But, in reality, all of this is not needed," he pointed out. It's important to determine what's appropriate for the individual child.

There probably is no role for parenteral antibiotics for chronic sinus disease, Dr. Pransky said at the meeting, also sponsored by California Chapter 2 of the AAP.

When using oral steroids, consider the duration, dose, complications, and other concerns.

When using topical steroids—corticosteroid sprays, which are more classically used—consider appropriate age limitations, difficulty of administration, and issues of penetration, absorption, and duration. "They are approved now down to 2 years, and there's one preparation that's for even younger [children]," Dr. Pransky observed, adding that there is no real concern regarding impact on growth from their use.

Corticosteroid sprays are difficult to use, he noted. Parents should administer nasal sprays because children often do not self-administer them effectively, he advised. Parents should be taught how to administer the sprays correctly because directions from the package insert are inadequate.

Adjuvant therapies, including mucolytics, decongestants, and xylitol, are probably not helpful, he said. But saline solutions for nasal irrigation are "extremely valuable," as they help clear out "dry, crusty secretions to get the normal physiological function of the nose going." But keep in mind that the impact of saline solutions on ciliary function is unclear.

A comprehensive medical evaluation should precede surgical interventions, he said, because pediatric sinusitis is much more a medical disease than a problem that requires direct sinus surgery. Allergies should be assessed in all children before considering surgery because of an overlap in symptoms and a comorbidity rate that exceeds 50%.

Plain films frequently are misinterpreted in radiologic assessments, Dr. Pransky emphasized. "They're very difficult to interpret in a young child."

X-rays of routine viral respiratory infections look like sinusitis, but it could be

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Studies Cast Doubt on Steroids for Dengue Fever

BY BRUCE JANCIN
Denver Bureau

ASPEN, COLO. — Corticosteroids have no current role in the management of dengue fever, Dr. Suchitra Rao said at a conference on pediatric infectious diseases sponsored by Children's Hospital, Denver, and the University of Colorado.

Systemic steroids have a long history of use in the most severe clinical manifestations of dengue fever: dengue hemorrhagic fever and dengue shock syndrome. Small observational studies suggested they were of possible benefit.

But a Cochrane Systematic Review of the only four published placebo-controlled trials showed no benefit for corticosteroids in patients with dengue shock syndrome. The four small studies totaling 284 participants, deemed by the Cochrane reviewers as studies "not of good quality," showed no significant impact on mortality, need for blood transfusions, hospital length of stay, or serious complications including pulmonary hemorrhage and seizures (Cochrane Database Syst. Rev. 2006;DOI: 10.1002/14651858.CD003488.pub2).

There is, however, an ongoing randomized controlled trial evaluating the use of systemic steroids in patients with severe dengue-related retinopathy, including retinal vasculitis and exudative retinal detachment. The study was prompted by several favorable case reports along with a plausible mechanism of benefit—namely, that dengue retinopathy entails immune complex deposition, and early use of steroids may inhibit this process, explained Dr. Rao, a pediatric infectious diseases fellow at the hospital.

Dengue fever is an acute illness characterized by sudden onset of fever, headache, severe joint and muscle pain, lymphadenopathy, retro-orbital pain, and a characteristic widespread maculopapular rash that may cover much of the body except for the face. The rash usually appears at the end of the fever, which lasts 5-7 days.

Fifty million cases of dengue fever occur annually in sub-Saharan Africa, India, Southeast Asia, Mexico, the Caribbean, and northern South America. The disease is encountered in the United States in travelers to endemic areas who bring the infection back home.

Children under age 10 years are most often affected. The disease is caused by any of four serotypes of *Flavivirus* transmitted by *Aedes* genus of mosquitos.

The diagnosis is most often made on the basis of a positive IgM capture enzyme-linked immunoassay test; however, this test becomes positive only beginning on day 4 or 5 after symptom onset. Polymerase chain reaction testing has acceptable sensitivity only during the first few days of the illness; by day 7 the sensitivity of PCR declines to less than 10%.

A low platelet count and increased hematocrit indicate increased likelihood that a patient will develop dengue hemorrhagic fever or shock syndrome.

Vaccines are now in clinical trials. A successful vaccine will have to provide protection against all four dengue virus serotypes. ■

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that the child simply has a cold, he continued. CT scans should not be taken during the winter respiratory infection season nor during or immediately after a respiratory infection. Keep in mind that one CT scan alone is not enough; it should be repeated before any surgical intervention.

In looking at the anatomy, assess the turbinates, he advised. When appropriate, an inferior turbinate reduction can be helpful. "The technology has improved over the years; we don't take the turbinates out. We don't do anything to the mucosa. We'll do a submucosal resection. And the current form of therapy is to do a radiofrequency ablation of the turbinate." As a result, not only is the airflow improved, but medications [also] can be used more effectively—as they can be more directly targeted without obstruction.

An adenoidectomy can make a difference for many children, Dr. Pransky said. Even small adenoids can be a problem. Improvement of symptoms ranges from 50% to 70%. Often younger children respond better than older ones.

About 10%-15% of the population has concha bullosa—an aerated middle turbinate.

Dr. Pransky said he is involved with research with ArthroCare Corp. and Medtronic Inc. ■