Unravel the Neck Mass Mystery via History

BY DOUG BRUNK

SAN DIEGO — Be thorough in your history taking when infants or children present with a neck mass, Dr. Seth M. Pransky advised.

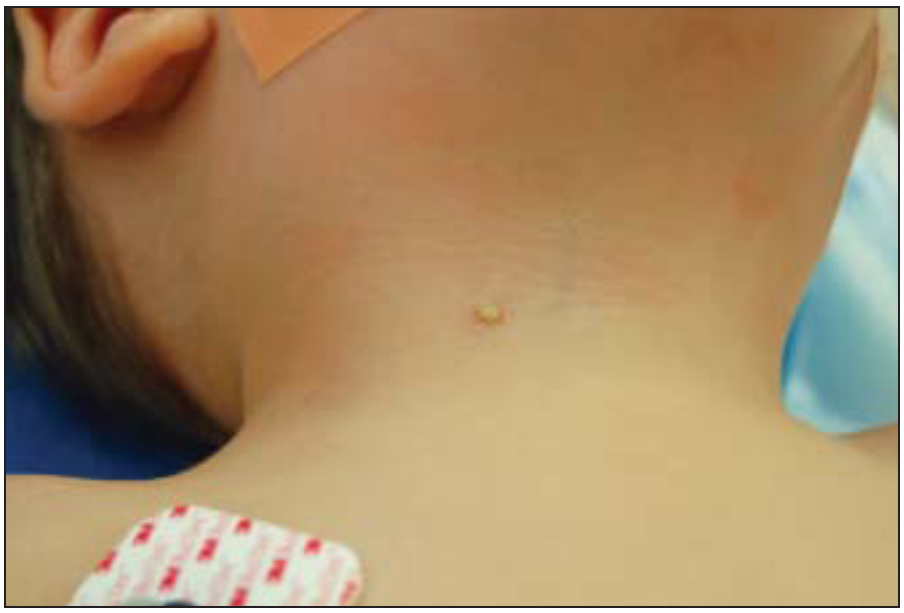
"We want to know how long it's been there and what the associated symptoms are," he said at a meeting sponsored by Rady Children's Hospital and the American Academy of Pediatrics. "Was there an antecedent respiratory infection or antecedent trauma? Has it become bigger or smaller, or has it remained the same size? What have the child's exposures been in terms of ill contacts, animals, and food?"

Such questions can help determine what the correct diagnosis might be, said Dr. Pransky, director of pediatric otolaryngology at Children's Specialists Medical Group, San Diego.

An estimated 55% of pediatric neck masses are congenital, followed by acquired forms that include infectious, neoplastic, and inflammatory processes.

Branchial cleft anomalies are some of the most common types of congenital neck masses. These typically present as sinus tracts or fistulas detected at birth, with an opening in the skin with subsequent discharge that can be mucoid or mucopurulent. They may also present as cysts that enlarge gradually and present in the second or third decade of life.

A common type of branchial cleft anomaly is a preauricular anomaly that "begins as a pit in the preauricular region and often extends via a sinus tract down to a cystic dilatation almost always at the root of the helix," Dr. Pransky said. "You can milk out the secretions. If you get that kind of discharge, we generally recommend surgical excision, and ultimately recurrent acute infection occurs. If there's no discharge we'll leave it alone."



COURTESY DR. SETH M. PRANSKY

Second branchial fistulas present as a tiny hole that can extend up to the tonsillar fossae and have "strandy secretions, which are probably mucus."

Incising and draining preauricular anomalies make the ultimate surgical excision more difficult, he added. "These need to be treated conservatively with antibiotics and warm compresses … until the ultimate surgical excision can be carried out."

First branchial arch anomalies can extend deeply into the neck. They present either as parallel to the external auditory canal or in the upper neck, below the angle of the mandible. "These are a lot more challenging to manage surgically," Dr. Pransky said. "Fortunately they are rare."

Second branchial anomalies occur in the mid to lower portion of the neck along the anterior sternocleidomastoid muscle. Fistulas present as a tiny hole in the neck and can extend up to the tonsillar fossae. "If you milk it you'll see strandy secretions, which are probably mucus," he said. "I'm not comfortable with just taking out the neck portion of these lesions. I also take out the tonsil in conjunction with the entire fistulous tract."

Second branchial cysts are "soft and fluctuate and frequently present as a soft swelling, not as an infectious problem," he said. Other assorted second branchial anomalies include skin tags, punctums, or cartilaginous remnants.

Third/fourth branchial cleft anomalies are rare and may present as an infectious swelling low in the floor of the neck laterally or in the anterior neck adjacent to the thyroid gland. "When you aspirate the lesion, you're going to get a mixed polymicrobial infection," Dr. Pransky said. "That's because you're getting organisms from the hypopharynx."

These anomalies may also present as acute thyroiditis. "That tract goes from the pyriform fossa in the hypopharynx through the thyroid gland into the neck," he said. "When a 5- or 6-year-old presents with a thyroiditis, my first thought is that they have a branchial three or branchial four anomaly."

Midline neck masses are also common. The three most common diagnoses are thyroglossal duct cyst, dermoid cyst, and lymphadenitis. Location and the clinical picture at presentation of the swelling are helpful in determining the correct diagnosis.

Lymphadenitis tends to be submental and associated with infection of either the chin region (often from acne) or teeth.

Dermoids can occur anywhere from the submental region to the suprasternal notch and are usually small, quite mobile, and located in the subcutaneous tissue.

Thyroglossal duct cysts are very common and generally are located at the level of or just below the hyoid. These are anatomically beneath the strap muscles of the neck and therefore are less mobile, often present after an upper respiratory infection, and tend to be larger than dermoids.

Another congenital neck mass Dr. Pransky discussed is pilomatixoma, which is a tumor of the hair cell shaft that grows slowly, is painless, and appears in different regions on the neck and face. These tumors feel firm and gritty, are bluish in color, and contain deposits of calcium.

Dr. Pransky disclosed no conflicts of interest. ■

Neonatal Herpes Simplex: Making a 'Can't-Miss' Diagnosis

BY DOUG BRUNK

SAN DIEGO — Any physician who cares for newborns should consider neonatal herpes simplex virus infection a must-make diagnosis, Dr. Richard F. Jacobs said.

"This is one of my top 10 'please don't let me miss this' diagnoses," said Dr. Jacobs, a longtime member of the National Institutes of Health's Collaborative Antiviral Study Group. "You can't miss this diagnosis because HSV untreated has a natural history that is truly horrible."

An estimated 15%-20% of women of childbearing age have latent HSV infection that would be a potential factor in pregnancy. The risk of transmission to offspring is believed to be about 50% in mothers who have a primary infection and skin lesions present and 3%-4% in mothers with a recurrent infection and skin lesions present. Actual neonatal disease is about 1 per 7,500 live births.

"Visible lesions would be an automatic indication to go to C-section unless there have been prolonged ruptured membranes," Dr. Jacobs said at a meeting sponsored by Rady Children's Hospital and the American Academy of Pediatrics. "With prolonged ruptured membranes, you don't get any benefit from C-section."

If you see a 'skin lesion with an ulcerative base that is necrotic, that is HSV in a baby until proven otherwise.'

DR. JACOBS

Neonatal HSV presents as one of three clinical types: skin, eye, or mucous membranes (SEM); central nervous system (CNS); or disseminated. Neonates with SEM HSV present at a mean 11 days old and have discrete skin vesicles in 80% of cases. "That means that you have to look carefully for the other 20% during your clinical exam," said Dr. Jacobs, who is also chair of pediatrics at the University of Arkansas, Little Rock. "Look in any mucous membrane, anywhere on the skin. You can find them in the conjunctiva or in the mouth." A CSF polymerase chain reaction (PCR) that is negative is required to make the diagnosis of the SEM form of HSV.

If the SEM form of the disease goes untreated, 70% of cases will progress to CNS or disseminated disease. The recommended course of treatment is 20 mg/kg per dose of acyclovir every 8 hours for 2 weeks.

"People with cold sores can transmit to the skin of newborns, but all of these babies will be normal if you treat them," Dr. Jacobs said. "Survival is 100% if they're treated."

Neonates with the CNS form typically present with encephalitis virus at a mean 16 days old, likely caused by retrograde axonal transmission of HSV. An infant may get HSV in the nose or eyes that spreads transneuronally to the brain, but the CNS form of neonatal HSV doesn't present like sepsis, he explained.

Other telltale signs include fever and lethargy for 1-2 days followed by the sudden onset of nearly intractable seizures. Initially the infection is localized to the temporal lobes, but it spreads to the brainstem. If the infection goes untreated, the mortality is greater than 50%. With acyclovir treatment the mortality is 15%.

Neonates with the disseminated form of HSV disease present at a mean 11 days old with symptoms that mimic sepsis. Encephalitis is present in 60%-70% of cases; pneumonitis and hepatitis/coagulopathy also are common. The process involves a blood-borne seeding of the CNS, with multiple areas of cortical hemorrhagic necrosis. If the disseminated form of the disease goes untreated, the mortality exceeds 80%. With acyclovir treatment the mortality is greater than 50%, Dr. Jacobs said.

Only about one-half of neonates with the CNS or disseminated forms of disease have cutaneous lesions. "If you do see a cutaneous skin lesion with an ulcerative base that is necrotic, that is HSV in a baby until proven otherwise," Dr. Jacobs said. "I don't care if that fluid is clear, cloudy, or green."

Dr. Jacobs reported that he had no conflicts to disclose. ■