Know the Skin-Related Signs of Dermatomyositis

BY DOUG BRUNK
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SAN DIEGO — Some of the telltale signs of dermatomyositis appear on the skin, so it's important to become familiar with them, Ilona S. Szer, M.D., said at the annual meeting of the Society for Pediatric Dermatology.

A malar rash that travels down the nasolabial folds is one common clinical manifestation. A heliotrope rash is another. "Some patients have only swelling without erythema while others have a violaceous hue without much edema," said Dr. Szer, director of pediatric rheumatology at Children's Hospital San Diego.

Nearly all children with dermatomyositis (DMS) have Gottron's papules that are painless and characterized by red, scaly, palpable erythema. In darker-skinned children, these heal with hypopigmentation or hyperpigmentation.

Cuticle hyperemia is another hallmark of DMS. "These children are not picking on their cuticles," she said. "They actually have vasculopathy."

Yet another characteristic sign is a rash over the extensor surface of the elbow. Pediatricians often mistake this for eczema. "Children with DMS who aren't profoundly weak often go on for months with a diagnosis of eczema," she remarked.

Dr. Szer listed the following "danger signs of DMS" and recommended immediate referral to the hospital if children present with them:

► **Choking and coughing up food and liquids.**

► **Rapid onset of weakness.** "This is unusual, but it happens," she said. "These children die if we don't take care of them."

► **Cutaneous ulcerations.** If these are present "you have to worry about GI ulcerations," she said. "Some children have died because of GI bleeding and perforation of secondary ulcerations. So if you see them, think of internal organs."

► **Weight loss.**

► **Fever and pain.**

► **Refusing to sit on the floor, climb stairs, or pick up objects from the floor.** "Parents describe this classically but unfortunately it's somehow misinterpreted," Dr. Szer said. "Most children with DMS don't have acute disease. They have quiet disease that goes undiagnosed for months. The children are described as lazy and weak. The metabolic panel shows AST and ALT elevation. The pediatrician interprets that as hepatitis. That with being lazy and tired becomes mononucleosis; so again, you have a delay in diagnosis."

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DR. SZER

The hallmark of a work-up for suspected DMS is a strength exam. "Look for central weakness," she advised. "Patients with DMS can't lift their heads. Ask them to lift their heads against gravity, ask them to do an unassisted sit-up, and ask them to stand up from [a sitting position on] the floor."

Lab tests for AST, ALT, lactic dehydrogenase, creatine phosphokinase, and aldolase will be abnormal in DMS, but labs for complete blood count, erythrocyte sedimentation rate, and C-reactive protein are usually normal.

If you're not sure about the presence of myopathy, Dr. Szer recommends an MRI of the truncal muscles. "The T2 image will light up like a lightbulb if there is a myopathy," she said.

Consider a skin biopsy only if myopathy is absent, she advises, and do a muscle biopsy if no rash is present.

"These children should be followed very carefully for signs of myopathy," Dr. Szer said. "If that doesn't occur, perhaps Plaquenil [hydroxychloroquine] is the drug of choice."

The course of DMS is threefold. Children with the monophasic course have the illness once. These children tend to be young (aged 2-3 years) and their prognosis is usually excellent.

Children with the polyphasic course of DMS are usually aged 5 and older. "The first time around, they look monophasic, but as we begin to wean away the medication or after we've weaned them completely, they flare up," she said. "It may happen once, twice, three times, or 10

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times. We don't know who is going to [be polyphasic]."

The third course of the disease, chronic continuous, affects mostly teens. "We have a very hard time treating these patients," Dr. Szer said. "These are children who are at very high risk for calcinosis. They require prolonged immune suppression."

Current treatment for severe DMS involves intravenous pulse methylprednisolone with oral steroids and methotrexate. More aggressive treatment options include monthly intravenous IgG, azathioprine, cyclophosphamide, and mycophenolate mofetil.

"As soon as they're feeling better, we work on strength and conditioning and endurance," she said. "We also encourage and advocate normal function and school attendance."

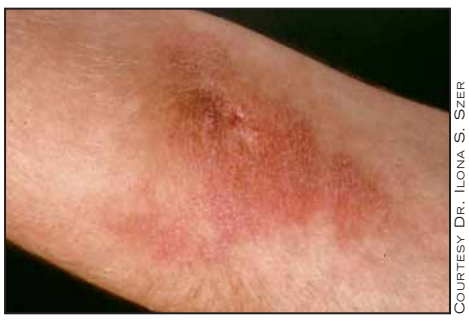
DMS isn't the only rheumatic disease that can stump clinicians. Systemic lupus erythematosus is another. Suspect SLE in a young woman with constitutional symptoms and multiorgan manifestations. "I am forever seeing 4-year-old boys with positive ANAs [antinuclear antibody tests] referred to me who are suspected of having lupus," she said, noting that 90% of cases occur in women (particularly young women).

"I would like everyone to think three times before ordering an ANA because up to 20% of healthy children have positive ANAs," said Dr. Szer, also a professor of pediatrics at the University of California, San Diego. "That's practically everybody."

A common cutaneous sign of SLE is a malar rash that spares the nasolabial folds. Other cutaneous signs include discoid rash, photosensitive rash, and recurrent mouth sores.

"Lupus in children is usually insidious," she added. "It may be acute, but it is always organ- or life-threatening. Delay in diagnosis clearly leads to lupus crisis. There is a point of no return with these patients. There's irreversible renal damage and death."

Erythrocyte sedimentation rate tends to be very high. Corrected sedimentation rate tends to be normal unless your patient has an infection, and renal disease is found in 90% of children. "The disease is very aggressive in children, especially during the first 2 years," she said. "We think of this as cancer medicine. We induce things into remission and then we maintain that remission." ■



COURTESY DR. ILONA S. SZER

This rash over the extensor surface of the elbow is characteristic of DMS.

Gene Linked to Acute Rheumatic Fever Identified

VIENNA — A polymorphism in the gene coding for toll-like receptor 2 appears to constitute a powerful susceptibility gene for acute rheumatic fever, H. Hakan Aydin, M.D., Ph.D., said at the annual European Congress of Rheumatology.

Indeed, 56 of 61 unselected Turkish children who met diagnostic criteria for acute rheumatic fever were heterozygous for the simple polymorphism, in which arginine is replaced by glutamine at position 753 in the toll-like receptor 2 (TLR-2) gene, according to Dr. Aydin of Ege University, Izmir, Turkey.

In contrast, 9 of 91 ethnically matched healthy pediatric controls and 12 of 116 healthy adult controls were heterozygous for TLR-2 *Arg753Gln*. Not one patient or control was homozygous for *Arg753Gln*.

Genetic differences in host susceptibility to acute rheumatic fever as reflected in the TLR-2 polymorphism go a long way toward explaining why only 0.3%-3.0% of patients with acute group A streptococcal pharyngitis go on to develop acute rheumatic fever, he said at the meeting sponsored by the European League Against Rheumatism. TLRs play a key role in host immunity, initiating the full range of both adaptive and innate immune responses against all manner of foreign microbes. Thus, a polymorphism in TLR-2 rendering affected individuals hyporesponsive to bacteria which contain TLR-2 agonists—as do gram-positive group A strep—could have important clinical consequences.

The finding that a TLR-2 polymorphism is strongly associated with increased susceptibility to rheumatic fever should eventually lead to a simple genetic test to risk-stratify patients for a disorder the World Health Organization says is still a major health problem, particularly in developing countries. It also opens the door to pharmacologic manipulation of TLR-2 for therapeutic purposes, Dr. Aydin predicted.

—Bruce Jancin