

Petechial Rash May Stem From Bacterial Infection

BY BRUCE JANCIN

VAIL, COLO. — Any seriously ill youth with a petechial rash should be treated empirically if one of three bacterial infections is suspected, according to Dr. Samuel R. Dominguez.

Treat with ceftriaxone to address a possible *Neisseria meningitidis* infection, vancomycin to cover methicillin-resistant or methicillin-sensitive *Staphylococcus aureus*, or doxycycline to cover *Rickettsia rickettsii* if the time of year and locale are right for Rocky Mountain spotted fever.

These three potentially lethal yet treatable bacterial infections often produce a petechial rash, he said at a conference on pediatric infectious diseases sponsored by the Children's Hospital, Denver.

He worries more about one of these possibilities if the patient appears ill on physical examination; has generalized pe-



COURTESY DR. WILLIAM J. BARSON

This is the petechial rash associated with Rocky Mountain spotted fever.

techiae, purpura, prolonged capillary refill; and/or an abnormal CBC, C-reactive protein, or other laboratory tests. He worries less if the youth looks well and has normal lab values.

Petechiae confined to a distribution north of the nipple line are a somewhat reassuring but less than conclusive indicator that the child doesn't have invasive bacterial disease.

In his review of four large published studies of children presenting to emergency departments with a petechial rash, two studies totaling 408 patients concluded that no one with petechiae located only above the nipple line had invasive bacterial disease.

In the other two studies, however, the distribution of petechiae was not predictive of serious disease, said Dr. Dominguez of the University of Colorado, Denver.

When the results of these four studies were taken together, roughly 10% of children with a petechial rash who presented to the emergency department were found to have underlying meningococcal disease, he added.

Even in the modern era of intensive care units, the overall mortality of meningococcal disease in the United States is about 10%, climbing to 25% in infected adolescents.

In individuals older than 11 years of age, 75% of cases are due to serogroups C, Y, and W-135, all covered by the single-dose meningococcal quadrivalent conju-

gate vaccine (Menactra) recommended for vaccination of 11- to 18-year-olds.

Rocky Mountain spotted fever is a tick bite-transmitted summer illness. The disease is considerably more common in the Mississippi River basin than in the Rocky Mountain states.

Ninety percent of cases occur in April through September; two-thirds are in children under age 15 years, peaking at ages 5-9 years. Often the patient has no

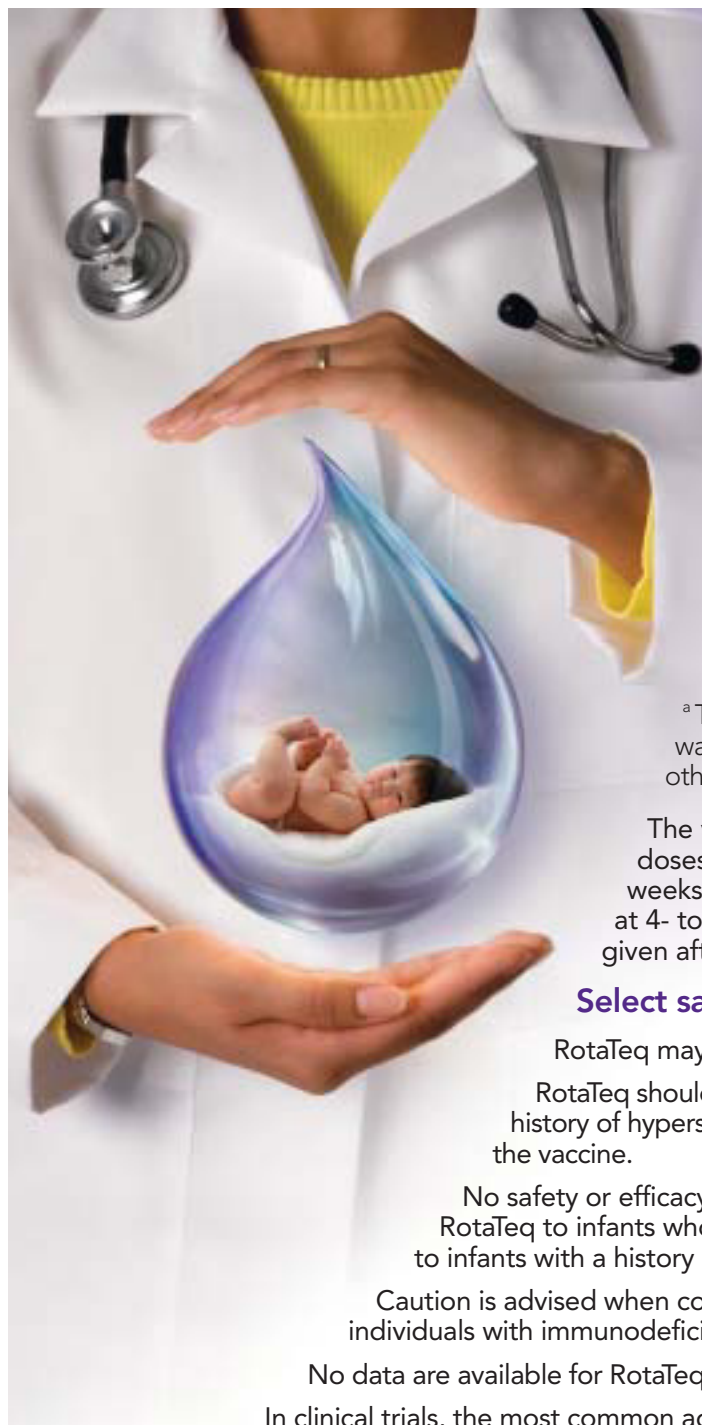
recollection or sign of a tick bite. Twenty percent of untreated cases are fatal, but with doxycycline mortality drops to 5%.

The clinical syndrome begins with sudden-onset fever and malaise after a mean 7-day incubation period. The rash appears 2-5 days after the fever.

It initially takes the form of small, blanching macules on the ankles and wrists that spread to the palms and soles, then centripetally to the arms and legs,

and finally to the trunk. Within a week the rash is maculopapular with central petechiae.

Children at high risk for infective endocarditis with *S. aureus* sepsis are those with congenital heart disease, hospitalized neonates, and patients with an indwelling central venous catheter, but 10% of pediatric cases occur in children without any identifiable risk factors, according to Dr. Dominguez. ■



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FACT: RotaTeq is a pentavalent rotavirus vaccine indicated for the prevention of RGE in infants and children caused by the G1, G2, G3, and G4 serotypes.

^a The distribution of serotypes identified in 1996–1999 was G1, 76.1%; G2, 11%; G3, 2.6%; G4, 1.1%; G9, 4.3%; other, 5%.¹

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Select safety information

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Reference: 1. Griffin DD, Kirkwood CD, Parashar UD, et al. Surveillance of rotavirus strains in the United States: identification of unusual strains. *J Clin Microbiol.* 2000;38(7):2784–2787.



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