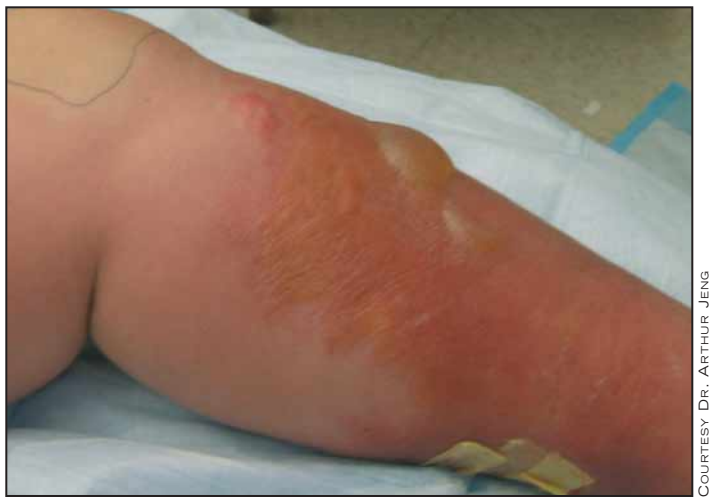
This severe cellulitis infection on the leg of a 31-year-old woman, presumed to be due to MRSA, did not respond to doxycycline. After group A streptococcus was identified as the etiologic pathogen, the patient responded well to penicillin.



COURTESY DR. ARTHUR JENG

Group A Strep Behind Most Uncomplicated Cellulitis

BY SHERRY BOSCHERT

San Francisco Bureau

SAN FRANCISCO — Don't reach for the vancomycin when you see uncomplicated cellulitis, because in most cases, empiric therapy is still needed to fight the β-hemolytic streptococci, Ramesh V. Nathan, M.D., said at the annual meeting of the Infectious Diseases Society of America.

Community-acquired methicillin-resistant *Staphylococcus aureus* (MRSA) might be on the tips of everyone's tongues these days, but group A streptococci remain the cause of most cases of cellulitis that can't be cultured because the patients lack abscesses or wounds, Dr. Nathan explained in a poster presentation.

Serology results for 54 adult patients with uncomplicated cellulitis showed streptococcal antibodies in 45 (83%). In general, most soft tissue infections are caused by β-hemolytic streptococci or *S. aureus,* so the 9 cases (17%) with negative streptococcal serologies were presumed to be caused by *S. aureus,* said Dr. Nathan of the University of California, Los Angeles.

Traditionally, β-lactam antibiotics have been the mainstay of treatment for uncomplicated cellulitis because of their excellent activity against both organisms.

Older literature suggested β-hemolytic streptococci caused most cases of uncomplicated cellulitis even after the emergence of MRSA, but it was unclear whether this had remained true, given the current epidemic of MRSA, Dr. Nathan said.

"Even in the era of community-acquired MRSA, β-hemolytic strep is still a very, very common cause of cellulitis. That means that for therapy, β-lactam antibiotics such as oxacillin or cefazolin are still going to be the most useful," he said in an interview at the poster session.

Although serologies in most patients were positive for both antistreptolysin O and deoxyribonuclease B antibodies, indicating β-hemolytic streptococci infection, some were positive for just one or the other antibody. Both tests should be done for accurate diagnosis, he said.

The most common site of infection was the legs, followed by arms or hands, trunk, and face. Several comorbidities were highly associated with β-hemolytic streptococci infection: chronic lymphedema, cirrhosis, obesity, and recurrent cellulitis. No comorbidities were seen, however, in 16 patients—a significant proportion (30%) of the whole cohort.

Two patients with negative serologies were found to have group B streptococci by fortuitous blood cultures, Dr. Nathan added. Both patients had diabetes.

The proportion of β-hemolytic streptococci infections in diabetic patients may be underestimated because the usual antibody tests do not detect group B streptococci, he said. Even in the diabetic patients in the study, most infections were caused by β-hemolytic streptococci.

All those with recurrent cellulitis who reported a previous cellulitis in the same limb had β-hemolytic streptococcal infection.

The study excluded patients with abscesses and significant ulcers or wounds that could be cultured. It also excluded patients with infections that are more typically caused by a variety of etiologic agents and by polymicrobial infections including periorbital, perineal, and groin infections; diabetic foot ulcers; and infections originating from bite wounds or foreign bodies. ■