Cellulitis Outcome Best in Hospital-Admitted Kids

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SAN FRANCISCO — Children who present to the emergency department with cellulitis may be better served by admittance to the hospital than by receiving short-term intravenous antibiotics in the ED.

In a retrospective review, children who received antibiotics in the ED were 50 times more likely to fail therapy within 7 days than were those who were admitted and then treated, Dr. April J. Kam reported at the 12th International Conference on Emergency Medicine.

In addition to the treatment failure rate, Dr. Kam said in an interview, tying up an ED room with hours and hours of intravenous antibiotic therapy doesn't make financial or logistic sense.

"Children who receive three doses of IV antibiotics in this setting can be in the ED for 21 hours," said Dr. Kam, a pediatric emergency medicine fellow at the Hospital for Sick Children, Toronto. Dr. Kam examined outcomes in 321 children (average age 7 years) who presented to the ED with cellulitis over a 1-year period. The portals of entry for the infection were insect bite (21%), trauma (19%), skin abnormality (12%), and dental condition (6%). For 42% of the children, the portal was some other method, or there was no known portal.

Among the group, 154 were discharged on oral antibiotics, 82 were admitted to the hospital for intravenous antibiotic therapy, and 85 received intravenous antibiotic therapy in the ED. Children who were admitted tended to be sicker, with significantly higher temperatures and more clinical signs of infection. In addition, significantly more of them had already visited a physician for the infection, and had already taken antibiotics for it.

Dr. Kam defined treatment failure in three ways: a repeat ED visit within 7 days with a change of treatment; three or more doses of intravenous antibiotics administered in the ED before the disposition determination; or more than 10 hours of treatment before the disposition determination.

By those criteria, significantly more children receiving short-course ED antibiotics failed treatment (57% vs. 2% of those admitted and 5% of those discharged on oral therapy). Children taking the short-course antibiotics were 50 times more likely to have a treatment failure than were admitted children; children discharged on oral therapy were twice as likely to fail treatment as were admitted children.

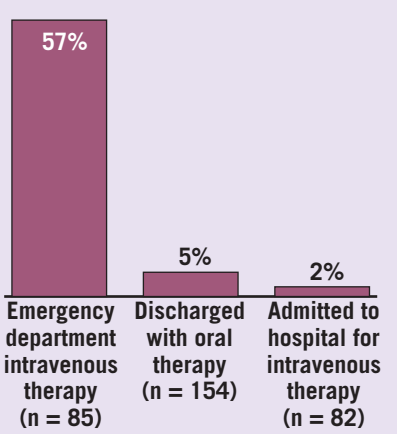
Dr. Kam also looked at the amount of blood work drawn in the entire cohort. Only 10% who were discharged on oral therapy had a complete blood count done, and 6% had a blood culture. However, a CBC was performed in 94% of short-course and 98% of admitted patients, while a culture was performed in 89% of short-course and 90% of admitted patients.

Unfortunately, she said, the cultures were noncontributory in almost every case. Only one culture grew a pathogen, and that child was clinically septic. Three other cultures grew contaminants. "It seems like the mindset is, 'Well, we're already putting an IV in, so we might as well get blood.' But these tests don't really add much to the diagnostic picture," Dr. Kam explained.

Treatment choices are clearer for children on either end of the spectrum, she said. Those who seem largely well usually get oral antibiotics and discharge, while those who are clinically sick are admitted.

"After performing this review, I'm rethinking my own decision making. I don't even consider the short-course therapy any more. If the child is well enough to go home, I discharge, and if the child is not well enough to go home, I admit." ■

Failure of Cellulitis Treatment In Children More Likely in The Emergency Department



Source: Dr. Kam