

US 'super bugs' invading South America

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Two clones of highly antibiotic-resistant organism strains, which previously had only been identified in the United States, are now causing serious sickness and death in several Colombian cities including the capital Bogotá, say researchers at The University of Texas Medical School at Houston. The study, done in collaboration with Universidad El Bosque in Bogotá, is presented in a research letter published in the Nov. 13 issue of the *New England Journal of Medicine*.

U.S. clones of methicillin-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus faecalis* (VREF) have emerged in communities across Colombia. The variation of the MRSA clone, referred to as the USA 300, has been previously reported to be the most important cause of severe skin and soft tissue infections in the United States. The VREF clone is genetically related to a strain that hit a Houston hospital in 1994.

In Colombia before 2005, there were no recorded cases of any community-associated MRSA infections, including USA 300 MRSA. In 2005, there were two: one in Bogotá and one in the city of Villavicencio. Now the number of MRSA infections is climbing across the country. The paper reports a total of 15 infections, some of which were documented in two additional cities between 2006 and 2007, said Cesar A. Arias, M.D., Ph.D., assistant professor of infectious diseases at the UT Medical School at Houston.

The first case of VREF was reported in Bogotá in 2001. Since then, 50 additional cases have been identified at seven hospitals.

"We are tracking and recording these cases to find the link between the U.S. and Colombia. The goal is to find out why and how these organisms got there. With this information, researchers hope to better understand the molecular epidemiology of these super bugs to understand how they spread and how to control them," Arias said. "The UT Medical School will continue to work with Latin American academic institutions to learn more about these antibiotic-resistant organisms."

All patients diagnosed with community-associated MRSA infections suffered severe skin and soft-tissue infections. Some patients also experienced death of tissue surrounding bones, bacteria in the bloodstream and meningitis, and 20 percent of the patients died. The MRSA infections were treatable with common antistaphylococcal antibiotics, although 40 percent were resistant to tetracycline.

Arias added that the USA 300 clone of MRSA has not only been found in Colombia. In a recent presentation at the annual meeting of the Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC) and Infectious Disease Society of America in Washington, D.C., Arias shared the news that this clone has been recorded in multiple patients in Ecuador and Venezuela.

Source: University of Texas Health Science Center at Houston

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