

# Researchers find new bartonella species that infects humans

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Researchers at North Carolina State University and the Centers for Disease Control and Prevention have produced the first link between a species of bacteria most commonly found in sheep and human illness.

Dr. Edward Breitschwerdt, professor of internal medicine at NC State's College of Veterinary Medicine, and NC State colleague Dr. Ricardo Maggi isolated the bacterium *Bartonella melophagi* from samples of human blood.

*B. melophagi* is such a newly discovered member of the genus *Bartonella* it is considered a "Candidatus" species, meaning that its name has yet to be formally accepted. In nature, sheep are the most likely hosts for *B. melophagi* and transmission among sheep is thought to occur via a wingless fly known as a ked. The route(s) of transmission to humans is unknown.

Their results are published in the January edition of *Emerging Infectious Diseases*.

The blood samples Breitschwerdt and Maggi tested came from previously healthy women who were suffering from symptoms including muscle fatigue and weakness. One of the patients had been diagnosed with pericarditis, an inflammation of the membrane surrounding the heart. *B. melophagi* was present in blood samples from both women; *Bartonella henselae*, a strain of the bacterium which has been associated with human neurological illnesses and fatigue, was isolated from one of the samples.

The research marks the first time that this particular strain of *Bartonella* has been cultured from human blood and associated with human illness.

"Over the past decade, there has been a rapid expansion in the number of *Bartonella* species that are documented human pathogens," Breitschwerdt

says. "From this preliminary data, it looks as though we may be able to add another species to that list."

"A small number of *Bartonella* in the bloodstream can cause infection, and this fact, coupled with the large variety of transmission routes by which people can become infected, make the diagnosis, treatment and prevention of the illnesses caused by this bacteria a real challenge," Maggi adds. "I think it's critical that we discover more about how this bacteria infects people, and how *Bartonella* infection relates to the subsequent development of progressive illnesses in humans."

Source: North Carolina State University

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