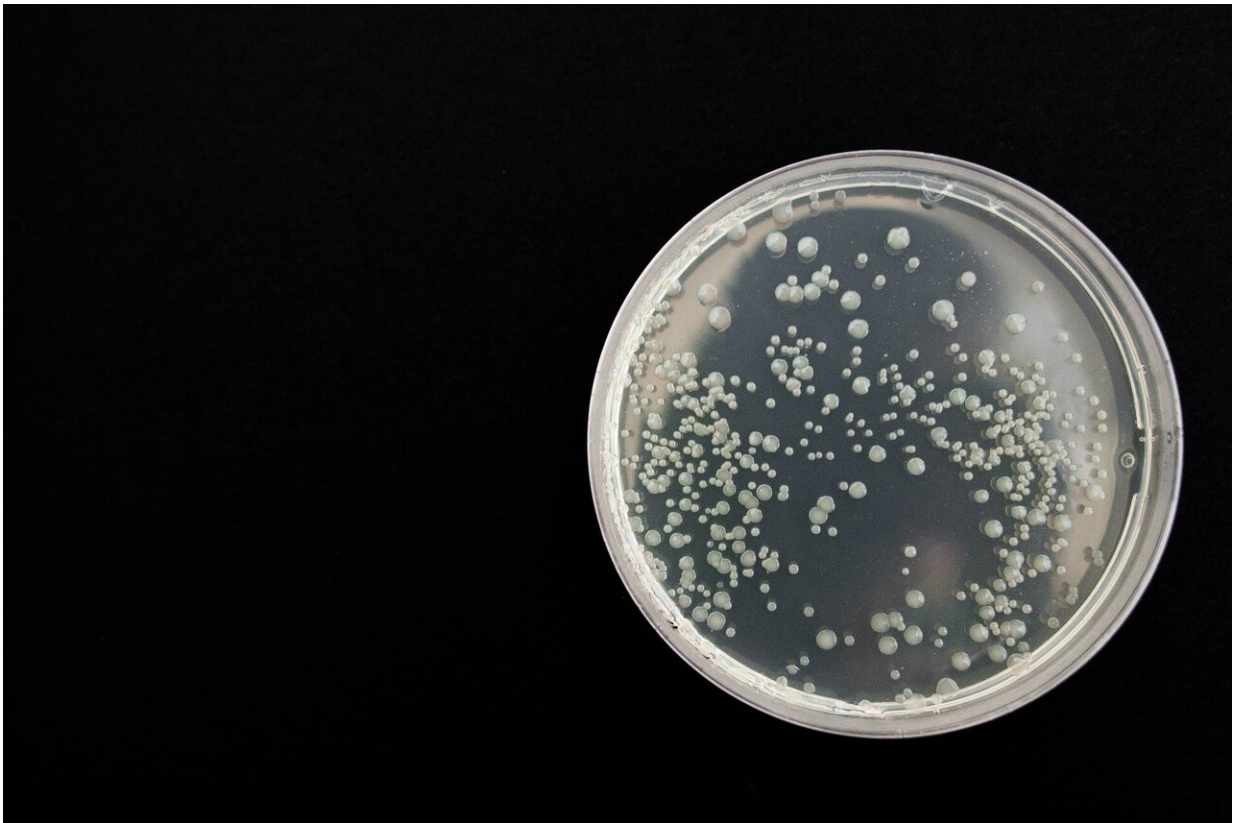


Study: *Bartonella* infection associated with psychiatric symptoms and skin lesions

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Bartonella bacteria are increasingly recognized as an emerging infectious disease threat. A new study by North Carolina State University researchers has found additional instances of *Bartonella* infection in

humans who exhibited neuropsychiatric symptoms, a subset of whom also had skin lesions. This research adds to the body of evidence that not only can *Bartonella* infection mimic a spectrum of chronic illnesses—including mental illness—but also that dermatological symptoms may accompany infection.

Bartonella henselae is a bacterium historically associated with cat-scratch disease, which until recently was thought to be a short-lived (or self-limiting) [infection](#). There are at least 30 different known *Bartonella* species, of which 13 have been found to infect humans. Improved methods for detecting *Bartonella* infection in animals and humans—it is notorious for "hiding" in the linings of blood vessels and potentially the [skin](#)—has led to the diagnosis of bartonellosis in patients with a host of chronic illnesses.

In 2019, Dr. Edward Breitschwerdt, Melanie S. Steele Distinguished Professor of Internal Medicine at NC State, published a [case study](#) involving an adolescent boy diagnosed with rapid onset schizophrenia, who had accompanying [skin lesions](#). After Breitschwerdt's research group documented *Bartonella henselae* infection, the patient received antimicrobial therapy and all neuropsychiatric symptoms resolved.

The new study is a follow-up to the 2019 work and is published in the journal *Pathogens*. Thirty-three participants suffering from [neuropsychiatric symptoms](#) ranging from [sleep disorders](#) and migraines to depression and anxiety enrolled in the study. Twenty-nine of 33 participants were found to have *Bartonella* infections based upon serology and enrichment blood culture polymerase chain reaction (PCR) testing. Twenty-four of the 29 *Bartonella*-positive participants (83%) reported the appearance of skin lesions during their illness.

Skin lesions ranged from cutaneous eruptions to red, irregular linear lesions randomly located on various parts of the patient's body. Many of

these lesions resembled striae distensae (stretch marks); however, typical risk factors for striae distensae, such as body building activities, obesity, pregnancy, prednisone treatment and other known disease associations, were either infrequently or not reported by study participants.

"This research, a follow-up to our initial case report of Pediatric Acute-Onset Neuropsychiatric Syndrome (PANS), was initiated to further investigate a possible association between neuropsychiatric illness, skin lesions and a [bacterial infection](#) of emerging biomedical importance," Breitschwerdt says. "We hope that this research will enable physicians to suspect connections between disparate symptoms involving the nervous system and skin that could be associated with an underlying bacterial cause."

More information: Edward B. Breitschwerdt et al, Bartonella Associated Cutaneous Lesions (BACL) in People with Neuropsychiatric Symptoms, *Pathogens* (2020). [DOI: 10.3390/pathogens9121023](https://doi.org/10.3390/pathogens9121023)

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