

Study Strengthens Association Between Tick-Borne Infections and Morgellons Disease

International Team Led by IGeneX Laboratory Supports Link Between Borrelia Spirochetes and Mysterious Skin Disease

Palo Alto, CA --- Morgellons disease is frequently associated with *Borrelia burgdorferi* (Bb), the causative agent of Lyme disease, as well as tick-borne relapsing fever *Borrelia* (RFB), according to a study published in the prestigious journal *Clinical Cosmetic and Investigational Dermatology*. The report entitled "Detection of Tick-borne Infection in Morgellons Disease Patients by Serological and Molecular Techniques" was written by microbiologist Marianne Middelveen from Atkins Veterinary Services in Calgary, Canada, together with IGeneX Laboratory's CEO Jyotsna Shah and laboratory director Iris Cruz, nurse practitioner Melissa Fesler and Internist Raphael Stricker from Union Square Medical Associates in San Francisco, CA.

Morgellons disease is a bizarre skin condition previously linked to tick-borne disease. It features lesions containing black, white or multicolored filaments. Many physicians mistakenly believe the filaments are implanted textile fibers and that the condition is a form of delusional mental illness. "Erroneous beliefs of medical professionals have impeded diagnosis and treatment in this group of patients," explains Middelveen.

Borrelia organisms including Bb and RFB comprise a family of corkscrew-shaped bacteria called spirochetes. In this corroborative study, 90% of Morgellons patients tested positive for *Borrelia* spirochetes. Among these patients with skin disease, 23% were positive for Bb alone, 50% for RFB alone, and 17% for both. "This is a huge percentage compared to the general population," says Fesler. In addition, infection with another tick-borne pathogen, *Bartonella henselae*, was detected in 20% of the study subjects and strengthens the evidence linking the skin condition to tick-borne illness. "This study is another nail in the coffin for the delusionists," adds Stricker.

Many clinicians are unaware of the full spectrum of *Borrelia* spirochetes that are associated with Morgellons disease. "Testing for a diverse group of organisms is an ongoing challenge", says Cruz. To further complicate diagnostic hurdles, Lyme disease testing as recommended by the Centers for Disease control and Prevention (CDC) lacks sensitivity and there are currently no Food and Drug Administration (FDA) approved tests for RFB in the United States. "The genetic complexity of *Borrelia* infection highlights the need for better testing", says Shah. "We hope that new tests for *Borrelia* can provide the proof of infection that Morgellons patients and their doctors need to obtain better treatment."