Teenager with stroke symptoms actually had Lyme disease

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A Swiss teenager, recently returned home from a discotheque, came to the emergency department with classic sudden symptoms of stroke, only to be diagnosed with Lyme disease. The highly unusual case presentation was published online last Thursday in *Annals of Emergency Medicine* (*Acute Lyme Neuroborreliosis with Transient Hemiparesis and Aphasia*).

"Everything about her symptoms indicated stroke: speech deficits, poor comprehension and right-sided face and arm weakness, so we considered treating her with clot-busting drugs" said lead study author Arseny Sokolov, MD, of the Department of Clinical Neuroscience, Centre Hospitalier Universitaire Vaudois in Lausanne, Switzerland. "But a 16 year-old having a stroke, while not unheard of, would be quite rare so we looked at other possibilities and found Lyme."

Brain imaging was not suggestive of stroke either, but revealed circumscribed brain dysfunction. The treatment team performed a spinal tap. The patient's spinal fluid showed elevated white blood cell counts and Lyme neuroborreliosis was diagnosed, so the treatment team began a course of antibacterial and antiviral agents. The patient improved immediately after treatment began.

"The imaging findings for the first time demonstrate acute brain dysfunction that appears to be directly related to neuroborreliosis" said senior co-author Renaud Du Pasquier, MD, neurology chairman at the Centre Hospitalier Universitaire Vaudois in Lausanne. "It may point out
future perspectives for research on the underlying mechanisms."

Lyme disease is caused by *Borrelia burgdorferi* bacteria, and is known as "the great imitator," as its symptoms can mimic so many other diseases. Many patients have Lyme for a long time before a proper diagnosis is rendered. When that happens, serious long-term complications are the result.

"The uncommon set of symptoms our patient had show why Lyme is a 'chameleon disease' of the emergency department," said Dr. Sokolov. "Furthermore, the patient had no history of tick bite. This curious case just shows the careful detective work that is involved in such a large portion of emergency medicine."

Provided by American College of Emergency Physicians

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