

This Week's Citation Classic®

Afzelius A. Erythema chronicum migrans. *Acta Dermato-Venereol.* 2:120-5, 1921.

During a dermatological meeting in Stockholm in 1909 a patient was presented who, after a tick bite, had a circular erythema with a peculiar mode of spreading. The clinical picture of this condition, termed *erythema chronicum migrans*, is very characteristic: It starts as a fairly small round plaque and spreads peripherally to form ½-2 cm wide red bands that expand whereas the center again turns pale. The erythema may last from a few weeks to over a year. This condition, once called Afzelius's disease, is now regarded as a form of Lyme disease. [The *SCI*® indicates that this paper has been cited in over 65 publications since 1945.]

Afzelius's Disease—Or Is It Lyme?

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Eighty years ago my grandfather, Arvid Afzelius, reported on a severe skin rash that followed bites of the tick *Ixodes ricinus*. The report was given at a meeting in the Swedish language, but somewhat later, in 1910, it was published in German,¹ and again, and more fully, in 1921. These two scientific papers were practically the only ones that my grandfather published, and I did not pay much attention to them. My grandfather died before I was born, and it was my father who told me about the tick bites and the conditions that followed thereof and that

my grandfather had termed *erythema chronicum migrans*. My ignorance of these tick bites and their potential pathological importance was, however, so profound that I did not understand that this was the condition that was referred to when some colleagues told me that they had seen the term *Afzelius's disease* in a textbook of pathology.

As I am working in science myself, and because I find it useful to look in the *Science Citation Index*® for any references that may appear on topics that I have published, I started in the 1960s to use this source of information. In the first two decades, I did not notice any references to papers by an A. Afzelius, except for some to the pupil of Linnaeus, Adam Afzelius, who was a cousin of the great-grandfather of my grandfather Arvid. There was also an occasional reference to some of my own papers that had been quoted with my first initial omitted. From 1983 references to my grandfather's papers started to appear and they are still quoted fairly frequently. I now believe they will continue to be so for many years to come.

During my last visit to the US, I saw a reference to my grandfather and his work in *Newsweek*.² I then got an explanation as to why he is now so highly quoted. The discovery by my grandfather has lately turned out to be very important. Lyme disease in the US and the less severe chronicum erythema migrans in Europe are sister diseases caused by the infection of related spirochaetes injected by ticks.³ Both diseases are of economic importance. Lyme disease emerged in its epidemic form in 1975 and is now considered to be a potentially serious and debilitating disease. Last year over 5,000 cases were reported in the US.

1. Afzelius A. Verhandlungen der Dermatologischen Gesellschaft zu Stockholm. Sitzung vom 28. Oktober 1909 (Proceedings of the Dermatological Society of Stockholm, meeting of 28 October 1909). *Arch. Dermatol. Syphilis* 101:403-6, 1910. (Cited 30 times since 1945.)

2. Seligmann J. Tiny tick, big worry. *Newsweek* 113(21):66-71, 1989.

3. Dammann G J. Erythema migrans: a chronicle. *Rev. Infect. Dis.* 11:142-51, 1989.