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Survivors Of Childhood Polio Do Well Decades Later As They Age

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Source: Mayo Clinic

Summary: Mayo Clinic researchers have found that years after experiencing childhood polio, most survivors do not experience declines greater than expected in their elderly counterparts, but rather experience only modest increased weakness which may be commensurate with normal aging.

FULL STORY

Mayo Clinic researchers have found that years after experiencing childhood polio, most survivors do not experience declines greater than expected in their elderly counterparts, but rather experience only modest increased weakness which may be commensurate with normal aging.

"Other researchers have suggested that polio is a more aggressive condition later in life, but we've actually found it to be relatively benign," says Eric Sorenson, M.D., Mayo Clinic neurologist and lead study researcher. "Our results suggest that polio survivors may not age any differently than those in the normal population -- they're not doing too badly compared to their peers. This tells us that the cause for the decline in muscle strength in polio survivors may be aging alone."

Polio is a contagious, viral illness that peaked in the United States in 1952, when 3,000 people died of the disease. Mass immunizations in the mid-1950s began to slow the spread of the disease, and the last case of polio not caused by a vaccine occurred in the United States in 1979. The three major types of polio include spinal polio, a paralytic polio that attacks nerve cells in the spinal cord; bulbar polio, in which the virus attacks motor neurons in the brainstem; and bulbospinal polio, a combination of spinal and bulbar polios. The effects of polio run the gamut from a complete return to normal function to paralysis of limbs to acute death. Following the illness, most patients are worried about their long-term prognoses, according to Dr. Sorenson.

To conduct this study, the researchers randomly selected a group of 50 polio survivors from the general population of Olmsted County, home of Mayo Clinic, and followed them for 15 years. The average age of participants at the study's start was 53, and the patients were an average of 40 years past their childhood experience with polio. The researchers measured strength and loss of neurons at the beginning of this period, and then again five and 15 years later with electrophysiological testing, strength testing and timed tests of performing basic functions. They found modest declines. Each patient also completed questionnaires about symptoms of progressive weakness at the beginning and end of the study period. Though the majority complained of progressive weakness during the time they were studied, these symptoms did not correspond with

their actual magnitudes of decline over time. Rather, the researchers found patients' symptoms experienced were associated with the degree of residual weakness immediately following their polio infections.

"Overall, we found that strength changed very little in these polio survivors as they grew older, and we discovered the neurons dropped off at a rate comparable to other non-polio survivors as they aged," says Dr. Sorenson. "We concluded this was normal aging on top of their old deficits. Very few had to change their homes or add adaptive equipment. Those who had weakness problems during our study had a larger deficit at the end of their childhood disease, making them more likely to develop symptoms. So, as deficits at the end of the disease increase, the probability of experiencing post-polio symptoms increases."

The discrepancy between what some of the patients experienced with growing weakness and their actual measurements of strength and neuronal loss likely is due to increased sensitivity due to their disease experiences, according to Dr. Sorenson.

"Patients feel their weakness progressing, but when you measure it, it's very modest," he says. "Likely, they lost so much strength at the time of their illness that any change is very noticeable to them. Though the likelihood is high that patients who have had childhood polio will complain of weakness later in life, they can expect years of stability without the need for major lifestyle modifications."

Other Mayo Clinic researchers involved in this study include Anthony Windebank, M.D., and Jasper Daube, M.D.

Story Source:

Materials provided by **Mayo Clinic**. *Note: Content may be edited for style and length.*

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