

IN THE JOURNALS PLUS

Rate of fatal measles complication high in unvaccinated children

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Researchers reported that the incidence of a rare but fatal measles complication known as subacute sclerosing panencephalitis, or SSPE, in unvaccinated children may be higher than previously thought, with as many as one in 609 infants infected with measles before 1 year of age being affected by the condition.

The findings, which were recently published in *Clinical Infectious Diseases* and initially presented at IDWeek 2016, demonstrate “the potentially high human cost of ‘natural’ measles immunity,” **James D. Cherry, MD, MSc**, distinguished professor of pediatrics and infectious diseases at the David Geffen School of Medicine at the University of California, Los Angeles, and colleagues wrote.



According to the researchers, SSPE is a “devastating condition” that causes cognitive and motor deterioration, with death usually occurring 1 to 3 years after symptom onset. Previously, the rate of SSPE was estimated to be one in 100,000 people in developed countries but 100 times higher in some developing regions. More recent estimates showed that SSPE occurred in one in 5,560 children infected with measles before 1 year of age in England and Wales, and one in 1,700 children infected before 5 years of age in Germany.



James D. Cherry

To determine the incidence of SSPE in California, Cherry and colleagues reviewed state death certificates, CDC reports and information on investigations regarding undiagnosed neurologic diseases. They identified 17 cases of SSPE that occurred from 1998 to 2015 among children who were infected with measles before vaccination. Among them, 12 developed measles or a compatible febrile rash illness by 15 months of age before developing SSPE.

The average age at SSPE diagnosis was 12 years (range 3-35 years), with a latency period of 9.5 years (range, 2.5-34). Most patients reportedly had long-standing cognitive or motor problems that may have been early symptoms of SSPE, the researchers noted. However, they all eventually developed cognitive and motor decline. Based on available information, 10 patients had died and only one who was born in 2011 is known to be alive.

Additional investigations revealed that seven children were exposed to measles in California during a resurgence between 1988 and 1991, when more than 9,500 cases were reported in children younger than 5 years of age. During this time, the rate of SSPE was estimated to be one in 1,367 among children infected with measles before 5 years of age, and one in 609 infants infected before 1 year of age.

According to the researchers, the data underscore the importance of vaccination and herd immunity with the measles-mumps-rubella vaccine.

“Because measles can be introduced into the U.S. at any time, reducing the risk of measles and subsequent SSPE for U.S. infants requires sustaining high levels of immunization domestically while continuing efforts to eliminate the disease where it is still endemic,” they wrote. “As long as measles continues to circulate in the world, measles infection can occur in unvaccinated infants who have an elevated risk of SSPE.”

In a related editorial, **James L. Goodson, MPH**, epidemiologist at CDC, and colleagues noted that since the current investigation was facilitated by the implementation of enhanced surveillance methods, the findings represent “a more accurate estimate” of SSPE incidence than previous studies have indicated.

“It appears that the previous estimates were too conservative, and that characterization of SSPE as being a rare complication of measles should be reconsidered,” Goodson and colleagues wrote. “Therefore, in addition to the prevention of complications including fatal outcomes that can result from acute measles, prevention of SSPE might be considered as an advocacy tool to help global vaccination programs achieve the high vaccination coverage needed to protect vulnerable infants. Furthermore, recommendations for the administration of measles vaccine as early as 6 months of age should be followed to prevent measles and complications in settings or outbreaks in which infants are at high risk for exposure to measles virus.” – *by Stephanie Viguers*



James L. Goodson

Disclosure : The researchers report no relevant financial disclosures.