Measles and Cancer Patients. What to Do?

Measles seldom crossed paths with cancer survivors, but now that may change.

October 24, 2019 By Sabin Russell

With nearly 1,100 cases of measles confirmed in the United States so far this year, cancer patients and their doctors throughout the country have plenty to keep them up at night.

Declared eliminated in the U.S. in March 2000, measles is threatening to rebound in scattered outbreaks occurring primarily in regions of the country where vaccination rates have declined.

“It is basically showing up in places where we hadn’t seen in in years,” said Steven Pergam, MD, MPH, an expert in infectious disease sciences at Fred Hutchinson Cancer Research Center and medical director of infection prevention at Seattle Cancer Care Alliance, the Hutch’s clinical care partner. Since the beginning of this year, eight measles cases have been logged among residents of King County, where Fred Hutch and SCCA are located.

Small outbreaks matter, because measles is extraordinarily contagious. It spreads more easily than almost any other infectious disease. Studies show that every person who contracts Ebola virus will infect on average 1.5–2 others. For seasonal influenza, one person may infect 1.2–1.4 others. By contrast, someone with measles in an unvaccinated population may infect 12–18 others.

How will measles affect cancer patients? ‘We don’t really know’

Measles is worrisome to cancer patients because those receiving chemotherapy or recovering from a transplant may have weakened immunity. Yet because measles rates have been driven down by a half century of successful vaccination, cancer in the U.S. seldom crosses paths with measles. Doctors lack the information to know how the two might interact.

Measles cases plunged precipitously after introduction of the first vaccines in 1964 and have remained low ever since. But the spike in cases midway through 2019 is already the highest seen since 1992.

Meanwhile, thanks to population growth and to improved cancer therapies, the number of people living with cancer in the U.S. rose to nearly 17 million in 2017 from just under 4 million in 1977. That number is expected to grow to 22 million by 2030.

“In the days before a measles vaccine even existed, cancer treatments were limited, and patients were less likely to survive. Now we have patients that are living longer and living out in the community among all of us. We don’t really know what measles will do to these patients, but the limited data suggest it can be quite dangerous,” Pergam said.

Although outbreaks in the U.S. are becoming more frequent, they remain isolated and rare, and to date there are no reports of measles affecting cancer patients. But in China, where measles is more widespread despite a rapidly modernizing medical system, 23 children contracted measles in a pediatric cancer hospital in 2015, and five of them died.

Measles is primarily a pediatric disease. Before the vaccine, there were 450,000 cases a year, and even today, for every thousand cases, 1–3 children die of respiratory or neurological complications. There are no antiviral drugs for measles, and other than treatment for fever and supportive care, there are few options for patients.

Preventing measles: ‘vaccinate, vaccinate, vaccinate’

To Pergam, this brings home his mantra that the best thing for measles is to prevent it from happening in the first place. “Vaccinate, vaccinate, vaccinate,” he said.

This is important not just for those with a friend or loved one with cancer.

“There is a sense by many in our community that cancer patients are all in the hospital and are really ill. The reality is that cancer patients look like everyone else walking on the street. Many of them are in places where you work, or where you go to class. You don’t always know who is at risk,” Pergam said.

For the aging generation of baby boomers, he advised, those who contracted measles as kids are unlikely to get it again. But many have no recollection or records of their childhood illnesses, or of a subsequent vaccination. Some wonder whether their immunity has waned since they were vaccinated decades ago.

Pergam said those who are unsure should talk to their doctor. If you have no proven history of measles as a child or no record of receiving two doses of vaccine, doctors can test your blood to see if you are protected. If no antibodies against measles are detected, you may need to get vaccinated, unless you happen to be immune-compromised.

He stressed that some cancer patients — especially those with blood cancers or those on immunosuppressant drugs — must be more careful about the measles vaccine. Because the MMR (Measles, Mumps, Rubella) vaccine contains live, weakened viruses, it may not be recommended for them.

For the protection of the public, Pergam stresses that it is more important to “vaccinate the healthy.” When 95% of the child population is vaccinated, the risk of measles spreading is very low. High rates of vaccination provided the kind of peace with measles that Americans have

enjoyed for nearly half a century. But when this “herd immunity” declines, it puts communities at risk for an outbreak. As the number of unvaccinated children rises, that peace is threatened.

Washington Department of Health data show that only in six of Washington’s 39 counties are more than 95% of kindergartners fully vaccinated for measles.

“Protecting patients means vaccinating their community,” Pergam said.

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