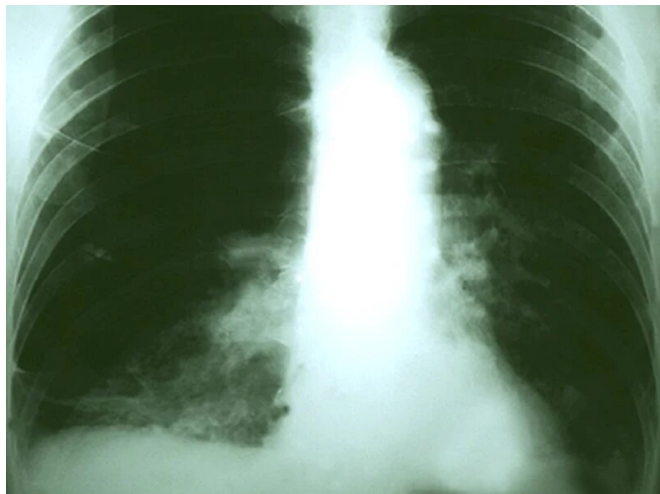


Childhood TB shot may offer long-term protection from lung cancer

1 October 2019, by Serena Gordon, Healthday Reporter



(HealthDay)—A tuberculosis vaccine commonly used in other parts of the world might reduce a person's risk of developing lung cancer if given early in childhood, a six-decade-long study reports.

The Bacille Calmette-Guerin (BCG) [vaccine](#) is the only vaccine approved for preventing tuberculosis (TB)—a potentially fatal infectious disease that typically attacks the lungs. Because TB risk is low in the United States, the vaccine isn't often given to American children, according to the U.S. Centers for Disease Control and Prevention.

But the new study suggests the vaccine may have some positive side effects.

"BCG-vaccinated participants had a significant 2.5-fold lower rate of [lung](#) cancer," said study senior author Dr. Naomi Aronson, director of infectious diseases at Uniformed Services University in Bethesda, Md.

She said lower lung cancer rates persisted in those who received the vaccine no matter where they lived, and whether they smoked, drank alcohol or had tuberculosis.

Aronson said BCG affects the immune system somehow and may provide even more benefit in the lungs.

The initial study was conducted in 3,000 American Indian and Alaska Native children in the 1930s. If the findings are confirmed in different groups, Aronson said the use of BCG vaccine in childhood "might be considered for risk reduction for lung cancer over a lifetime."

Dr. Len Lichtenfeld, interim chief medical officer of the American Cancer Society, reviewed the study and called the findings fascinating. "And you rarely see this duration of follow-up," he added. "The authors went to great lengths to validate their information."

But, he said, it's unlikely that BCG will be used for lung cancer prevention. While the study found a statistically significant reduction in the rate of lung cancer, the actual number of cases was very low. Just 42 people in the study were diagnosed with lung cancer.

There's also a serious, ongoing shortage of BCG vaccine that would limit any such efforts, Lichtenfeld said. The vaccine is an [effective treatment](#) for a certain type of bladder cancer, and doctors find it hard to get enough for that purpose.

In addition, the BCG vaccine has been tested as a treatment in a number of other cancers with mixed results. In some cases, it looked as if lesions had shrunk, but the vaccine didn't prolong survival, he explained.

Plus, Lichtenfeld said, there's a very effective way to prevent many cases of lung cancer—don't smoke.

And, if you do, quit. "Tobacco causes most, but not all lung cancers. Not smoking helps prevent many cancers," he said.

The initial study was conducted between 1935 and 1938. About 3,000 children from nine American Indian and Alaska Native tribes at multiple U.S. sites were randomly given the BCG vaccine or a placebo.

None of the youngsters had had tuberculosis. They were vaccinated between 5 and 11 years of age, with a median age of 8 years. Half were younger when they got the shot, half were older.

From 1992 to 1998, researchers reviewed health information from the trial participants.

There was no statistically significant differences in overall cancer rates between the vaccine and placebo groups. But the odds of lung [cancer](#) were significantly lower, the study found.

Researchers noted that [lung cancer](#) is a leading cause of death for Alaska Natives and Native Americans.

The study was published Sept. 25 in the journal *JAMA Open*.

More information: Read more about ways to prevent lung cancer from the [American Cancer Society](#).

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