

Vaping-linked lung illness looks like exposure to mustard gas, doctors say

reader comments

96 with 61 posters participating

Share this story

Close examination of lung tissue from 17 people with severe vaping-linked injuries found a type of tissue damage seen in people exposed to toxic fumes and chemical weapons, such as mustard gas.

That's according to a short report in The New England Journal of Medicine published Wednesday by doctors from the Mayo Clinic.

It's still unclear what's causing a rash of life-threatening lung injuries in some people who vape. As of October 1, there have been 1,080 confirmed or probable cases in 48 states and the US Virgin Islands, including 18 deaths in 15 states, according to the Centers for Disease Control and Prevention.

Investigators are focusing on contaminants and counterfeit vaping products, particularly those containing THC, the primary psychoactive ingredient in marijuana. Nearly 80% of 578 patients that the CDC has detailed data on reported using THC-containing vaping products in the months before falling ill. Some of the products that have come up in the investigations include Dank Vapes, Moon Rocks, Off White, and TKO, according to The New York Times.

The outbreak is “continuing at a brisk pace,” Dr. Anne Schuchat, CDC’s principal deputy director, said in a conference call with reporters Thursday.

Amid the fast-moving public health issue, doctors are trying to hone their understanding of the clinical and pathological features of the illnesses. The short report in the NEJM Wednesday adds to that understanding. In all the cases, pathologists found acute tissue injury, inflammation and congestion in the small airways, and “foamy” immune cells.

All of this looks like the telltale signs of exposure to toxic chemical fumes or chemical weapons, such as mustard gas, Dr. Brandon Larsen told the Times. Larsen is a surgical pathologist at the Mayo Clinic in Scottsdale, Arizona and an author on the NEJM report.

“To be honest, they look like the kind of change you would expect to see in an unfortunate worker in an industrial accident where a big barrel of toxic chemicals spills, and that person is exposed to toxic fumes, and there is a chemical burn in the airways,” he said.

In such cases, cells in the lungs and airway lining die off. That cell death triggers immune responses that lead to swelling, the sloughing off of the dead cells, and fluids leaking into the lungs. All of those things in turn make breathing difficult if not impossible, he explained.

Of the 17 patients involved in the pathology study, two died from their lung injuries. Doctors aren’t sure about the long-term recovery or consequences for the survivors.

“Based on the severity of injury we see, at least in some of these cases, I wouldn’t be surprised if we wind up with people down the road having chronic respiratory problems from this,” Dr. Larsen said.

In the meantime, investigators continue to try to identify the

cause of the illnesses. Notably, the pathology results of the 17 patients' samples showed no signs of lung tissue clogged by oils, such as vitamin E acetate. The supplement had been found in some suspect products linked to lung injury cases, and some researchers had speculated that such oily cutting agents in vaping liquids could be the culprits behind the injuries. Researchers and investigators at the CDC say more than one ingredient or toxic contaminant could be causing the injuries.

<https://arstechnica.com/?p=1579547>