Never-before-seen virus may be behind mystery outbreak in China

Enlarge / Colored image of coronaviruses made from a transmission electron microscopy.

reader comments

54 with 42 posters participating

Share this story

A mysterious outbreak of viral pneumonia linked to a wild-animal market in the Chinese city of Wuhan may be caused by a never-before-seen virus, according to preliminary reports.

Officials in neighboring areas, meanwhile, are screening travelers for symptoms and planning quarantine zones to try to prevent any potential spread of the mystery disease.

As of Sunday, January 5, Wuhan Municipal Health Commission reported a total of 59 cases, including seven critically ill patients. There have been no reported deaths.

Those sickened are being held in isolation in medical facilities in Wuhan. Their main symptom is fever, according to the World Health Organization. But some patients have also experienced trouble breathing, and chest X-rays have shown invasive lesions in both lungs.

Though Wuhan health officials are closely monitoring 163 people who had close contact with those sickened, there’s no evidence so far that the illness is spreading from person-to-

person. No medical staff members have become ill in the outbreak, either. Those are both promising signs for containing the outbreak and stamping out the disease.

Wuhan officials report that the outbreak erupted in the latter half of December. Among the cases identified so far, the earliest onset of symptoms was pinned to December 12 and the latest illness began December 29.

Survey data collected during that window indicated that some patients with the mysterious pneumonia were working at the Wuhan South China Seafood City. The market sold seafood, but also chickens, bats, marmots, and other wild animals. According to The Washington Post, it was a 1,000-booth bazaar that state media reports labeled as “filthy and messy.”

Officials shut down the market on January 1 and reported that it has been thoroughly sanitized.

Shadow of SARS

Such markets are notorious for helping spawn and spread disease. They often cram humans together with a variety of live animals, which may tote their own menageries of pathogens. Such close quarters, meat preparation, and poor hygienic conditions in the markets offer viruses an inordinate number of opportunities to recombine with each other, mutate, and leap to new species, including humans.

After the 2003 SARS outbreak, for instance, SARS-like viruses were found in masked palm civets and raccoon dogs sold for food in live-animal street markets in southern China, where the virus first emerged. Later, researchers also found the viruses circulating in China’s horseshoe bat populations.

The outbreak of SARS (Severe Acute Respiratory Syndrome) in humans sparked panic as it spread to more than two dozen countries. It ultimately sickened over 8,000 people worldwide,

killing 774.

Determined to keep such an outbreak from spreading like that again, regions near Wuhan are stepping up precautions amid the mystery illnesses. Hong Kong, for instance, has granted authorities quarantine powers for suspected cases, and residents there are stocking up on protective face masks and gowns. Thailand is screening airline passengers arriving from Wuhan, and authorities in Vietnam are tightening health checks at border gates.

Meanwhile, experts in Wuhan are working to figure out exactly what is causing the outbreak. Officials on Sunday said that "respiratory pathogens such as influenza, avian influenza, adenovirus, infectious atypical pneumonia (SARS), and the Middle East Respiratory Syndrome (MERS) have been excluded. Pathogen identification and cause tracing are still underway."

Virus más fina

This morning, January 8, The Wall Street Journal reported that Chinese scientists had identified a novel coronavirus in samples taken from one patient. The virus subsequently matched samples taken from some—but not all—other cases. The report was based on unnamed sources said to be familiar with the health investigation.

Coronaviruses are a species of virus named for the halo-like (corona) appearance they have under a microscope. Species members are known to cause common, mild-to-moderate respiratory infections in humans as well as rare, severe infections. SARS and MERS are both caused by coronaviruses. The species also causes respiratory, gastrointestinal, liver, and neurologic disease in animals, such as cats, dogs, mice, and birds, according to the Centers for Disease Control and Prevention.

According to the WSJ, the coronavirus found during the current

outbreak was similar to SARS-precursor viruses found in bats. But the report notes that Wuhan investigators haven’t concluded that the novel virus is behind the outbreak.

Regardless of the cause, health experts in China are optimistic that the outbreak will be contained and that response efforts will be better than they were during the SARS outbreak. Xu Jianguo, a former top Chinese public health official, noted to The Washington Post in a report today, “More than a decade has passed. It’s impossible for something like SARS to happen again.”

https://arstechnica.com/?p=1641159