

## **Bodies yield clues to 1918 pandemic**

By M.A.J. McKenna/Staff

Six bodies unearthed last year in the Norwegian arctic have unexpectedly yielded a scientific prize: They hold part of the virus that caused the Spanish influenza of 1918, which killed at least 40 million people in one of the worst disease outbreaks in history.

Researchers at a scientific meeting in London said Tuesday they have identified fragments of the long-sought virus in the brains and organs of six young men who died in October 1918 on Svalbard, an island less than 800 miles from the North Pole.

The bodies were unearthed in August 1998 by a multinational research team that had traveled to the arctic in hopes of finding frozen corpses in which the flu virus had been preserved.

But the bodies were found thawed and decayed, and scientific gossip over the past year had dismissed them as worthless to research.

Apparently, the gossip was wrong.

“The tissue samples that people had dismissed as so bad are yielding very good results,” a jubilant Kirsty Duncan, the team’s leader, said in a phone interview from London. “We have fragments of the flu’s genetic material --- the RNA --- from the lung, the kidney, the liver and the brain.”

Science has never been able to understand the 1918 flu. The disease attacked, circled the globe and died out within a year.

While it flourished, it was horrific: It killed quickly, with high fever and severe inflammation of the lungs that caused victims to drown in their own body fluids.

It has never returned. But because flu is a constantly mutating virus, researchers fear a similar flu could emerge.

And since the 1918 flu disappeared decades before science gained the ability to analyze viruses in the laboratory, there is no data that would help researchers recognize an equally lethal strain.

The need to understand the 1918 flu has become acute. Worldwide epidemics of flu, called pandemics, occur in about 30-year cycles, and the last confirmed one was in 1968. The re-emergence of a killer flu could be a global catastrophe.

“It’s important to understand why the 1918 virus was so lethal,” said Dr. Nancy Cox, chief of the influenza branch at the Centers for Disease Control and Prevention in Atlanta, which is charged with pandemic planning. “We want to know why it was able to kill so many people, and we want to know whether there are particular anti-virals we could prepare in case a similar strain should emerge.”

Parallel efforts to recover the 1918 virus have already yielded results. A Washington research team led by Dr. Jeffery Taubenberger has isolated significant amounts of the flu genome from samples of bodies found in the

United States.

Taubenberger's work is based on lung tissues salvaged from autopsy samples in a military archive and from a partly frozen corpse found two years ago in Alaska. If the results disclosed Tuesday in London are confirmed, they could be an important complement to that research.

"The most interesting thing about the reports that I have heard --- if they are confirmed --- is that they indicate the 1918 virus may have been able to replicate in tissue other than in the respiratory tract," Cox said. "This may be a clue as to why the virus was so lethal, because usually it replicates in the respiratory tract, and is not found in the kidney, spleen and brain."

Initial analyses presented at the London virology gathering suggest the virus, which is believed to have appeared first in the United States, had mutated by the time it reached Norway. Dr. Rod Daniels, a virologist who analyzed the arctic samples, said Tuesday that viral fragments he found "are slightly different, but are definitely related" to those found by Taubenberger.

Daniels recovered the viral fragments from 92 samples of bone, brain and organ taken from the Norway bodies and flown to the National Institute for Medical Research in London, the closest lab outfitted with high levels of protection against accidental release of disease organisms.

Under an agreement reached by the multinational team --- led by Duncan, a Canadian, and including scientists from the United States, Britain and Norway --- the samples were to be examined first in London and then shared with labs in the other team-members' countries.

That distribution has not yet taken place, and in the past few days charges of miscommunication and scientific misconduct have swirled around the 7-year-long effort. Duncan, who teaches geography at two Canadian universities, flew to London at the last minute after leaks in the British press suggested another team member, Dr. John Oxford, was being given credit for the discoveries.

"I wanted to get credit for my team members and for Norway," she said. "The community where these bodies were buried gave something precious to us, and we have not yet given them anything in return."