## Their Teeth Fell Out. Was It Another Covid-19 Consequence?

People who already have dental problems may see them aggravated by encounters with the coronavirus, some experts suggest.

Some Covid survivors say loose teeth have fallen out without bleeding. Others claim their gums are more sensitive, or that their teeth are turning grey or chipping.

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Earlier this month, Farah Khemili popped a wintergreen breath mint in her mouth and noticed a strange sensation: a bottom tooth wiggling against her tongue.

Ms. Khemili, 43, of Voorheesville, N.Y., had never lost an adult tooth. She touched the tooth to confirm it was loose, initially thinking the

problem might be the mint. The next day, the tooth flew out of her mouth and into her hand. There was neither blood nor pain.

Ms. Khemili survived a bout with Covid-19 this spring, and has joined an online support group as she has endured a slew of symptoms experienced by many other "long haulers": brain fog, muscle aches and nerve pain.

There's no rigorous evidence yet that the infection can lead to tooth loss or related problems. But among members of her support group, she found others who also described teeth falling out, as well as sensitive gums and teeth turning gray or chipping.

She and other survivors unnerved by Covid's well-documented effects on the circulatory system, as well as symptoms such as swollen toes and hair loss, suspect a connection to tooth loss as well. But some dentists, citing a lack of data, are skeptical that Covid-19 alone could cause dental symptoms.

"It's extremely rare that teeth will literally fall out of their sockets," said Dr. David Okano, a periodontist at the University of Utah in Salt Lake City.

But existing dental problems may worsen as a result of Covid-19, he added, especially as patients recover from acute infections and contend with their long-term effects.

And some experts say that doctors and dentists need to be open to such possibilities, especially because more than 47 percent of adults 30 years or older have some form of periodontal disease, including infections and inflammation of the gums and bone that surround teeth, according to a 2012 report from the Centers for Disease Control and Prevention.

"We are now beginning to examine some of the bewildering and sometimes disabling symptoms that patients are suffering months after they've recovered from Covid," including these accounts of dental issues and teeth loss, said Dr. William W. Li, president and medical director of the Angiogenesis Foundation, a nonprofit that studies the health and disease of blood vessels.

While Ms. Khemili had become more diligent about her dental care, she had a history of dental issues before contracting the coronavirus. When she went to the dentist the day after her tooth came out, he found that her gums were not infected but she had significant bone loss from when she used to smoke. He referred Ms. Khemili to a specialist to handle a reconstruction. The dental procedure is likely to cost her just shy of \$50,000.

The same day Ms. Khemili's tooth fell out, her partner went on Survivor Corp, a Facebook page for people who have lived through Covid-19. There, he found that Diana Berrent, the page's founder, was reporting that her 12-year-old son had lost one of his adult teeth, months after he had a mild case of Covid-19. (Unlike Ms. Khemili, Ms. Berrent's son

had normal and healthy teeth with no underlying disease, according to his orthodontist.)

Others in the Facebook group have posted about teeth falling out without bleeding. One woman lost a tooth while eating ice cream. Eileen Luciano of Edison, N.J., had a top molar pop out in early November when she was flossing.

"That was the last thing that I thought would happen, that my teeth would fall out," Ms. Luciano said.

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Teeth falling out without any blood is unusual, Dr. Li said, and provides a clue that there might be something going on with the blood vessels in the gums.

The new coronavirus wreaks havoc by binding to the ACE2 protein, which is ubiquitous in the human body. Not only is it found in the lungs, but also on nerve and endothelial cells. Therefore, Dr. Li says, it's possible that the virus has damaged the blood vessels that keep the teeth alive in Covid-19 survivors; that also may explain why those who have lost their teeth feel no pain.

It's also possible that the widespread immune response, known as a cytokine storm, may be manifesting in the mouth.

"If a Covid long hauler's reaction is in the mouth, it's a defense mechanism against the virus," said Dr. Michael Scherer, a prosthodontist in Sonora, Calif. Other inflammatory health conditions, such as cardiovascular disease and diabetes, he said, also correlate with gum disease in the same patients.

"Gum disease is very sensitive to hyper-inflammatory reactions, and Covid long haulers certainly fall into that category," Dr. Scherer said.

Dentists haven't seen many of these cases, and some dismiss these individual claims. But physicians like Dr. Li say Covid-19's surprises require that the profession be on the lookout for unexpected consequences of the disease.

"Patients may be bringing in new findings," he said, and physicians and dentists need to cooperate on understanding the effects of long-term Covid-19 on teeth.

For now, Ms. Khemili hopes her story may serve as a cautionary tale. If people aren't taking the proper precautions to protect themselves from the coronavirus, "they could be looking at something like this."

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