

Understanding post-COVID interstitial lung disease: Causes, treatment options

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After being hospitalized for three months with COVID-19 and double pneumonia in 2020, Houston police officer Hito Bazan awoke one morning to discover that he couldn't talk, eat, walk, or most importantly, breathe. Bazan was diagnosed with interstitial lung disease (ILD) known as pulmonary fibrosis (PF).

Three years into the COVID-19 pandemic, we are beginning to see the potential long-term effects of COVID-19, including, in some select cases, PF and ILD. As a relatively unknown disease, it is important to understand how post-COVID ILD occurs, and share the resources and treatment options available for those, like Bazan, who are affected by this lung condition.

"There weren't a lot of answers in the beginning," Bazan said. "I've come a long way since then, and we know a lot more about post-COVID ILD than we did nearly three years ago."

What is Post-COVID ILD?

In its simplest sense, PF and ILD refers to scarring in the lung tissue. Over time, scar tissue may build up and block the movement of oxygen from the lungs into the bloodstream. Low oxygen levels – and the stiff scar tissue itself – can cause people who have PF or ILD to feel short of breath, particularly when walking and exercising.

Respiratory symptoms of ILD after COVID-19 may be similar to those of other types of ILD. Common symptoms of ILD include a chronic, dry cough, fatigue, and shortness of breath. While some people may have worsening symptoms over time, some patients can have gradual improvement in symptoms, and others can have stable but persistent symptoms. People with ILD after COVID-19 may experience additional symptoms of Post-Acute Sequelae of COVID-19 (PASC) or "long COVID," including heart palpitations, chest pain, or difficulty thinking and concentrating.

“*The symptoms of shortness of breath and cough are common to many different illnesses, so if one has these symptoms following a COVID-19 infection, it does not always mean that ILD is present. Persistent symptoms should always prompt a conversation with your medical provider.*”

Dr. Amy Hajari Case, Senior Medical Advisor for Education and Awareness for the Pulmonary Fibrosis Foundation (PFF)

Causes of ILD after COVID-19

Because COVID-19 pneumonia causes inflammation in the lungs, Bazan was at the highest risk for developing PF and ILD. People with severe cases of COVID-19 infection – particularly those who develop acute respiratory distress syndrome (ARDS) and require mechanical ventilation – are also at risk to develop the disease. In many cases, the lung damage from ARDS will fully resolve over time, but in other cases, permanent lung damage can develop.

The ways in which less severe COVID-19 infection causes ILD and PF are still unclear. Studies are ongoing to better understand this connection and the risk factors for development of ILD after COVID-19. These studies aim to determine if ILD seen in patients who have had COVID-19 is inflammation that improves with time, if it is fibrosis that does not improve but is stable, or if it is a disease that continues to worsen over time.

"The impact of the COVID-19 pandemic has been unprecedented. We are still learning the ways in which post-COVID ILD affects patients and continue to gain a better understanding of the progression of the disease for patients with different risk factors and exposures," added Dr. Hajari Case. "In time, we are hopeful that more research will emerge to shed light on the causes of post-COVID ILD and the long-term effects on our overall health."

Diagnosing post-COVID ILD

People who develop pneumonia from COVID-19 will often have chest imaging, such as a chest x-ray or CT scan, as part of their medical evaluation.

Abnormalities found on chest imaging or persistent respiratory symptoms after

recovery from a COVID-19 infection can be clues that ILD may be present.

A healthcare provider who suspects that a patient has ILD might also perform blood work and pulmonary function tests to measure how much air the lungs can hold. Doctors may also perform a high-resolution computed tomography (HRCT) scan, which shows detailed images of the lung. In some cases, a diagnosis of ILD can be made from these tests and in others, a lung biopsy may need to be performed. Patients may be monitored over time to evaluate if the scarring or inflammation progresses, stabilizes, or resolves. Following his own diagnosis with PF, Bazan has had to make several life changes, including retiring from his career as a police officer. However, through finding the right medical care, resources and the use of an oxygen machine, he has been able to exercise, complete DIY projects around his home, and spend time with his family.

"It was a long road getting back to where I am now," Bazan said. "I used to be very focused on work, but now I'm driven to beat this disease, and I'm not going to stop living. I've learned that life does not end – it just takes some adjustments."

Treating post-COVID ILD

Currently, there are no guidelines or clinical trials available to help clinicians make treatment decisions. Monitoring a person's disease without medication is appropriate in some cases. In other cases, when inflammation is present in the lung, steroid medications, such as prednisone, are commonly used. The antifibrotic medications pirfenidone and nintedanib, which can be prescribed to treat other forms of PF, are currently being studied in clinical trials of ILD after COVID-19.

"While there is significant uncertainty regarding the prognosis of ILD after COVID-19, studies show that most survivors of severe illness from COVID-19 experience gradual improvement or stability, although they may have ongoing lung function impairment if they developed PF," concluded Dr. Hajari Case. "Studies are essential to better understand the natural history and risk factors for development of ILD after COVID-19."

Despite not having a cure for the disease, post-COVID ILD patients like Bazan can find support and resources to improve their quality of life through the

Pulmonary Fibrosis Foundation (PFF).

"What helps the most is talking to people who have gone through similar struggles and can show you what is possible on this journey," Bazan said. "At the PFF, you'll find a strong community of people with the disease and those who are engaged in the fight against PF."

The PFF provides education and resources for those affected by post-COVID ILD. Pulmonary rehabilitation, supplemental oxygen, smoking cessation, routine vaccinations (such as influenza, COVID-19, and pneumonia vaccination), and disease management by a specialist skilled in treating patients who have ILD can improve quality of life while living with ILD. Patients experiencing post-COVID ILD are also encouraged to search for research studies via the PFF Clinical Trial Finder and utilize the PFF Care Center Network to connect with a community of patients and support groups affected by the disease.

"Two years ago, the quote 'breathing is the greatest pleasure in life' wouldn't have meant much to me. Today, it means everything," Bazan said. "With each breath, I'm determined not to let this disease keep me down. I'm going to continue living my life the best I can."

To learn more about PF and ILD, explore treatment options or seek support for post-COVID ILD, review the PFF's Post COVID-19 Interstitial Lung Disease fact sheet and visit pulmonaryfibrosis.org.

Source:

Pulmonary Fibrosis Foundation