Asthma and Viruses: What Precautions You Should Take

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Asthma and Viral Infections

As someone with asthma, I dread getting an upper respiratory infection. I often wonder if it will lead to another dreaded prescription for a steroid.

I'm sure I'm not alone. For those of us who are asthma sufferers, a prescription for prednisone becomes fairly routine, but it doesn't make it fun.

How Do Viruses Affect Those with Asthma?

Viral-induced asthma is defined as an asthma attack that occurs as the result of a viral upper respiratory infection, such as a common cold or influenza. In fact, it has been estimated that approximately 50% of asthma attacks are caused by viruses.

No one with asthma is immune to an asthma attack caused by a virus; even those with asthma that is well-controlled may suffer. There are no treatments that can prevent a viral-induced asthma attack – prevention of illness is the best treatment.

We've known for a long time that viruses and worsening asthma seem to go hand-in-hand, but what is the exact mechanism? A 2014 study found that when someone with asthma develops a viral infection, such as rhinovirus, there is an increase in IL-25. IL-25 lines the cells of the airways and is an inflammatory protein. The increase of these levels sets off an inflammatory process, causing narrowing of the airways, subsequently causing asthma symptoms.

Taking Extra Precautions

It is important to stay vigilant during flu season. Although we tend to call winter months "flu season", there are a variety of other viruses that are known to increase the likelihood of an exacerbation. These include the following:

- Rhinoviruses
- Respiratory syncytial virus (RSV)
- Parainfluenza viruses
- Adenoviruses
- Coronaviruses
- Pneumonia viruses
- Human bocavirus
- Enterovirus 68

Though any of the above viral infections may be linked to an asthma exacerbation, it is more than likely that a rhinovirus is the culprit. Rhinovirus is linked to around 60% to 70% of all viral-induced asthma cases.

It is also important to always take medications as prescribed. Though having a proper regimen and taking prescribed medications diligently does not make you immune to a viral-induced asthma attack, it may keep you healthier overall. It may also make you more likely to carry a rescue inhaler.

Be sure to always carry a rescue inhaler with you. You never know when you will need it!

Considerations for People with Asthma

Prevention of illness is considered the best "treatment". Even if medications are taken consistently, an exacerbation can occur.

Recommendations include the following:

- Frequent handwashing with soap and water, especially during flu season
- Get recommended vaccines, such as the flu shot and the pneumococcal vaccine
- Avoid people who are ill with viral infections
- Do not touch your face, mouth, and eyes

There are treatments being explored that may prevent viral-induced asthma. For example, inhaled interferon-beta may enhance the body’s response to certain viral infections.

COVID-19 and Asthma

There is currently a lot of fear involving chronic illnesses and COVID-19. So, let’s talk about asthma and COVID-19.

The American Academy of Allergy, Asthma, and Immunology states, "It is important to know that currently there is no evidence of increased infection rates in those with asthma. And although the Centers for Disease Control and Prevention states that patients with moderate-severe asthma could be at greater risk for more severe disease, there are no published data to support this determination at this time".

There was a small study that indicated that having asthma may increase the risk of hospitalization for those ages 18–49. However, the study was small and has not been repeated.

There are other concerns about treatment of COVID-19 in general, namely, that steroids cannot be used in our current climate. This is concerning for people with asthma because many people use steroid inhalers. However, the data that indicates steroids may be contraindicated comes from hospitalized patients, not from those using steroids to treat chronic illnesses.

In this time of uncertainty, the takeaway is to continue to take your asthma medications as prescribed.

Stress can increase the likelihood of illness in general, and it is important to cope with it in an appropriate manner. Here are some tips on stress reduction:

- Stay connected: In can be hard to stay connected but find ways to reach out to family and friends, whether it is by text, phone, Zoom, or even writing a letter.
- Take technology breaks: This includes taking breaks from the news. Put away your phone, turn off the TV, and power off anything that may be triggering anxiety.
- Unwind: Whether it is reading a book, doing yoga, or taking a walk, find something that you enjoy.
- Take care of yourself: Eat healthy food, get exercise, and get appropriate rest.

The Bottom Line

Viral-induced asthma can occur as a result of various viral infections. It can happen to anyone with asthma, even those with well-controlled asthma.