What is Asthma?
Recorded: May 6, 2024
Transcript

[0:00 Introduction]

Dr. Imran Satia: Here's what you need to know about asthma. I'm Dr. Imran Satia, a respiratory physician and Assistant Professor in McMaster University's Department of Medicine.

[What is asthma? 0:08]

Dr. Imran Satia: So, what is asthma? Asthma is a chronic condition that affects the airways in the lungs. These airways become inflamed and narrow, leading to symptoms such as shortness of breath, wheezing, chest tightness and coughing. These symptoms can vary in frequency and severity from person to person. Sometimes symptoms can become so severe that they result in an asthma attack.

Common asthma triggers include respiratory viruses, allergens like pollen, dust mites and mould, irritants such as smoke, air pollution, cold air and physical activity that can lead to exercise-induced narrowing of the airways. Identifying and managing personal triggers is a key part of asthma treatment.

[Is there a cure? How is it treated? 0:49]

Dr. Imran Satia: Is there a cure? While there is no cure for asthma, it can be managed effectively with proper treatment strategies. Over the last 5 to 10 years, the treatment strategies and options have changed considerably. The cornerstone of asthma treatment are inhaled steroids. These are anti-inflammatory medications that help to reduce swelling and mucus production in the airways, making them less sensitive and less likely to react to asthma triggers. They are often used on a regular basis to keep asthma under control.

Secondly, bronchodilators. These medications work by relaxing the muscles around the airways. They are used for quick relief for asthma symptoms. There are short-acting bronchodilators for immediate relief and long-acting ones for ongoing control. We have now realized that taking too much of the short-acting blue inhaler is associated with worse asthma outcomes. So now, we most commonly use inhaled steroids in combination with a long-acting bronchodilator delivered through the same inhaler. This approach can simplify the treatment approach because it can provide both an anti-inflammatory and bronchodilator effect in the one go, and can be used in mild, moderate, and severe asthma as a controller and reliever.

Finally, approximately 5-10% of patients with asthma can develop severe, uncontrolled asthma, which requires biological therapy. Biologics have changed the landscape of asthma treatment by providing options for those who have not found relief with standard therapies. This precision medicine approach has allowed for a more personalized and effective management of asthma. These biologic therapies are a newer class of drugs that target specific molecules or pathways involved in the inflammatory process. They are typically given as injections and are tailored to the individual's specific type of severe asthma. Biologics can significantly reduce the frequency of asthma attacks, improve lung function, and improve day-to-day asthma symptoms. It's important to consult with a healthcare provider to understand if biologic treatments are a suitable option.

[What happens to asthma as you age? 2:51]

Dr. Imran Satia: The progression and management of asthma can differ notably between those who develop it in early life, and those who experience late-onset asthma. Individuals with early-onset asthma, which typically develops during childhood and is often associated with allergies, may see changes in their condition as they age. Some children may outgrow their symptoms, while others continue to experience them into adulthood. Over time, consistent management and medication can lead to a reduction in overall symptoms. However, the long-term inflammation from chronic asthma can lead to airway remodeling, which might affect lung function and exercise capacity as one ages.

In contrast, late-onset asthma, which appears in adulthood, often has different triggers, such as viruses, workplace irritants, and may be associated with other allergic conditions. It's generally considered to be more persistent and less responsive to treatment than early-onset asthma, and often requires biological therapy. Late-onset asthma can also be more severe and is often misdiagnosed due to the similarity of symptoms to other respiratory conditions that are more common in older adults, like chronic obstructive pulmonary disease, also known as COPD.

For both early and late-onset asthma, the aging process can introduce further complexity. The immune system changes with age, potentially leading to a higher susceptibility to infections and, thus, more asthma attacks. Additionally, the medications used may require adjustments, as the body's response to certain drugs can evolve over time. For late-onset asthma, other medical conditions, such as heart disease, are more common and may influence both the treatment strategy and the overall management of asthma. Older adults are more likely to experience side effects or interactions with other medications they may be taking for various age-related health issues. This necessitates a careful review and adjustment of asthma management plans by healthcare providers. It's important that patients with asthma remain vigilant about asthma and stay in touch with their healthcare team to manage the condition effectively.