

ASTHMA AND NEW EFFECTIVE TREATMENT

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Introduction

Asthma affects an estimated 235 million people worldwide¹ (over 18 million people over age 18 in the US)². It affects all age groups. It is under-diagnosed and under-treated, and is a concern for rising treatment systems. It is also one of the leading causes of absences from work or school and is the most common chronic disease among children³.

Executive Summary Asthma affects individuals differently. Consequently, one treatment does not work for everyone. This document describes some of the newer medications being used, and possible alternative treatments that are currently being investigated.

What Is It?

Asthma is a condition that is characterized by completely reversible airway obstruction at some point in the clinical history. It is chronic and affects the airways—the bronchial tubes that carry air in and out of the lungs. In most cases, there is no known cause, although it can be triggered by allergens or certain occupational exposure (allergic asthma), or by infections, cold air, exercise or some medications (nonallergic asthma).

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Allergic (extrinsic)⁴: This is the most common type of asthma and is typically caused by the sufferer inhaling or ingesting an allergen such as pet dander, pollen, dust mites, etc. People with allergic asthma often have other allergic diseases such as eczema, hay fever, or food and drug allergies.

Nonallergic (intrinsic) : This asthma is considered non-seasonal. Some of the common causes are colds, sinus infections, throat infections, teeth or gum infections, chronic sinusitis, among other things (i.e., anything other than allergens). This type of asthma is more likely to become chronic.

Eosinophilic⁵

The severity or degree of asthma is of particular importance and is judged based on:
a) How much symptoms affect the sufferer's life.
b) How well the sufferer's lungs work.
c) The risk of having an asthma attack and death.

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Intermittent : Symptoms usually occur 2 or fewer days per week. These symptoms typically do not limit normal daily activity and do not wake up a person at night. Lung function is normal or near normal. People with intermittent asthma may only need to use short-acting beta-agonists (SABA) when they have symptoms.

at least once a week because of their symptoms. This and a second medication such as a long-acting beta-antagonist (LABA) are required. People with moderate asthma have decreased lung function.

Severe persistent People with severe persistent asthma have asthma symptoms throughout each day. Their symptoms will cause daily activity to be extremely limited with nightly wake-ups. Lung function in these people is severely decreased. These sufferers are seen by an asthma specialist and often take a high-dose inhaled corticosteroid with a LABA.

How Is It Diagnosed?

A diagnosis of asthma is made when a person's doctor reviews his medical history, and does a physical examination and a lung function test called spirometry-

by measuring how much air is inhaled, how much is exhaled, and how quickly it is exhaled. (A chest X-ray typically will not show if a person has asthma, but it may be able to tell if there is something else that could be causing symptoms similar to asthma.) Lung function tests are not recommended for children younger than 5 years, so in these cases, doctors rely on medical histories, signs and symptoms, and physical exams to make a diagnosis.

Pathophysiology

When the airways become inflamed, the lining of the airways becomes swollen and very sensitive. When this happens, the airways react and the muscles around the airways contract. This produces recurrent periods of wheezing, chest tightness, shortness of breath and coughing (especially at night, during exercise or when laughing).

Traditional T

New Treatments

As previously mentioned, treatment has typically

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Worms - And now stretching even further into the future – A study published in Immunity Journal¹³ in November 2017 and funded by Asthma UK found that worms could possibly prevent asthma. The research apparently found that parasitic worms that live in the intestines release a protein molecule called HpARI. This protein prevents its host from having an allergic reaction. The press release through Asthma UK⁴ indicated that people who live in countries where SDUDVLWLF ZRUPV DUH FRPPRQ asthma. In South East Asia, less than 1 in 20 people have asthma as diagnosed by a doctor. Whereas in the 8. LQ SHRSOH KDYH WKH FRQ GRQH RQ PLFH EXW WKHUH DUH it could be applied to human lungs. The researchers hope that in the next 5-10 years, scientists could use this protein as the basis for asthma treatments.

Conclusion

Treatment, whether new or traditional, of asthma is still primarily focused on controlling the symptoms of the disease. Individuals with asthma, especially the severe sufferers, should be regularly following their Asthma Action Plan, staying compliant with their medications, and having regular follow-ups with their attending physician. The need for monitoring and possible adjustment of the treatment, including combining different treatments, will be key in keeping the symptoms at bay.

Being aware of all these different types of treatment is important in underwriting individuals with asthma. However, you will also need to take into account the severity of the disease, the frequency of attacks, when the last attack occurred, and the responsiveness to the treatment. Pulmonary function test results during an asthma attack will tell you how bad the individual is during an attack, but it is more important to see whether the lung function gets back to normal after the attack. Underwriting an individual with a history of acute severe asthma (status asthmaticus) should be done very carefully.

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- 1 World Health Organization www.who.int/respiratory/asthma/en/.
- 2 Centers for Disease Control and Prevention www.cdc.gov/nchs/fastats/asthma.htm.
- 3 World Health Organization www.who.int/respiratory/asthma/en/.
- 4 <https://asthma.net/living/extrinsic-vs-intrinsic/>.
- 5 <https://asthma.net/living/subgroups-what-is-eosinophilic/>.
- 6 Omalizumab www.fda.gov/Drugs/DrugSafety/ucm414911.htm.
- 7 Nucala www.drugs.com/history/nucala.html.
- 8 Cinqair www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm491980.htm.
- 9 Benralizumab www.astrazeneca.com/media-centre/press-releas-