

An Overview Of Asthma Management And Treatment Throughayurvedic And Allopathy Medicine

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ABSTRACT :-

Chronic airway inflammation, airway reactivity to various stimuli, and airway obstruction are all symptoms of asthma. It can be reversed at least in part, either naturally or with medication. During an asthma attack, the muscles that surround the airways contract, narrowing them. There are several causes of asthma, including allergies, the environment, genetics, obesity, and stress. According severity there was classified on the basis of age group like Intermittent Persistent ,Mild ,Moderate ,Severe Asthma patient. Allergies asthma ,Nocturnal asthma exercise induced asthma, occupational asthma are the type of asthma. Asthma symptoms include wheezing, coughing, tightness in the chest, shortness of breath, and hypoxemia. Exhaustion, Tachycardia, Respiratory infection, Hypercapnoea, Nasal Flaring. Now days various asthma diagnostic test are performed for asthma symptoms detection like under physical examination, lung function test. Treatment for asthma using herbal medicine and allopathic therapy is typically highly

successful. Ayurvedic medicines have been used for centuries for various illnesses.

KEYWORD :- Asthma Attack ,Causes, Type, Symptoms, Diagnosis, Allopathic And Ayurvedic medicine.

I. INTRODUCTION:-

A chronic inflammatory condition of the airways known as asthma involves several cells and cellular components. Particularly at night or in the early morning, the chronic inflammation is linked to airway hyper-responsiveness (AHR), which causes recurring attacks of coughing, wheezing, and chest tightness. Asthmatics are those who experience this long-lasting or recurrent chronic condition. An asthmatic's airways' inner walls are enlarged or irritated. The airways become very sensitive to irritations and more susceptible to an allergic reaction as a result of this there is swelling or inflammation. Less air can go through the airways as a result of inflammation.

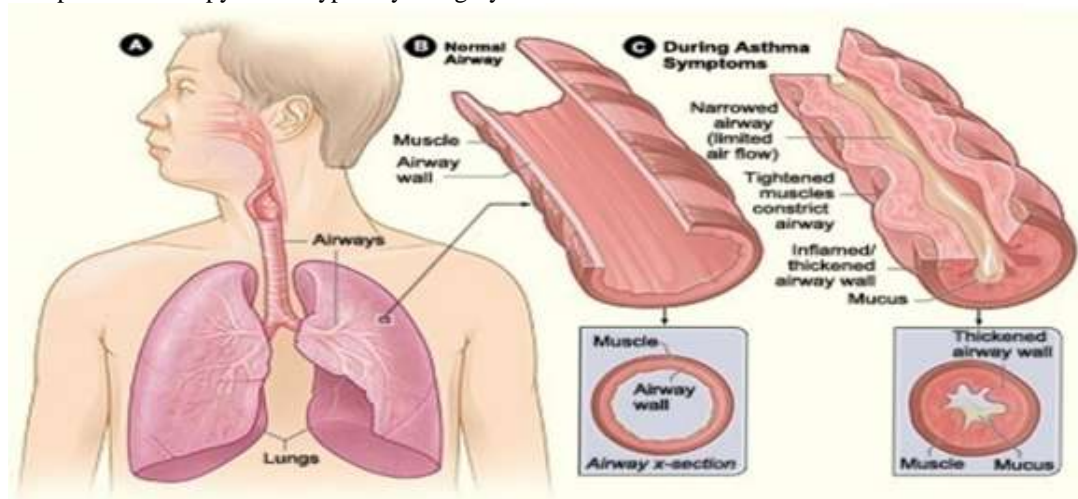


Figure 1. Location of lungs and airways in the body.

What Is Asthma Attack ?

During asthma attack the following changes takes place:

Airways narrow because of muscles contraction which surrounding them. The airway's capacity to carry air is decreased. Airways become even more constricted as a result of increased airway inflammation. The airflow is further hindered as more mucus is formed in the airways.

When the airways get obstructed it prevents oxygen from reaching the lungs which further fuels in the cause of asthma attack. Additionally, oxygen cannot reach the body's important organs because of this and the patient may need to be hospitalized immediately. In addition, there may be carbon dioxide poisoning because of the buildup of carbon dioxide in the lungs.[3]



Figure 2. Shows the difference between normal patients airway passage and asthmatic patients airway passage

Causes of Asthma:

Allergic Factors: -

- Smoking: - Cigarette smoking makes asthma worse by irritating airways and causing them to narrow.
- Strong Odours, Sprays, and Wood Smoke: - Asthmatic person are very sensitive to strong odours and chemicals.
- Pets: - Some people are allergic to cascals (puddles) or dried saliva of furry or feathered animals.
- Cockroaches: - Many people with asthma are allergic to the dried droppings and remains of cockroaches.[2]

Environmental factors:

- Indoor factor: asthma include nitrogen oxide from gas stoves
- Cold Temperature: Lead to airway congestion, Bronchoconstriction (airways constriction), secretions, And decreased mucociliary clearance.
- Humidity: cause to breathing difficulties.

- Indoor mould: Moisture causes mold, so getting rid of excess water in house or workplace may help get rid of mould.[3]

Gene: Having a parent with asthma increases the risk of children having asthma. [3]

Obesity: There is a high risk of having asthma in overweight adult compared to a normal individual.[3]

Stress: People who undergo lot of stress have a higher risk of asthma because of increase in smoking that are encouraged by stress which further puts the individual at risk of asthma .[3]

Common asthma triggers include:

- Animals (pet hair or dander),
- Dust mites
- Certain medicines (aspirin and other NSAIDS)
- Exercise
- Pollen
- Gastroesophageal reflux diseases

TABLE 1. CLASSIFICATION OF ASTHMA:-[7]

Components of severity		Classification of Asthma severity			
		≥12 years of age			
		Intermittent	Persistent		
Mild	Moderate		Severe		
Impairment	Symptoms	≤ 2 days/week	>2 days/week but not daily	Daily	Throughout the day
	Nighttime awakenings	≤ 2x/Month	3-4 days/Month	>1x/week but not nightly	Often 7x/Week
	Short-acting-beta-agonists use for symptoms control	≤ 2 days/Week	>2 days/week but not daily, and not more than 1x on any day	Daily	Several times per day
	Interference with normal activity	None	Minor limited	Some limitation	Extremely limited
Normal FEV1 /FVC					
8-19yrs 85%					
20-39yrs 80%					
40-59yrs 75%					
60-80 yrs. 70%					

TYPES OF ASTHMA :-

✚ Allergic Asthma:-

The most prevalent type of asthma is allergic asthma. Sensitization to environmental allergens is typically what defines it, while a clinical link between exposure and symptoms also helps to confirm the diagnosis. When you inhale an allergen, it causes your airways to constrict, causing allergic asthma, a respiratory disorder.

Pollen, pet dander, and mold spores are typical allergens. In both children and adults, this kind of asthma is quite prevalent.

A rash, itchy eyes, a stuffy nose, coughing, wheezing, shortness of breath, are some allergic asthma symptoms.[10]

✚ Nocturnal asthma :-

In this type of asthma, the symptoms worsen in the middle of the night, usually between 2am and 4am. Nocturnal asthma can affect people with all types of asthma.

Asthma symptoms which worsen at night include sinusitis and postnasal drip caused by allergens such as dust mites and pet dander. The body produces adrenaline and corticosteroids that prevent asthma.[11]

✚ Exercise-induced asthma, or exercise-induced bronchoconstriction (EIB):-

Occurs when the airways get narrow during exercise. Asthma caused by playing sports or exercising can make it hard for you to breathe. One may have asthma symptoms such as coughing, wheezing, and shortness of breath during or after physical activity. Asthma symptoms occur when the airways constrict (narrow) during exercise. Symptoms are worse when the air is cold and dry, or when pollution levels and pollen counts are high.[8]

✚ Occupational Asthma:-

The most prevalent occupational lung illness is occupational asthma. Something at the patient's place of employment causes this particular sort of asthma. Asthma can be brought on by substances like chemicals, vapours, gases, smoke, dust, fumes, or other particles. A virus (the flu), moulds, animal products, pollen, humidity, and temperature are additional potential causes. Reactive airways dysfunction syndrome is a distinct condition and a subtype of occupational asthma, whereas occupational asthma are of two types of asthma that are causally associated to the job. The majority of the time, a clinical diagnosis

of occupational asthma is made. Isocyanates with low molecular weights are the most typical substances that trigger occupational asthma. It's possible that employees with occupational asthma do not have higher IgE levels.[9]

ASTHMA SYMPTOMS :-

- Wheezing :- A whistling sound usually heard when breathing out.
- Coughing :- A cough or hack that may not go away and often occurs or worsens at night.
- Chest Tightness :- Feeling as if a rope is being pulled tighter and tighter around chest.
- Shortness of Breath :- Feeling as though someone is trying to breathe through a straw and can't catch breath at all. Breathing out is especially tough .
- Exhaustion :- A state of extreme physical or mental tiredness.
- Tachycardia :- Rapid beating of the heart, usually defined as greater than 100 beats per minute.
- Respiratory infection :- Any infectious disease of the upper or lower respiratory tract.
- Hypoxemia :- An abnormally low concentration of oxygen in the blood.
- Hypercapnoea :-The increase in partial pressure of carbon dioxide (PaCO2) above 45 mmHg.
- Nasal Flaring :- The nostrils widen while breathing.[6]

DIAGNOSIS:-

Under Physical Examination :-

Your doctor will start with a physical exam. They will:-

Look at your nose, throat, and upper airways.

Use a stethoscope to listen for a whistling sound when you breathe.

Check your skin for allergy symptoms like eczema or hives.

Medical History :- Your doctor will ask about your symptoms and general health to determine out if asthma or something else is causing your problem.

LungFunction Tests:- Lung function tests is a way to check how well your lungs are working.

Types of lung function tests:-

Spirometry:- It records how much air you blow out (called forced vital capacity or FVC) and how quickly you do it (called forced expiratory volume or FEV).

Challenge Tests: -Are lung functions tests used to help confirm a diagnosis of asthma.

FeNOTest :- You breathe into a machine that count the level of nitric oxide in your breath, which is a sign of inflammation in your lungs.

Peak flow test:- You blow into a handheld device that count how fast you can breathe out, and this may be done several times over a few weeks to see if it changes over time.

ALLOPATHY AND AYURVEDIC REMEDIES :-

Natural treatment for asthma incorporates vitamins, minerals and herbs to relieve symptoms and prevent further attacks. Both adults and children can get asthma, which is a respiratory condition. Asthma is currently one of the most prevalent chronic diseases in children. Natural asthmaremedies should never replace your current medicine;they should always be used in addition to it. Prior to employing a herbal asthma therapy, keep in mind that medicinal herbs can be just as potent as pharmaceuticals and should be treated as such. It is crucial to enlist the help of a healthcare expert because some natural herbs for treating asthma mayinteract with medications.

Table 2.Herbal drugs and its property:-

Drug	Latin name	Property
Kantakari	Solanum surattenseBurm.F	Antihistaminic activity, anti-inflammatory activity
Vasa	AdhatodavassicaNees	Antispasmodic, Expectorant, anti-tussive ,bronchodilator
Yashtimadhu	Glycyrrhiza glabra Linn	Anti-asthmatic, anti-inflammatory, antimicrobial, expectorant.
Shirisha	AlbizialebeckBenth	Anti-inflammatory
Haridra	Circuma longa Linn	Anti-inflammatory, analgesic ,

		antibacterial
Amalaki	Emblica officinalis Gaerth	Immunostimulatory
Shunti	Zinziberofficinale	Inflammatory
Shati	Hedychium spicatum Buch-Ham	Used in breathlessness, cough, chest heaviness, loss of appetite, dyspnea.
Puskaramool	Inula racemosa Hook Mast cell	stabilization property in the animal allergic models.
Tulsi	Ocimum Sanctum Linn	,m
Pipalli	Piper longum Linn	Mast cell stabilization property ,immunomodulatory ,antiasthmatic
Kutaki	PicrorrhizakurroaRoyleexBenthIn	animal studies, anti-inflammatory and
Elecampane	Inula heleniun	Anti-inflammatory
Figs	Ficus carica	High inflammatory pathway
Mustard oil	Brassica	Anti bacterial and anti fungal
Chinese skullcap	Scutellaria baicalensis	Antihypertensive
Coltsfoot	Inula heleniun	Reduce inflammation
Liquorice	Glycyrrhiza glabra	Reduce body fat , heal stomach ulcer
Garlic	Allium sativum	Reduce inflammatory cells and white blood cell
Honey	Shahad	Antibacterial, anti-inflammatory
Linseed	Linum usitatissimum	Reduce inflammation
Adhatoda	Adhatodavasisa	Expectorant
Turmeric	Curcuma longa	Antioxidant, anti-inflammatory
Ginkgo biloba	Ginkgo biloba	May improve symptoms of asthma
Bitter guard root	Momordica charantia)	Antimicrobial
Grindelia	David Hieronymus Grindel	Anti-inflammatory

Classification of Allopathic anti-asthma drugs :-

- B2 receptor agonists:** Salbutamol, Terbutalin, Femoterol
- Anti-muscarinic drugs:** Ipratropium bromide, Oxitropium
- Xanthine derivatives:** Theophylline, Aminophylline
- Corticosteroids:**
 - Inhalational : Beclomethasone, Betamethasone, dipropionate, Fluticasone, propionate, Flunisolide, Ciclesonide.
 - Systemic: Prednisolone
- Mast cell stabilizer:** Sodium chromoglycate, Nedocromil sodium
- Leukotrien pathway inhibitor:** Zafirlucast, Zileuton, Montelukas[4]

II. CONCLUSION:-

Asthma is a heterogeneous group of diseases that causes recurrent, reversible bronchial obstruction. Airway obstruction can be due to

spasms of the smooth muscles of the walls, smaller bronchi and edema. Mucous membranes of the respiratory tract, increase in mucus secretion and/or epithelial damage. Respiratory tract there are so many marketed products now is available for treatment of asthma and main phase to treat this disease, the patient must prevent exposure to antigen, reduction of bronchioles inflammations and hyperactivity, must be used certain medicines to dilate narrowed bronchi. The review discusses the various ayurvedic medicines which can be used for the treatment as or whole plant or plant of part.

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