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# Abnormalities of Respiration Characterization of Bronchial Asthma Along with Whistling Type of Respiration, Inflammation of Air Passages, Hypersensitivity of Afferent Glossopharyngeal and Vagal Endings and Pulmonary Edema as Well as Congestion of Lungs

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***ABSTRACT***

*Wheezing is manifested by whistling n-type of respiration. Bronchial asthma occurs because of bronchiolar constriction. The leukotrienes, released from eosinophils and mast cells during inflammation, are responsible for occurrence of bronchospasm. The production of hypersensitivity of glossopharyngeal and vagal ending happens due to a very few allergic compounds namely foreign proteins. The deflation of the lungs does not happen completely due to difficulty particularly during expiration.*

***Keywords:*** *Wheezing, bronchiolar constriction, edema of mucus, leukotrienes, bronchospasm, foreign proteins, left ventricular failure, paroxysmal disorder, carbondioxide, acidosis, cyanosis and dyspnea*

## INTRODUCTION

Bronchial asthma is the respiratory disease manifested by difficult breathing along with wheezing. Wheezing is related to the whistling type of respiration. It is because of the bronchiolar constriction Influenced by spastic construction of smooth muscles particularly in bronchioles, resulting in an obstruction of air passages. An obstruction is further enhanced because of the edema of mucus membrane as well as collection of mucus in the lumen of bronchioles.[1-3]

## PROPERTIES

Asthma is Peroxisomal (sudden) abnormality because the attack begins and ends in an abrupt manner. Especially during attack, the difficulty is observed both especially during inspiration and expiration. Bronchioles exhibit an inherent tendency to dilate, particularly during inspiration and show constriction especially during expiration. Particularly during expiration, great effort is caused by all the expiratory muscles and results in compression of chest.

A severe contraction of abdominal muscles also takes place. So, the pushing of air from lungs happens with the help of constricted bronchioles and leads to the production of a whistling sound. Due to the difficulty particularly during expiration, the deflation of lungs does not

happen to the maximum extent, so that the residual volume and functional residual capacity are enhanced. There is diminution in

- Alveolar ventilation
- FEV 1
- Partial pressure of oxygen in blood
- Tidal volume and
- Vital capacity

An accumulation of carbon dioxide leads to the occurrence of Acidosis, cyanosis and dyspnoea. **[4-9]**

## CAUSES

- Hypersensitivity of afferent glossopharyngeal, vagal ending in Larynx and afferent trigeminal endings in nose:- Hypersensitivity of these nerve endings is caused by a very few allergic compounds, such as foreign proteins.
- Inflammation of air passage:- The leukotrienes released from eosinophils and mast cells, particularly during inflammation are responsible for occurrence of bronchospasms.
- Pulmonary edema and congestion of lungs happened by Left ventricular failure:- The asthma produced because of this condition is termed as cardiac asthma.[10-14]

### Key Differences

- The critical role of inflammation has been further authenticated, but evidence is appearing for considerable variability regarding the pattern of inflammation, thus intimating phenotypic differences that may support treatment responses.
- Gene - by - environmental interactions are essential for the development and expression of asthma. The environmental factors and allergic reactions play a major role. Evidence also indicates a key and expanding role, particularly for viral respiratory infections in these processes.
- The onset of asthma for most patient's starts early in life along with the pattern of disease. Persistence estimated by early recognizable risk of factors, along with atopic disease, recurrent wheezing, and parental history of asthma.
- Current asthma cure with anti-inflammatory drugs does not seem to obstruct the development of the underlying sickness severity.[15-18]

## PATHO PHYSIOLOGY AND PATHOGENESIS OF ASTHMA:-

Airway limitation in asthma is recurrent and influenced by a number of changes in the airway. These include bronchospasm, airway edema, airway hyper responsiveness and airway remodelling.

### Bronco Constriction

In acute Intensifications of asthma, bronchial smooth muscle contraction happens in a quick manner to narrow the airways in response to exposure to a variety of stimuli along with allergens or irritants.

Acute bronchospasm caused by allergens is brought on by the IG E-dependent release of mediators, notably from mast cells and histamine, leukotrienes prostaglandins and tryptase that in a direct manner contract airway smooth muscle (Busse and Lemanske 2001). Aspirin and other NSAID that is medication that is leads to the occurrence of acute air flow obstruction in a very few patients and proof implies that this IG E - dependent response also involves mediator release particularly from airways Cells (Steveson and Azezeklik 2006).[19-24]

### Airway Edema

As the disease progresses along with inflammation, other factors further restrict

to the air flow. Examples include Edema, inflammation, excessive mucus production, the development of insisted mucus plugs, and structural alterations such as airway smooth muscle hypertrophy and hyperplasia. The latter modifications may not give response to usual treatment.

**Airway Hyper Responsiveness**

It is an exaggerated bronco constructor response to a Variety of stimuli and it is a major property of asthma. The mechanism causing airway hyper responsiveness is multiple and includes variety of abnormal conditions such as dysfunctional neuro regulation, inflammation and structural changes. An inflammation plays a major role in estimating the degree of airway hyper responsiveness. Treatment is related to the reduction of inflammation and this condition decrease airway hyper responsiveness and enhance the asthma control.[25-28]

**Airway Remodelling**

Airway remodelling is linked to an activation of many of the structural cells along with consequent permanent changes in the airway that enhance air flow obstruction and airway responsiveness and make the patient less responsive to treatment.

## TREATMENT

Some research works have provided promising results namely the development leukotriene modifiers and anti -IG E monoclonal Antibody therapy. Current therapy exhibits focus on the cytokines, chemokines and inflammatory cells farther upstream in the inflammatory process.

## CONCLUSION

Wheezing is linked to whistling type of respiration. Asthma happens due to bronchiolar constriction manifested by spastic contraction of smooth muscles particularly in bronchioles and leads to an occurrence of obstruction of air passage. Inflammation of air passage, hypersensitivity of glossopharyngeal and vagal ending in larynx and pulmonary edema along with congestion of lungs are responsible for occurrence of bronchial asthma. It is conclude that carbon dioxide accumulation leads to an occurrence of acidosis, cyanosis and dyspnoea.

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