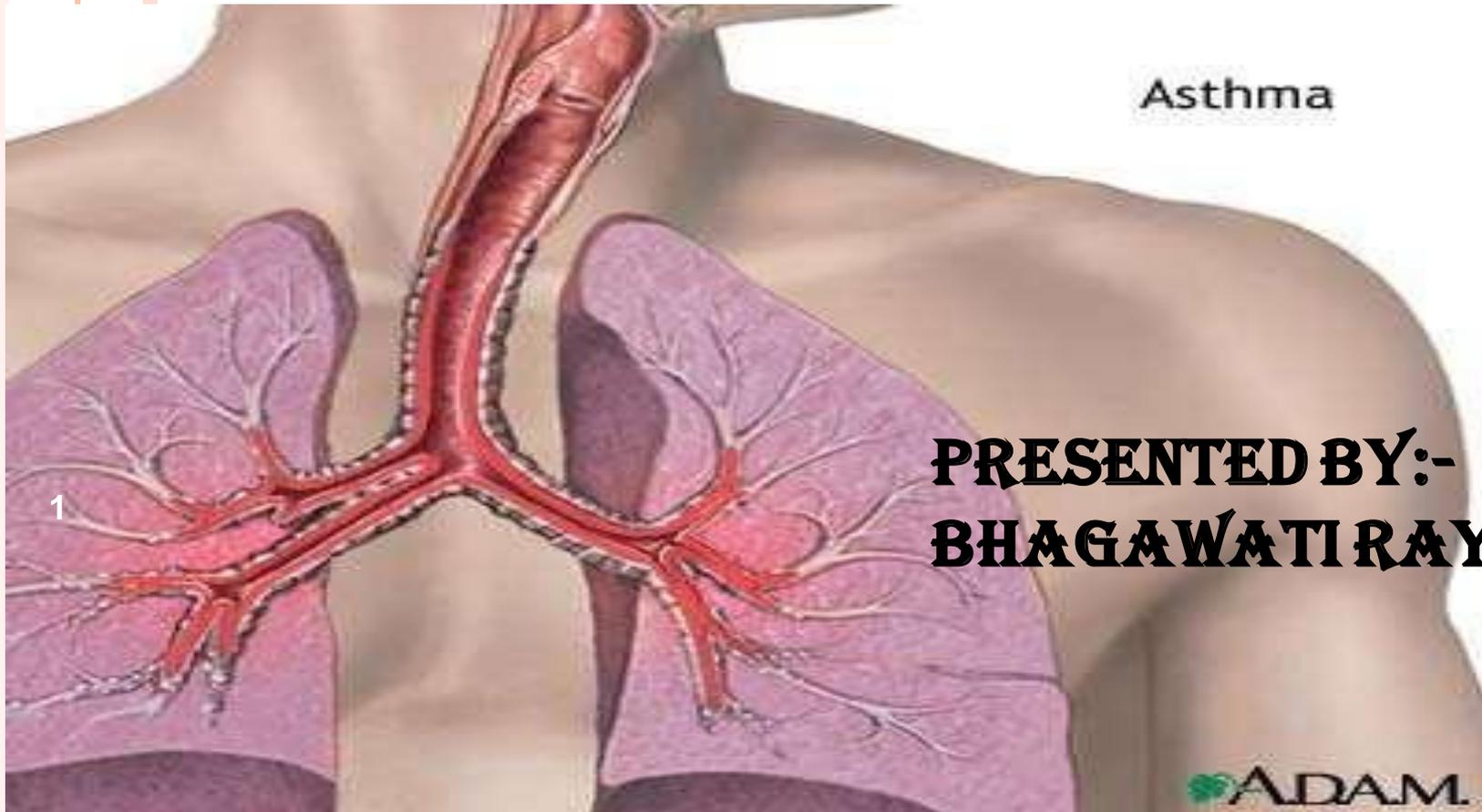


ASTHMA



Asthma

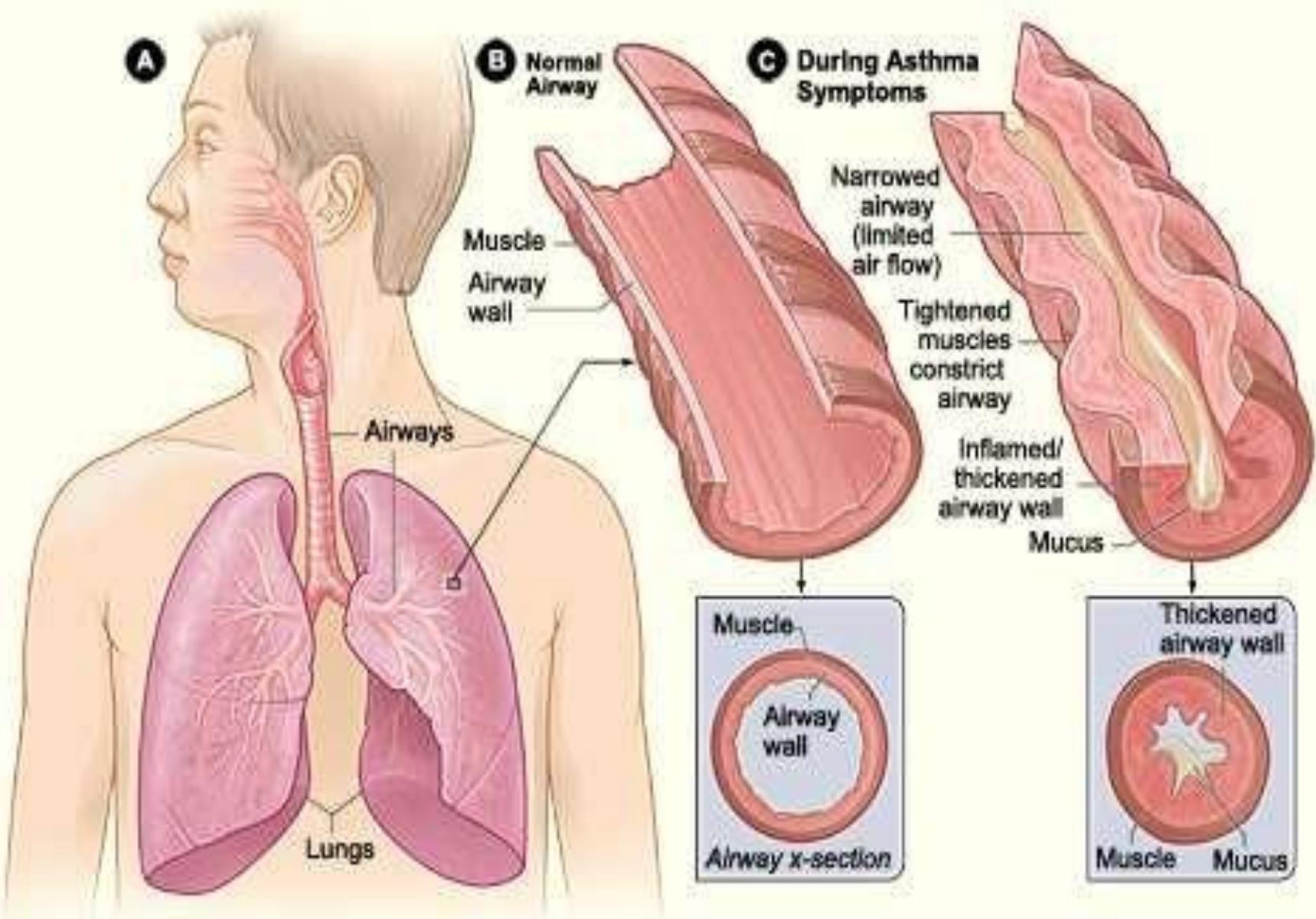
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**PRESENTED BY:-
BHAGAWATI RAY**

DEFINITION

- **Asthma is a chronic inflammatory disease of the airways that causes airway hyper-responsiveness, mucosal edema, and mucus production.**





ETIOLOGY AND RISK FACTOR

- Asthma occurs in families which suggest that it is **an inherited** disorder.
 - **Allergy** is the strongest predisposing factor for asthma.
 - **Chronic exposure to airway** irritants or allergens also increases the risk for developing asthma.
 - Common allergens can be seasonal (eg, grass, tree, and weed pollens, mold, dust, or animal dander).
- 

CONTD...

- **Excitatory state** (stress ,cry)
- Occupational environment
- factor such as cold air, air pollution, drug infection,
- Occupational environment
- Other factor such as cold air ,air pollution, infection, diet



CONTD...

Triggers

- Allergens
- Upper respiratory tract viral infections
- Exercise
- Cold air
- Sulfur dioxide Drugs (BETA blockers, aspirin)
- Stress
- Irritants (household sprays, paint fumes)

CLASSIFICATION

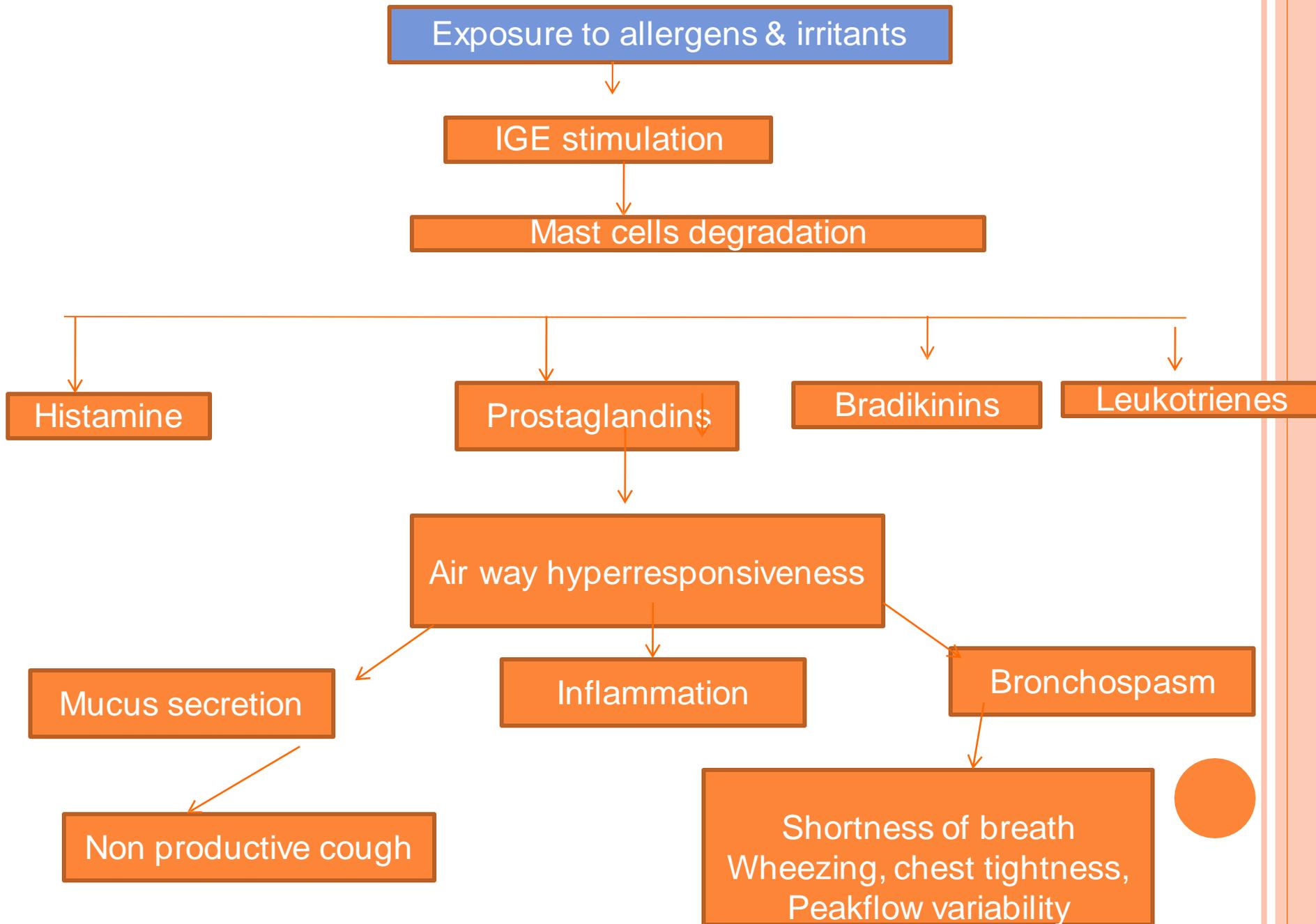
Asthma is a complex disorder of the conducting airways that most simply can be classified as:

- **extrinsic** – implying a definite external cause
- **intrinsic** – when no causative agent can be identified.



PATHOPHYSIOLOGY





CLINICAL MANIFESTATIONS

- The principal symptoms of asthma are **wheezing attacks** and **episodic shortness of breath**.
- Typical symptoms include **recurrent episodes of wheezing, chest tightness, breathlessness** and **cough**.
- In some instances, **cough may be the only symptom**
- cough, with or without mucus production
- **Expiration requires effort** and becomes **prolonged**.



- As the exacerbation progress **diaphoresis**, **Tachycardia**, and a **widened pulse pressure** may occur along with **hypoxemia** and **central cyanosis** .



DIAGNOSIS

History taking

- A complete family, environmental, and occupational history is essential.
- **Family history** : History of asthma in family
- **Environmental history** : seasonal changes, high pollen counts, mold, climate changes (particularly cold air), and air pollution,



CONTD..

Physical examination

- wheezing all over the lung
- breathlessness and cough.
- Cyanosis



INVESTIGATIONS

- *Lung function tests/ pulmonary function test* : Shows variable airflow limitation
 - *Blood tests* : shows increase in the number of eosinophils in peripheral blood ($> 0.4 \times 10^9/L$).
 - *Sputum tests* The presence of large numbers of eosinophils in the sputum is a more useful diagnostic tool.
- 

CONTD...

- *Chest X-ray*: There are no diagnostic features of asthma on the chest X-ray
- A chest X-ray may be helpful in excluding a pneumothorax, which can occur as a complication of asthma
- *Skin tests* Skin-prick tests (SPT) should be performed in all cases of asthma to help identify allergic causes.





ESSENTIALS OF DIAGNOSIS

- Episodic or chronic symptoms of airflow obstruction: breathlessness, cough, wheezing, and chest tightness.
- Symptoms frequently worse at night or in the early morning.
- Prolonged expiration and diffuse wheezes on physical examination.
- Limitation of airflow on pulmonary function testing.
- Complete or partial reversibility of airflow obstruction, either spontaneously or following bronchodilator therapy.



MEDICAL MANAGEMENT

THE GOALS OF ASTHMA MANAGEMENT

- Achieve and maintain control of symptoms
- Prevent asthma exacerbations
- Maintain pulmonary function as close to normal as possible
- Avoid adverse effects from asthma medications
- Prevent development of irreversible airflow limitation
- Prevent asthma mortality



MEDICAL MANAGEMENT

- Reassure the patient , as anxiety worsen respiratory distress
- Keep the patient in upright position
- Start oxygen 50-60 % initially, continue till the patient is better and not dyspnoeic
- Nebulized with salbutamol or Terbutalin for immediate relief.
- ➔ Salbutamol 5 mg (1 ml with 1 ml normal saline) stat.
- ➔ Repeat dose at 15 mins if required during the first hour.
- ➔ Hourly for next few hours till bronchospasm is controlled.



- Secure I/V line
- Inj. Hydrocortisone 200mg I/V stat routinely given to all severe cases than 6 hourly
- Antibiotic if there is evidence of infection
- Adequate hydration and mucolytics.





PREVENTIVE MEASURES FOR ASTHMA

Asthma is not a totally preventable disease however the person should take precaution from allergen related to occupational exposure and household exposure .

- Use of face mask
- Avoid upper respiratory tract infection as much as possible.
- Avoid smoking and smoky environment
- Avoid passive smoking



You can reduce asthma symptoms by avoiding known triggers and substances that irritate the airways.

- Cover bedding with "allergy-proof" casings to reduce exposure to dust mites.
- Remove carpets from bedrooms and vacuum regularly.
- Use only odorless detergents and cleaning materials in the home.
- Keep humidity levels low and fix leaks to reduce the growth of organisms such as mold.



- Keep humidity levels low and fix leaks to reduce the growth of organisms such as mold.
- Keep the house clean and keep food in containers and out of bedrooms -- this helps reduce the possibility of cockroaches, which can trigger asthma attacks in some people.
- If a person is allergic to an animal that cannot be removed from the home, the animal should be kept out of the bedroom..



Assignment

1. Write down nursing management for the patient with Asthma.



THANK YOU !!!

