Eosinophilic Asthma Quick Facts

Eosinophilic asthma is a subtype of asthma that is often severe. It is commonly seen in people who develop asthma in adulthood, although it may occur in children and young adults. In eosinophilic asthma, the numbers of eosinophils are increased in blood, lung tissue, and in mucus coughed up from the respiratory tract (known as sputum). The whole respiratory tract is involved in airflow obstruction from the sinuses to the small or distal airways. Patients with eosinophilic asthma frequently suffer from chronic sinus disease and nasal polyposis.

**Symptoms:** Often severe and can be persistent.
- Wheezing
- Coughing
- Shortness of breath/difficulty breathing
- Chest tightness
- Lung function abnormalities (airflow obstruction)
- Chronic rhinosinusitis with nasal polyps
- Inflamed nasal mucous membrane

**Associations:**
- Increased asthma severity
- Late-onset disease
- Persistent symptoms despite steroids
- Less likely to have allergic phenotype
- Sensitivity to NSAIDs
- Systemic steroid dependency
- Atypical presentation (e.g., more pronounced dyspnea upon exertion vs. wheezing, dynamic hyperinflation)

**Causes:**
- Unknown

**Diagnosis:**
- Measure the number of eosinophils in blood.
- Elevated eosinophils may also be found in sputum samples and bronchial biopsy.
- May be misdiagnosed as chronic obstructive pulmonary disease (COPD).

**Findings:**
- Blood or sputum samples show elevated numbers of eosinophils.
- Biopsy: Eosinophils found in bronchial biopsy. Biopsy may show chronic inflammation. No consensus recommendations on definition or diagnosis.

**Management:**
- Inhaled and/or oral corticosteroids
- Long-acting bronchodilators
- Mepolizumab (IL-5 inhibitor) is approved for use in the U.S. to treat patients aged 6+ who have eosinophilic asthma. It is used in combination with other asthma medications.
- Reslizumab (IL-5 inhibitor) is approved for use in the U.S. as an add-on treatment for patients aged 18 years+ who have eosinophilic asthma.
• While not approved for eosinophilic asthma, Benralizumab (IL-5 inhibitor) is approved for use in the U.S. for the add-on maintenance treatment of patients with severe asthma aged 12+ with an eosinophilic phenotype of asthma. It is used in combination with other asthma medications.
• Dupilumab (IL-4 and IL-13 inhibitor) is approved as add-on maintenance therapy in patients with moderate-to-severe asthma aged 12+ with an eosinophilic phenotype or with oral corticosteroid-dependent asthma.
• Omalizumab (anti-IgE) is approved for use in the US as an add-on treatment for patients aged 6+ with allergic asthma, yet has shown positive benefit in patients with eosinophilic asthma with greater success in patients with higher eosinophil counts.

Prognosis:
• Chronic disease
• Depends on response to treatment
• Recurrent episodes may occur
• Patients may experience a decline in lung function faster than people who do not have asthma, more so if asthma is not controlled and/or if the patient smokes.

About APFED: The American Partnership for Eosinophilic Disorders (APFED) is a 501(c)3 non-profit organization for those living with eosinophilic disorders. APFED educates and raises awareness of these conditions, advocates for the unmet needs of patients, and supports research advances. APFED also hosts online community, community events, and an annual patient education conference. For more information, visit apfed.org.