



The Role of Eosinophilic Indices in Patients with Chronic Allergic Rhinitis Condition and Homoeopathic Therapeutics

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ABSTRACT:

A high level of disease-fighting white blood cells known as eosinophils in the blood. Allergic rhinitis, also known as hay fever, is a type of inflammation in the nose which occurs when the immune system overreacts to allergens in the air.

runny or stuffy nose, sneezing, red, itchy, and watery eyes, and swelling around the eyes.

The fluid from the nose is usually clear. Symptom onset is often within minutes following allergen exposure and can affect sleep, and the ability to work or study.

People may develop symptoms only during specific times of the year, often as a result of pollen exposure, people with allergic rhinitis also have Risk factor like asthma, allergic conjunctivitis, or allergic skin diseases.

KEYWORDS: Chronic Allergic rhinitis (CAR), Allergic rhinitis (AR), Seasonal Allergic rhinitis (SAR), Perineal Allergic rhinitis (PAR), Eosinophilia, Homoeopathic Medicine, Hay fever, pollen allergy, Allergen, Dust allergy .

OBJECTIVES:

APPROACH TO HIGHLIGHT THE EOSINOPHIL INDICES IN CHRONIC ALLERGIC RHINITIS CONDITION AND THEIR MANAGEMENT WITH HOMOEOPATHIC THERAPEUTICS

Materials and Methods

The study will be conducted at our college. The subjects for the study will be selected from the college OPD'S, IPD department, and regular camp visits Of college. Patients of age group from all age groups, as per World Health Organization, of various socio-economic status & both sexes will be considered For study. 30 Cases presenting complaints with chronic allergic rhinitis will be selected for study .

Inclusion Criteria:

30 well-diagnosed chronic allergic rhinitis, confirmed on the basis of clinical features, along with investigation will be randomly Selected. Patients of various occupations and different socio-economic status will be included. The sample on both sexes of all age groups. Diagnostic Criteria are mainly on clinical presentations & investigations.

Exclusion Criteria:

Cases of both sexes above 70 years. Cases of gross pathology Patient having gastritis complications. Examples- Peptic ulcer, Stomach Bleeding and Stomach cancer. Cases with other systemic disorders and complications. Patient with other Auto-immune and immune-compromised diseases Will also be excluded.

Withdrawal Criteria:

If a Patient is landed in life threatening condition. If Patient start immunosuppressive therapy. Cases which are on steroids more than one years. Patient is not maintaining proper follow up and any Obstacle in recovery which appear after commencement of study during process of treatment.

INTRODUCTION:

Allergic rhinitis, also known as hay fever, is a type of inflammation in the nose which occurs when the immune system overreacts to allergens in the air. Signs and symptoms include a runny or stuffy nose, sneezing, red, itchy, and watery eyes, and swelling around the eyes. The fluid from the nose is usually clear. Symptom onset is often within minutes following allergen exposure and can affect sleep, and the ability to work or study. Some people may develop symptoms only during specific times of the year, often as a result of pollen exposure. Allergic rhinitis is typically triggered by environmental allergens such as pollen, pet hair, dust, or mold. Inherited genetics and environmental exposures contribute to the development of allergies.

MECHANISM :

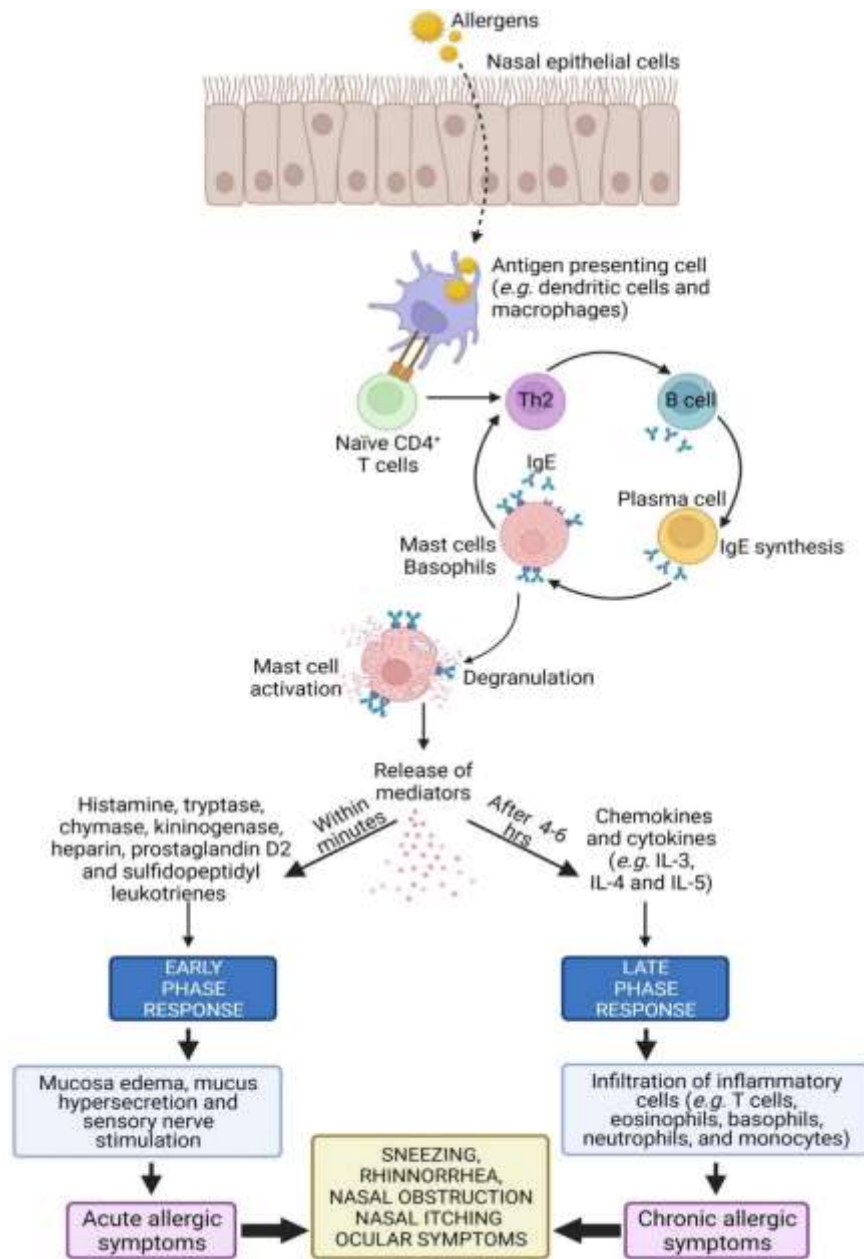
The underlying mechanism involves IgE antibodies that attach to an allergen, and subsequently result in the release of inflammatory chemicals such as histamine from mast cells. Based on a combination of symptoms and a skin prick test or blood tests for allergen-specific IgE antibodies. Exposure to animals early in life might reduce the risk of developing these specific allergies. Several different types of medications reduce symptoms: including nasal steroids, antihistamines, such as diphenhydramine, leukotriene receptor antagonists such as montelukast. medications do not completely control symptoms, and they may also have side effects. The routine modern treatment includes identification of offending allergen and its avoidance. But many a times this identification is not possible and here the homeopathic medicines work better to treat hyper responsive state. But always the therapeutic applications don't work so the reportorial application is needed. Totality of symptoms is the unique feature of homeopathy and it constitutes the true and conceivable portrait of the disease, which helps in individualizing the patient as well. Individualization is also the integral part of Homeopathic treatment. Some unique features, which characterize the individual, are taken into account, along with the disease features in the same individual. Individuals do not react identically to an antigen or allergen. Different people exhibit sensitivity to identical irritant in different ways like urticaria, hay fever and asthma etc, the allopathic medicine doesn't have a definite intervention in these cases & can only palliate the disease. Signs & symptoms are controlled till the patient is on treatment. The patient cannot take drugs lifelong & hence intervention by homeopathy leading to cure of disease to its full extent becomes necessary. Although this is the most common clinical condition seen in homeopathic practice, there is no literature available, as to how to approach the case of allergic rhinitis. I also saw many patients of Allergic rhinitis ultimately landing into distressing Sinusitis or Bronchial Asthma. There is also this experience that although it is a common condition, it is very difficult to cure. This encouraged me to study topic in details

ETIOLOGY:

Allergic rhinitis triggered by the pollens of specific seasonal plants is commonly known as "hay fever", because it is most prevalent during haying season. However, it is possible to have allergic rhinitis throughout the year. The pollen that causes hay fever varies between individuals and from region to region; in general, the tiny, hardly visible pollens of wind-pollinated plants are the predominant cause. Pollens of insect-pollinated plants are too large to remain airborne and pose no risk.

Mostly the condition is due to genetic and environmental cause; environmental exposures such as air pollution and maternal tobacco smoking can increase an individual's chances of developing allergies.

Other conditions causing eosinophilia ,Parasitic and fungal diseases, Allergic reactions , Adrenal conditions, Skin disorders, Toxins, Autoimmune disorders, Endocrine conditions, Tumors.

PATHOGENESIS:

Eosinophilic differentiation occurs in the bone marrow from Myeloid progenitor through the action of GM-CSF, IL-3, and IL-5. Mature eosinophils are released into the bloodstream where they migrate quickly to peripheral tissues of the bronchial and gastrointestinal mucosa and skin.

Chronic Allergic Rhinitis is often considered an 'eosinophilic' upper airway inflammatory Conditions however, there are several degrees of eosinophil involvement, The risk for and the severity of type 2 inflammation in Chronic allergic Rhinitis can vary considerably depending on the patient's place of residence and may furthermore increase over time at places with low incidence.

Sensitization to allergens

Antigen presenting cells such as dendrites cells in the mucosal surface Process allergens and present some peptides from allergens on the Major Histocompatibility complex class II molecule. This MHC class II Molecule and antigen complex take a role as the ligand of T-cell and Antigen complex Take a role as the ligand of T-cell receptors on Navin CD4+ T cell Activated Th2 cells to produce specific IgE and proliferation Of eosinophils mast cells And neutrophils produced antigen receptors on Specific IgE binds to high affinity IgE receptors on mast cells or Basophils.

Early and late reactions

Allergic rhinitis patients are exposed to allergens allergic reaction Develop in 2 different patterns according to time sequence. One is the Early reaction, In which sneezing and rhinorrhea develops in 30 min and Disappears. The other is the late reaction, which shows nasal Obstruction approximately 6 hours after exposure to allergens and Subsides slowly. The early reaction is the response of mast cells to Offending allergens .Stimulated mast cells induce nasal symptoms by Secreting chemical mediators such as histamine ,prostaglandins and Leukotrienes .In contrast to early reaction eosinophil chemotaxis is the Main mechanism in the late reaction which is caused by chemical Mediators produced in the early reaction several inflammatory cells, Eosinophils ,mast cells and T cells migrate to nasal mucosa, break up And remodel normal nasal tissue and these processes result in nasal Obstruction which is the main symptom of allergic rhinitis patients.

Neurogenic inflammation

When respiratory epithelium is destroyed and nerve endings are Exposed by cytotoxic protein from eosinophils , sensory nerve fibers are Excited by Nonspecific stimuli and stimulate both sensory afferent and Surrounding efferent fibers, so called retrograde axonal reflex. This Makes the sensory nerve Fibers secrete neuropeptides such as Substance P and neurokinin A, which induce contraction of smooth muscles, mucous secretion of goblet cells and Plasma exudation from capillaries. This process is called neurogenic inflammation. Non-Specific hyperresponsiveness Non-specific Hyperresponsiveness is one of the clinical characteristics of allergic inflammation. Due to eosinophilic infiltration and destruction of nasal mucosa, the Mucosa becomes hyperactive to normal stimuli and causes nasal symptoms such as sneezing, rhinorrhea, nasal itching And obstruction. This is a non-immune reaction that is not related to IgE. Hypersensitivity to non-specific stimuli such as tobacco, cold and dry air as well As specific allergens increases in allergic rhinitis patients.

DIAGNOSIS:

Allergic diseases arise from the acute or chronic exposure Of a sensitized individual to a specific allergen by inhalation, ingestion, Contact, or injection. Symptoms most often involve the nose, eyes, Lungs, skin, or gastrointestinal tract either individually or in combination. A carefully obtained history, Including environmental exposures, and the Appropriate laboratory tests or allergen challenges are critical for an Accurate diagnosis. Eosinophils play a Critical role in the pathogenesis of allergic airway Inflammation. However, the relative importance of eosinophil activation And pathogenicity in driving The progression of disease severity of Allergic rhinitis (AR) remains to be defined. We aimed to assess the Relation of activated and pathogenic eosinophils With disease severity of Patients with AR. Peripheral blood and nasal samples were collected From patients with mild and moderate-severe house dustmite AR And healthy control subjects recruited prospectively. Expressions of Activation and pathogenic markers on eosinophils in the blood and nose Were analyzed by flow cytometry. The eosinophilic cation protein- (ECP-) releasing potential and the pro-Th2 function of blood eosinophils were Compared between the mild and moderate-severe patients and healthy Controls. Our results showed that the numbers of activated (CD44+ and CD69+) And pathogenic (CD101+CD274+) eosinophils in the blood and nose as well as blood eosinophil progenitors were increased in moderate-severe AR Compared with the mild patients and healthy controls. In addition, the levels of activated and pathogenic eosinophils in the blood were positively correlated With the total nasal symptom score and serum ECP and eosinophil peroxidase (EPX) levels in patients with AR. Furthermore, the blood eosinophils Obtained from the moderate-severe patients exhibited a higher potential of releasing ECP and EPX induced by CCL11 and of promoting Th2 responses Than those from the mild patients and healthy controls. In conclusion, patients with moderate-severe AR are characterized by elevated levels of activated And pathogenic eosinophils, which are associated with higher production of ECP, EPX, and IL-4 in the peripheral blood.

SELECTING HOMEOPATHIC MEDICINE:

In homeopathy, selection of medicine is based on certain principles. Few of the basic principles are summarized as under: Consider the whole body as One unit Modern medical system considers And treats the human body in parts not as a whole and has a specialist For every organ whereas the fact is that Human body always works as One integrated unit while performing any function. Since none of the vital Organs functions independently, an individual Must be considered as a Whole for correct treatment. That is in fact the philosophy and Methodology of homeopathy, which is more logical and realistic.

Homoeopathic Therapeutic Medicine for Allergic Rhinitis :

Arsenic album:-

Always takes cold in the nose and sneezes from every change in the Weather. Thin watery discharge from the nose, excoriating the upper lip, While the Nose is stuffed up all the time: violent spasmodic sneezing Itching, burning and watering of the eyes: chilly with burning relieved by Heat. Restless, Anxious, Thirsty.

Pulsatilla:-

Catarrh, loss of smell, Coryza is better going out in the open. Abundant Yellow mucus in the morning, pressing pain at the root of the nose. Easy And Copious expectoration of thick, yellow sputa. At night and in bed Discharge dry, violent, spasmodic so that he has to sit up, with Micturition and Vomiting; tongue heavily coated; breath offensive; Countenance pale, alternating with redness; fluent coryza, with loss of Smell and taste; tickling in Suprasternal fossa; > in cold air, < in warm Room

Nux Vomica:-

Gets the Nose stuffed after exposed to dry cold atmosphere worse in Warm room. The coryza is fluent during the daytime but nose is stuffed Up at night And outdoors or it alternates between nostrils although there Is discharge, nose feels stuffed up.

Silicea:-

Frothy nasal discharges nose bleed perforation of the septum, Dry hard Crust from bleeding when loosened. Sneezing in the morning itching at The tip Of the nose. Obstinate cold with ear affection loss of smell.

Sulphur:-

Very good medicine for allergic rhinitis after failure of Ant. Tart., Ipecac.Or Phosphorus Cough > evening when lying down, with itching in the Bronchi, With retching and not > by expectoration of greenish lumps of Sweetish taste or flat and salty; hot flushes; cold feet or hot palms and Soles of feet. Sulphur Corresponds well to inveterate cases of Allergic Rhinitis, and brilliant results are here obtained. Its catarrh of the bronchial Mucous membranes is Accompanied with loud rales, a persistent, Profuse, thick, muco-purulent expectoration and attended by suffocative Attacks.

RESULTS :-

After prescription of the homoeopathic medicine according to the totality of the symptoms and by individualization of the patient with the help of Reporterization the Eosinophil count decreased with homoeopathic intervention and patient get cured from allergic rhinitis.

CONCLUSION :-

The routine modern treatment includes identification of offending allergen and its avoidance. But many a times this identification is not possible. The Homoeopathic medicines work better to treat hyper responsive state. With the help of Totality of symptoms, which helps in individualizing the patient as Well Individualization. Some unique features, which characterize the individual, are taken into account, along with the disease features in the same individual. Individuals do not react identically to an antigen or allergen. Different people exhibit sensitivity to identical irritant in different ways like Urticaria, hay fever and asthma etc. But with the help of individualization and totality of the symptoms and according to the reporterization with homoeopathic intervention symptoms of Allergic rhinitis cured.

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