

Sesame Oil (Teel Tail): Causes Asthma (A Literature Review)

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Abstract: Respiratory disorder is very common now a days because of environmental changes, climate changes, food habit, use of cosmetics, and advance industrialization. Bronchial asthma characterized by breathlessness, chest tightness, dyspnea, wheezing, and some time cough. It occurs mainly due to hypersensitivity reaction of some allergens like food allergens, parthenium grass, a fumigant (fungus), some metallic allergens, dusts, fumes, cosmetics, hair oils etc. Like other allergens sesame allergy is quite common for respiratory tract and contact allergic dermatitis. Yet cause is unknown but its prevalence is increased in recent year. Up to 20% of the population perceive themselves as suffering from food allergy but only 1 - 2% of adults and 5% of children have genuine food allergies. A lots of modern research proved sesame oil as a food allergen causing air way inflammation and Ig - E mediated air way hyper-responsiveness and finally cause asthma and contact allergic dermatitis.

Keywords: Respiratory disorder, Asthma, Allergens, Environmental changes, Food allergy

1. Introduction

Out of three vital, respiratory system play an important role for mankind. Any abnormalities in air passage or in the pattern of breathing is termed as respiratory disease.

In Ayurvedic Medicine - It is called **Shawasa Roga**. Occurs Mainly due to **Vata & Kapha**. In Unani Medicine - It is called **Amraz Tanaffus**. Occurs mainly due to imbalance in **Humor Phelgm**. In Homoeopathic Medicine – It is as respiratory Disease, Cause Behind this **Miasm**.

Hierarchy:

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|--------|---------------|
| Phylum | Tracheophyta |
| Class | Magnoliopsida |
| Order | Lamiales |
| Family | Pedaliaceae |

Properties & composition of sesame oil:

Properties:

- A limpid oil of a pale yellow colour.
- Odour - faint, taste –bland.
- Solubility - slightly soluble in alcohol (90p. c), miscible with solvent ether, with chloroform and with light petroleum.
- Specific gravity - 0.916 to 0.921 at 20oc.
- Refractive index - 1.472 to 1.476 at 20oc.
- Acid value - not more than 2
- Saponification value - 188 to 196

Composition:

- Sesamin & sesamol
- Liquid fats, 70% consisting of triglycerides of oleic acid (35 - 43%)
- And linoleic acids (37 - 47%)
- Sesamol a phenol.
- Solid fats; (12 - 14%) Stearin (5 - 10%), Palmitin (9 - 11%) etc.

Use of sesame oil:

- Sesame oil is rich source of polyunsaturated fatty acid (PUFA) which might be good for heart.
- Sesame oil potentially fight against diabetes, stomach disease, heart disease and skin disease
- It is the best oil among the oil which used in medicinal purpose or external application indifferent mode and different purpose.
- In homoeopathy it is used for making liniment, base of some ointments, instead of olive oil.
- In ayurvedic classical medicine it is used in Snehan, Swedan, Virechana, Basti etc.
- This oil consists of different types of fatty acid which helps to skin glow & make it soft and smooth, it reduces the fine lines and wrinkles, so used in cosmetics,
- Use in food articles as an ingredients of different edible oil, for dressing and marinades, sauteed meat etc.

Side effect of sesame oil:

- After consuming as dietary product or edible oil sesame oil produces some adverse effects.
- Increases body weight.
- Allergic reaction in people who is hypersensitive which increase IgE serum level
- Skin rashes. (contact dermatitis)
- Appendix infection.
- Diarrhea.
- Anaphylaxis
- In some people it may cause colon cancer, diverticulosis.
- Miscarriage in pregnant women (due to “heat - emitting” product. Alternative ayurveda medicine believes that raising the body temperature can potentially leads to miscarriage or early labour, but there is no scientific evidence).

Sesame oil as food: Food allergies are immune - mediated disorders, Immunoglobulin most commonly due to Ig - E antibodies and type - I hypersensitivity reactions, although type - IV delayed reactions are also seen. The most common culprits are peanuts, milk, eggs, soya and shellfish. Abide to that, sesame seed allergy is not new but it has become

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increasing common and now one of the top 10 causes of food allergy, Unlike other oils such as peanut oil which is usually refined at the point where there is little or no allergic protein left, while sesame oil is made by cold compression and is not refined, so retains most of its allergic proteins and can cause hypersensitivity to those who are allergic to sesame. Sesame seed is considered to be an extremely potent allergen. An allergic reaction usually occurs within minutes of exposure and provokes predictable symptoms A angioedema, urticaria, wheezing. Similarly sesame allergy clinically presents oral and glossal pruritis, generalized erythema, angioedema of the uvula, clinical shock, and wheezing, Allergic reaction to sesame seed was first reported and described in 1950 by Rubenstein. The patient was a 31 - year - old Caucasian man who, shortly after the ingestion of the confection halvah, suddenly experienced tightness in the throat, nausea, vomiting, weakness, and generalized pruritic erythema. Another similar case was reported by Uvitsky² in 1951. This was a 40 - year - the old man who, within 10 minutes after the ingestion piece of halvah, suddenly experience burning & tightness in throat, followed by angioedema of the lips, tongue, and uvula, and lastly, wheezing, These researches grabbed the attention of scholars towards the ill effects of Teel Tail i. e., hypersensitivity. Another one is it is taken as a supplement which have anti - inflammatory and antioxidant properties, which reduces atherosclerosis and increases the risk of cardiovascular disease.

Pathogenesis: It is a Chronic Inflammatory Disorder Characterized by Hypertrophy and Hyperplasia of Airway Smooth Muscles, Hyper Responsiveness, Vascular Congestion, Micro Vascular Leakage, Epithelial Shedding, Subepithelial Fibrosis, Thickening of Basement Membrane, Lastly Defect In Autonomic Neural Control. Miasm behind the pathogenesis of asthma,

Miasmatic analysis:

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| Hypertrophy & hyperplasia of smooth muscles – sycosis |
| Hyper - responsiveness/idiosyncratic – tubercular |
| Micro vascular leakage – syphilis |
| Epithelial shedding - syphilis |
| Thickening of basement membrane/fibrosis – sycosis |
| Defect in nerve/neuron - psora |

Although specific mechanisms of sesame allergy have not been widely studied, it is simply assumed to be similar to other food allergies. Most food allergies manifest in two general forms.1). Immediate or Type - 1 or Ig - E antibody - mediated hypersensitivity reactions, where symptoms appear within minutes to 3h; characterised by vasodilation, vascular leakage and depending on the location, smooth muscle spasm or glandular secretions.2.) Another is Late phase reaction or Type - IV or cell mediated hypersensitivity reactions, where symptoms of reaction appear after 48 - 72h of exposure to the food allergen; characterized by infiltration of tissues with eosinophils, neutrophils, basophils, monocytes, and CD4+T cells, as well as tissue destruction, typically in the form of mucosal epithelial damage. Both two forms involve two essential steps i. e., 1. sensitization phase; and 2. disease elicitation phase. In sensitization phase an allergen triggers the production of specific Ig - E antibodies by activated B cells. These Ig - E antibodies bind to the surface of mast cells via high affinity Ig - E receptors, once an individual has reached this state, this person is regarded as 'sensitized to that

allergen' and the process of sensitization to allergen is complete. It is noteworthy that at this time patient is not associated with any clinical sequelae. However, upon re - exposure, the allergen binds to membrane - bound Ig - E which activates the mast cells, releasing a variety of vasoactive mediators the early phase response and causing a type - 1 hypersensitivity reaction and the symptoms of allergens. In this condition Skin prick test and Ig - E antibody test is effectively positive.

2. Discussion

Bronchial asthma is a disease of respiratory organ (occurs due to type 1 hypersensitive reaction). In this disease predominant cause is miasm, which vary with symptoms. so, a series of miasm may responsible for bronchial asthma which is mention in different homoeopathic philosophy. In the dietary etiology Charak mention ingestion of teel tail causes Shwasa roge, but after reviewing so many texts of ayurveda in some Unani text book, also in homoeopathic Pharmacopoeia and lots of generals that teel tail is used in so many disease like in bowel dis, skin disease, heart disease, diabetes and many more. So far we have encountered a number of evidences supporting the therapeutic effects of teel tail in various disease, and we use it frequently, and we also aware about the fact that bronchial asthma, a hypersensitivity induced disease. In the case of sesame seed, the sesame has allergic proteins & lipophilic proteins which induces the hypersensitivity reaction. The exact pathology of sesame allergy is quite undescribed but can be understood through the similar pathology of type - 1 hypersensitivity reaction or asthma. It is so easy to eliminate the sesame seed from the diet, if the patient is quite known of the general food groups which contain it. The most effective form of therapy of any allergic disease is prevention through education. It can be educated to read prepared food labels & its ingredients so, that one can refuse the unwilling ingestion of sesame seed or the product containing the sesame. The diagnosis of food allergy is difficult to prove, so we should try to prevent our self. Skin prick tests and measurements of antigen - specific Ig - E antibodies in serum have limited predictive value. Double - blind placebo - controlled food challenges are the gold standard, but are laborious and are not readily available. In many cases clinical suspicion and trials of elimination diets are used.

3. Conclusion

Being a homoeopathic physician, we should avoid to use sesame oil in liniments, therapeutic cream and other external application. In place of sesame oil, we should try to use olive oil. Sesame allergy is quite significant, serious and rising issue at world level. The evidence of reporting sesame allergy have increased during last 5 decades. There is scientific evidence that sesame contains allergic protein and lipid that can trigger distinct types of hypersensitivity reactions. From above discussions it is quite evident that sesame has potential for producing hypersensitivity to such an extent that it can be even be life threatening. Unfortunately, due to lack of awareness of hypersensitivity induced by sesame, it is widely used in confectionery industry as well as domestically. Awareness should be spread among general public regarding sesame hypersensitivity. Confectionaries, bakeries, or in

some edible oil should mention the hypersensitivity reactions of sesame as caution, they're using sesame as an ingredient. Many diagnostic tools and methods are under process but the pace is quite slow. In the coming decade there are high possibilities of increasing cases of sesame induced hypersensitivity, which may leads to respiratory disorder, so there is an immediate need of awareness regarding sesame allergy.

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