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Review Article

TIL TAIL (*SESAMUM INDIC*UM): A HIDDEN CAUSE BEHIND *TAMAKA SHWASA* (BRONCHIAL ASTHMA): A LITERARY REVIEW

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ABSTRACT

Respiratory problems are very common due to the devastating pollution, irritants and infections. Asthma is one of the chronic inflammatory respiratory illnesses throughout the world and is characterized by breathlessness, chest tightness, wheeze and coughing. It occurs as a result of hypersensitivity reaction mainly due to allergens. These allergies mostly can be from the food. Like other allergies, sesame allergy is quite common yet unknown but it's prevalence has been continuously increasing in recent years. A lot of modern researches proved Sesame as a food allergen causing airway inflammation and IgE mediated airway hyper responsiveness and finally causes asthma. In Ayurveda, asthma is well correlated as *Tamaka shwasa*. In classical texts of Ayurveda like *Charaka Samhita* and *Sushrut Samhita* similar etiological factors are described for *Shwasa roga,* in addition to that dietary factors *(Aharaj Nidan)* are also mentioned such as *Nishpava, Masha, Til tail, Pinyak, Pishti, Aam ksheer* etc. which vitiates the *Doshas* and finally causes *Tamaka shwasa*. This review article mainly focuses the role of *Til tail* (*Sesamum indicum)* in the etiopathogenesis of *Tamaka shwasa* and also, for better understanding of textual facts and may be used as an effective key to control the mortality and morbidity related to it.

INTRODUCTION

Be it life or education ABC is always the first step that needs to be considered. In context of life, ABC refers to airway, breathing and circulation. Two out of three essentials i.e., airways and breathing are concerned with respiration. This evidence is enough to prove how important respiratory system is for the survival of mankind. Any abnormality in the pattern of breathing is termed as *Shwasa Roga* in Ayurveda. *Shwasa roga* is mentioned by almost all the *Acharyas* in their respective *Samhitas* under *Pranvaha Srotasa vyadhi*. *Vata* and *Kapha doshas* are mainly responsible for *Shwasa roga.*[1] As per the etiological factors of *Shwasa roga,* it has been mentioned in *Charaka Samhita*".

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Nishpavamaashpinyaktiltailnishevanat"[2] meaning *Nishpav, Maash, Pinyak, Til tail* are the factors which aids in the pathogenesis of *Shwasa roga*, play important role in morbidity of *Tamaka shwasa*. From the above reference we can conclude that *Til tail sevana* is one of the causative factors of *Shwasa roga*. At the same time, *Charaka Samhita* itself mentions "*Hikkashwasarditam Snigdheraadau Swederupachret |Aaktam lavantailen Nadiprastarshankarai*"[3] i.e., *Abhyanga* of chest region with *Til tail* and *Saindhava lavana* as the line of treatment of *Tamaka Shwasa.* According to researches it has been found that oral ingestion of sesame oil causes hypersensitivity reactions in some people. Sesame oil contains several allergic proteins & lipids that stimulate hypersensitivity reaction resulting in *Tamaka Shwasa*.

Til tail gunas and Properties

In Ayurved classical text, the description of *Til tail* is plentiful. It has multidimensional therapeutic effect. *Til tail* is regarded as best oil among the oils employed for medicinal purposes used in different modes[4]. It can be used for *Snehan, Swedan, Virechana, Basti* etc. The drug *Til taila* is demulscent emollient, diuretic, emmenagogue, lactogogue and mild

laxative[5]. The botanical name of *Til* is *Sesamum indicum.* It comes under *Pediliacea* family. Morphologically it is an erect annual herb growing up to one meter bearing white, light pink or mauve pink with darker markings[6]. It is mainly cultivated in the temperate regions of India. It has 2 varieties *Shweta* and *Krishna*. Sushrut described it as *Asita taila*[7]. The major chemical constituents of *Til* are neutral lipids glycolipids and phospholipids sesamose, sesamoline, sesamolinol, sesamol, pinoresinol [8]. Acharya Charak has mentioned *Til taila* in *Swedopaga* and *Purishaveeranjaneya mahakshaya*[9].

Properties of *Til tail*

Rasa: Madhur

Anurasa -Tikta and *Kashaya*

Guna: Guru, Snigdha

Veerya: Ushna

Vipaka: Madhur

It has *Keshya, Balya, Snehana, Yogvahi, Vranasodhan ropana, Vedanasthapan, Vajikaran, Sandhaniya, Medhya* properties *[10]*. Despite being impeccable, because of the above mentioned properties, *Til tail* is most likely to cause *Kaphaja vikara*. *Rasa, Anurasa, Guna, Vipaka* of *Til tail* are such that occurrence of *Tamaka Shwasa* is quite possible. According to contemporary researches, sesame seeds have some residues of allergic proteins and lipids after refining which in turn causes hypersensitivity reaction.

Sesame as a Food Allergen

Food allergies are immune-mediated disorders, most commonly due to IgE antibodies and type I hypersensitivity reactions, although type IV delayed reactions are also seen. 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. The most common culprits are peanuts, milk, eggs, soya and shellfish[11]. Abide to that, sesame seed allergy is not new but it has become increasingly common and now one of the top 10 causes of food allergy[12]. 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[13]. Sesame seed is considered to be an extremely potent allergen. An allergic reaction usually occurs within minutes of exposure and provokes predictable symptoms angioedema, urticaria, wheezing[14]. Similarly sesame allergy clinically presents oral and glossal pruritis, generalized erythema, angioedema of the uvula, clinical shock, and wheezing[15]. Allergic reaction to sesame seed was first reported and described in 1950 by Rubenstein[16]. 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[17]. Another similar case was reported by Uvitsky2 in 1951. This was a 40-year-old man who, within 10 minutes after the ingestion of a piece of halvah, began to experience burning and tingling of the lips and throat, followed by angioedema of the lips, tongue, and uvula, and lastly, wheezing [18]. These researches grabbed the attention of scholars towards the ill effects of *Til Tail* i.e., hypersensitivity.

Pathogenesis

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. Immediate or Type I or IgE 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[19]. 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[20]. Both two forms involve two essential steps i.e., sensitization phase; and disease elicitation phase. In senstization phase an allergen triggers the production of specific IgE antibodies by activated B cells. These IgE antibodies bind to the surface of mast cells via high-affinity IgE 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 IgE which activates the mast cells, releasing a variety of vasoactive mediators the early phase response and causing a type I hypersensitivity reaction and the symptoms of allergy. [21]

DISCUSSION

Tamaka Shwasa is a disease of *Pranavaha srotas* mentioned in Ayurved *Samhitas*. In this disease Predominant *Doshas* are *Vata & Kapha*. In the dietary ethology *Charaka* mentions ingestion of *Til taila* causes *Shwasa roga*, but after reviewing so many texts of Ayurveda, we get that *til tail* is used in so many diseases and we have seen the multifaceted use of *Til tail* like in *Arsh*, *Parikartika, Udar roga, Hikka, Shwasa* and many more. So far we have encountered a number of evidences supporting the therapeutic effects of *Til tail* in various diseases mentioned in *Samhitas*. *Tamaka Shwasa* is well correlated as bronchial asthma. And we're aware of the fact that bronchial asthma is a

hypersensitivity induced disease. In the case of sesame seed, the sesame has allergic 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. The elimination of sesame seed from the diet should not be difficult 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 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. Skin prick tests and measurements of antigen-specific IgE 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. [22]

CONCLUSION

Sesame allergy is significant, serious and rising issue at global 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, edible oil should mention the hypersensitivity reactions of sesame as caution, if 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, so there is an immediate need of awareness regarding sesame allergy.

REFERENCES

1. Charak Samhita with elaborated Vidyotini Hindi commentary, by Pt.Kashinath Shastri and Dr Gorakh Nath Chaturvedi, Chaukhamba Bharti Academy, Varanasi, Chikitsa Sthan, 2018; 17/8
2. Charak Samhita with elaborated Vidyotini Hindi commentary, by Pt.Kashinath Shastri and Dr Gorakh Nath Chaturvedi, Chaukhamba Bharti Academy, Varanasi, Chikitsa Sthan, 2018; 17/14
3. Charak Samhita with elaborated Vidyotini Hindi commentary, by Pt.Kashinath Shastri and Dr Gorakh Nath Chaturvedi, Chaukhamba Bharti Academy, Varanasi, Chikitsa Sthan, 2018; 17/71
4. Dr J.L.N Shastri and Dr.Tanuja. M Nesari forwarded by Prof.Mita Kotecha A Textbook of Dravyaguna vijnana printed by Chaukamba Orintalia, Varanasi; page no 624
5. Dr J.L.N Shastri and Dr.Tanuja. M Nesari forwarded by Prof. Mita Kotecha A Textbook of Dravyaguna vijnana printed by Chaukamba Orintalia, Varanasi; page no 624
6. Madan pal Nighantu, Hindi Commentary by Dr Gyanendra Pandey
7. Sushruta Samhita (Hindi commentary), Vol.1, Ambika dutt Shastri, editor. 1st ed. Varanasi: Chaukhambha sanskrit sansthan; 2017 Sutra sthan 46,page no -245
8. Dr J.L.N Shastri and Dr.Tanuja. M Nesari forwarded by Prof.Mita Kotecha A Textbook of Dravyaguna vijnana printed by Chaukamba Orientalia, Varanasi; page no 882
9. Charak Samhita with elaborated Vidyotini Hindi commentary, by Pt.Kashinath Shastri and Dr Gorakh Nath Chaturvedi, Chaukhamba Surbharti Prakashan, Sutra Sthan, 2018; 4/22, 32
10. Dr J.L.N Shastri and Dr.Tanuja.M Nesari forwarded by Prof.Mita Kotecha A Textbook of Dravyaguna vijnana printed by Chaukamba Orientalia, Varanasi; page no 624
11. Ralston, S. H., Penman, I. D., Strachan, M. W. J., & Hobson, R. (Eds.). (2018). Davidson's principles and practice of medicine (23rd ed.) Elsevier Health Sciences page no 866
12. Sesame Allergy and other Seeds |Allergy UK| National Charity [Published on 6 July 2021] Available from https://www.allergyuk.org/ resources/sesame-allergy-and-other-seeds/
13. Sesame Allergy and other Seeds |Allergy UK| National Charity [Published on 6 July 2021] Available from https://www.allergyuk.org/ resources/sesame-allergy-and-other-seeds/
14. Ralston, S. H., Penman, I. D., Strachan, M. W. J., & Hobson, R. (Eds.). (2018). Davidson's principles and practice of medicine (23rd ed.) Elsevier Health Sciences page no 88
15. P.J Torsney, lieutenant Commander (MC)USN, Bethesda, Md, and Washington D.C Volume 35 Number 6 page no 514 Hypersensitivity to Sesame seed
16. Rubenstein, L.: Sensitivity to Sesame Seed and Sesame Oil, New York J. Med. 50: 343, 1950.
17. Venugopal Gangur and Harini G. Acharya; The Global Rise and the Complexity of Sesame Allergy: Prime Time to Regulate Sesame in the United States of America
18. Uvitiky, I. H.: Sensitivity to Sesame Seed, J. ALLERQ~ 22: 377, 1951. Hypersensitivity to

sesame seed P. J. Torsney, Lieutenant Commander (IMC) USN, Bethesda, Md., and Washington, D. G.

19. Vinay Kumar, Abul K. Abbas, and Jon C. Aster. 2015. Robbins and Cortan Pathologic Basic Of disease: South Asian edition Vol 1 Chapter Diseases of Immune System page no 202
20. Vinay Kumar, Abul K. Abbas, and Jon C. Aster. 2015. Robbins and Cortan Pathologic Basic Of disease: South Asian edition Vol 1 Chapter Diseases of Immune System page no 202
21. Ralston, S. H., Penman, I. D., Strachan, M. W. J., & Hobson, R. (Eds.). (2018). Davidson's principles and practice of medicine (23rd ed.) Elsevier Health Sciences
22. Ralston, S. H., Penman, I. D., Strachan, M. W. J., & Hobson, R. (Eds.). (2018). Davidson's principles and practice of medicine (23rd ed). Elsevier Health Sciences

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