



## THE ASPECT OF DUSHIVISHA IN THE PATHOGENESIS OF ALLERGIC BRONCHIAL ASTHMA

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### ABSTRACT

When newly identified harmful substances have less potency get entry in our body at the same time, different self-generated toxins produced due to defect in cellular metabolism when not neutralized or expelled out from the body completely remain inside the body starting to vitiate *Dhatu*, resulting hypersensitivity reactions in the body titled as *Dushivisha*. In my opinion Ayurveda has perfect line of treatment for allergic Bronchial Asthma. The collective treatment by Shodhan & Shaman therapy it may get defiantly defeat this dreaded disease.

**KEYWORDS :** Dushivisha, dhatu, shodhan, shaman, bronchial asthma.

### INTRODUCTION

Allergic Bronchial Asthma is a common disorder of airway referred to as localized anaphylactic reaction (Type I hypersensitivity reaction) characterized by chronic airway inflammation and increased airway responsiveness to variety of stimuli resulting in symptoms of paroxysm of dyspnea, wheezing, cough and chest tightness.

#### Airway inflammation in Asthma is-

- A defect response of immune system to a trigger.
- A cascade of immunologic events that includes inflammatory cells and mediators.
- An immune-mediated process that leads to inflammatory changes in the airways, including eosinophils recruitment and airway edema.

The physiological and clinical features of asthma derive from an interaction among the resident and infiltrating inflammatory cells in the airways surface epithelium, inflammatory mediators (Histamines, Bradykinin, and Leukotrienes: C, D and E, Platelet activating factor, Prostaglandin (PGs) E<sub>2</sub>, F<sub>2</sub> and D<sub>2</sub>) and cytokines. The cells thought to play important parts in inflammatory response are –Mast cells, Eosinophils, Lymphocytes and epithelial cells.

### ETIOLOGY:

This includes factors involved in the development or onset of asthma and the factors (triggers) involved in the development of exacerbations.

Factors involved in the development of Asthma:

- 1) Predisposing factors
- 2) Causal factors
- 3) Contributing factor

#### 1. Predisposing factors:

**a) Atopy:** Atopy is the propensity to produce abnormal amounts of IgE in response to exposure to environmental allergens – appears to be the strongest identifiable predisposing factor for asthma.

**b) Gender:** Childhood Asthma ratio is 2: 1 (male / female) i.e. it is more common in male and more prevalent in adult female.

#### 2. Causal Factors:

##### a) Allergens:

**(i) Indoor allergens-** Indoors allergens include domestic mites, animal allergens, cockroach allergen and fungi.

**(ii) Outdoor allergens-** The most common outdoor allergens that may lead to Asthma in susceptible people are pollens and fungi.

**b) Drugs-**The drugs most commonly associated with the

induction of acute episodes of asthma are aspirin, coloring agents, such as tartrazine, B adrenergic antagonists and sulfating agents. NSAIDs inhibit arachidonic acid metabolism via the cyclo-oxygenase pathway, preventing the synthesis of prostaglandin

**c) Food and food additives-** Some food allergy is responsible for the Asthmatic attack food most commonly involved in Asthmatic reactions are: Milk, eggs, nuts, Alcoholic drinks, (Sulfer dioxide), etc.

**c) Occupational Sensitizes:** Occupational related Asthma is a significant health problem large number of substances encountered at the work place are known to produce Asthma. Acute and chronic airways obstruction has been reported to follow exposure to a large no. of compounds used in many types of industrial processes.

#### 3. Contributing factors:

These augment the likelihood of asthma developing upon exposure to casual factors; they may even increase susceptibility to asthma. These include.

- Viral infections of respiratory tract
- Small size at birth
- Diet
- Smoking
- Passive
- Active
- Air pollution

#### Factors that cause Asthma exacerbation: Triggers

Cause an attack of asthma, which usually lasts only for minutes or hours. They trigger Symptoms once the tendency is already there:

- a) Exercise especially running.
- b) Laughing, Coughing.
- c) Emotional factors ranging from pleasurable excitement in children to stress or worry in adults.
- d) Change of weather such as sudden changes in temperature, fog, wind.
- e) Drugs: Beta-blockers such as propranolol as alpha-blockers e.g. Phenoxybenzamine.

### PATHOLOGY:

The main patho-physiological hallmarks of Asthma are -

- Reduction in airway diameter brought about by contraction of smooth muscle.
- Oedema of the bronchial wall and
- Thick, tenacious secretion due to which there is Increase in airway resistance
- Decrease in forced expiratory volumes
- Hyper inflammation of lungs and thorax
- Increased work of breathing

- Alteration in respiratory muscle functioning
- Abnormal dysfunction of both ventilation and pulmonary blood flow with mismatched ratio and altered arterial blood gas concentration.

### IMPORTANCE & NEED TO STUDY THE ROLE OF DUSHIVISHA IN ALLERGIC BRONCHIAL ASTHMA

In *Agadatantra*, *dushivisha* is unique concept which is still not explored properly. The list of poisons mentioned in our texts is clear but so many poisons in either *Yonis* (*Sthawara* & *Jangama*) are not available on earth. Likewise, in the past 80 years so many other poison/ substances identified & listed as poison by developed society but will not included as poison in *Ayurvedic* texts.

When newly identified harmful substances have less potency get entry in our body at the same time, different self generated toxins produced due to defect in cellular metabolism when not neutralized or expelled out from the body completely remain inside the body starting to vitiate *Dhatu*, resulting hypersensitivity reactions in the body titled as *Dushivisha*. In the study, *Garavisha* (one of the tree types of toxins) is given importance. Just as '*Aushadha*' (drug) becomes poison by inappropriate prescription, the incompatible food or normal food with the interaction of somatic factors becomes toxin. An etiological study of hypersensitivity, correlating it with *Dushivisha* and its role in pathology of *Tamaka Shwasa* (Allergic Bronchial Asthma) is a hypothesis worth exploring.

#### Role of *Dushivisha* in Allergic Bronchial Asthma

There is no direct reference of Allergic Bronchial Asthma as such in classical *Ayurvedic* literature, but on the basis of the clinical features Allergic Bronchial Asthma can be correlated with *Tamaka Shwasa*. Altered immune response or *Ojodushti* finds intrinsic and extrinsic causes in *Ayurveda*. One among them is *Dushivisha*. The references regarding *Dushivisha* point out that it can generate similar harmful effects as that of hypersensitivity reactions. "कालान्तरप्रकोपि विषं दूषीविषम्"। (charak) This versa indicates the latent or subclinical allergy. While the reference "यद्यपि न प्राणहरं तथापि बहुदोषकरम्। (च.चि.23/140) is indicative of the harmful effects it can impart on the body. The peculiarity of *Dushivisha* is that it remains latent in *dhatu*s (tissues) and on vitiation it produces hazardous consequences on the body. Only *Upashaya* and *Anupashaya* can perceive this subclinical disease. "गूढलिङ्ग व्याधिमुपशयानुपशयाभ्यां .....। (च.वि.4/8).

*Visha* itself is one of the important cause mentioned in the *Nidanas* of *Shwasa* we have summarized important factors taking part in the pathogenesis of *Tamaka Shwasa* (Allergic bronchial asthma) are-

- 1) *Nija* and *Bahya* (*Agantuja*) *Gara Visha*,
- 2) *Avyadhishahatva*
- 3) *Dushta rakta* (vitiated blood)
- 4) *Dushivisha*.
- 5) *Kapha-vata* aggravating *Aahar* and *Vihara* mentioned in *Shwasa nidanas*.
- 6) *Khavaigunya*

#### 1) *Nija* and *Bahya* (*Agantuja*) *Gara Visha*:

*Nija Gara Visha* is produced by *Virudhahara* and *Agnimandya*. These causes (*Nidanas*), by interactions with intrinsic factors produce toxicity of mild potency (endoallergens).

Simultaneously body is exposed to *Bahya Gara Visha* in the form of different food preservatives and additives (food allergens), tobacco, alcohol, various drugs like B blockers, NSAIDs (drug induced allergens), and polluted air (dust, smoke) and various chemical fumes vomited by various vehicles etc. acts as exo-allergens.

#### 2) *Avyadhishahatva* (Immune disorder)

Role of *Dushivisha* for altered immune response (*Ojodushti*) is described in detail previously. The *Visha* has opposite qualities of *Ojas* and by nature reduce the quantity of *Ojasa*, it also disturb the qualities by nature of change in *Ojo Gunas* so *Ojas* may get vitiated as *Visramsas*, *Vyapada*, or *Kshaya* as per effect of *Visha Gunas* which further affects *Vyadhikshamatwa* and creation of disease. Hence *Dushivisha* on vitiation causes an altered immune response by producing *Ojodushti*.

#### 3) *Dusta rakta* (vitiated blood)

"विषं हि देहं सम्प्राप्य प्राग्दुष्यति शोणितम्" (अ.ह.उ.35/9)

Improperly developed *mamsa*, *shonita* and *asthi* are responsible for reduced *vyadhikshamatwa*. The healthy condition of these three *dhatu*s will naturally maintain equilibrium of the three *dosha* as they have *ashrayashra yibhava*. Vitiated *rakta* produces derangement of *pitta* and vice versa.

#### 4) *Dushivisha*-

Different forms of toxins whether get entry into body externally called *Bahya* (*Agantuja*) *Gara Visha* as earlier mentioned or *Nija Gara Visha* which is formed in our body all are devoid of 10 properties of *Visha* so that it is not fatal to human but acquires toxic properties. Due to insufficient strength of these toxins or not metabolized and eliminated from the body or because of the *Vyadhikshamatwa*, the different toxins might be partially neutralized or suppressed gets deposited in *Rasa Raktadi Dhatu* and on long term exposure transformed into *Dushivisha*. These suppressed toxins get enveloped by *Kapha* and might remain latent. Potency of this *Visha* aggravates in favorable conditions. As far as *Dosha dushti* is concerned it is mainly *Dushivisha* which has its special effect on *Rasadi Dhatu* "दूषीतं देशकालान्तरदिवास्वप्नैर्भोक्षणशः॥ यस्माद्दूषयते धातुं तस्माद्दूषीविषं स्मृतम्"॥ (सु.क.अ.२/३३) therefore it is the term as *Dushi visha*. Even though *Dushivisha* itself is also not having power and basically *Visha* also vitiated or diminished in power then also *Dushayati Rasadi*, it disturbs, it vitiates all the *Dhatu* therefore *Dhatudushti* will not be limited up to one *Dhatu* or up to *Samprapti* of *Tamak Shwasa*.

"हृदयस्य रसादीनां धातूनां चोपशोषणौ" is saying that multiple *Dhatu* or more than 2/3 *Dhatu* will be involved in creation of *Samprapti* and it has been stated in the effect of *Dushivisha* also "यस्माद्दूषयते धातुं तस्माद्दूषीविषं स्मृतम्" therefore involvement of all *Dhatu*s is essential simultaneously if the *Dosha* will be vitiated, if the *Dhatu* will be disassociated if the *Dosha* will be manifested in the disassociated *Dhatu*s then they will create disease and simultaneously *Vyadhikshamatwa* will go down and *Vikarvighat bhava* will be absent from the body and *Vikarvighat Abhava* occur in the body and as a result, *Vikara* will be occurred. In the present situation pathology start in *Rasadi Dhatu*.

#### 5) *Kapha-Vata* aggravating *Aahara* and *Vihara* of *Shwasa* .:

*Kapha-Vata vardhaka Aahara* and *vihara* help to aggravate the *Samprapti* of *Tamaka Shwasa*.

#### 6) *Khavaigunya*-

*Raja-dhuma* these are the important factors for *Pranavaha Srotovagunya*, which are responsible for the *Sthanasamshraya* of *Dosha* so that *Samprapti* of *Tamaka Shwasa* occur.

#### Pathogenesis-

A. The unwholesome drugs and diets with mutually contradictory characters with that of normal tissue elements initially produce toxicity in the blood. Conversion of *Virudhahara* to *Gara Visha* and transformation of wholesome food to *Annavisa* due to *Agnimandya* has been already explained in the *Nidanas*.

B. Similarly *Bahya Gara Visha* entered in the body which acquires toxic properties. Polluted air, dust, smoke get entry through inhalational route deposited in the lungs (*Phupphusa*) which is responsible for *Khavaigunya* of *Pranavaha Srotasa*. *Rakta* is vitiated due to *Nija Gara Visha*. *Phupphusa utpati* is takes place from *Rakta Phenā* which ultimately responsible for *Khavaigunya* of *Pranavaha Srotasa*.

C. The toxins produced by this unwholesome diet vitiate *Rakta*. By the potency of *Visha* it reaches *Rakta* and with its properties it deranges *Rakta*. Because of the insufficient strength of *Garavisa* or because of the *Vyadhikshamatva*, the toxins might be partially neutralized or suppressed.

नापथ्यसेविनं सद्यः प्रबाधन्ते तदा मलाः प्रकोपं प्रतिविघ्नन्ति भिन्नैर्द्रव्यादि भिर्यदा॥ (अ.सं.सू.9/64)

D. The *Visha* of mild potency gets deposited in the *Rakta Dhatu* and assumes the form of *Dushivisha*.

E. The suppressed toxin gets enveloped by *Kapha* and might remain latent.

F. Potency of the *Visha* aggravates in favorable conditions. " तदेव ह्यपथं देशकालसंयोगवीर्यप्रमाणान्तियोगाद्भूयस्त्वर्मपथं संपद्यते" । (च.सू.28/7)

Favorable conditions include favorable locality, favorable time, combination with other incompatible substances, acquiring potency and also increase in quantity of the incompatible substance or *Visha*. In the case of *Dushivisa* some environmental factors and incompatible regimen also play role in aggravation or manifestation of the disease.

"प्राग्वाताजीर्णशीतलाभ्रदिवास्वप्राहिताशनैः। (अ.ह.उ.35/37)

"दूषितदेशकालान्नदिवास्वप्रैरभीक्षणशः॥-- अन्नस्योपलक्षणत्वादव्यवायव्या यामक्रोधादिभिरित्यर्थ (सु.क.2/33)

*Archarya Dalhana* explains that stressful and strainful activities also impart their effect or accentuates *Dushivisha*.

**Pragya vayu (Eastern wind) :**

The breeze from east is hot in potency, is *Abhisyandi* and amplifies the diseases of the skin. Hemorrhoids, poison, warms, fever due to all the three *Doshas*, dyspnea, undigested food (*Ama*) and *Vata*.

**Shitabhra (Cloudy):**

Cloudy atmosphere (as seen in *Varsartu*) also in *Abhisyandi*, increases the diseases of *visha* and *Ama*. So food should be processed with honey and other antidotes in *Varsartu*.

**Diwa swapnam (Daytime sleep):**

Daytime sleep vitiates *Kapha* and also *Pitta* and decreases the digestive power. Thus the common features of all the aggravating factors are that they increase *Abhisyandi* property, increase the potency of *Visha* and decrease digestive power.

**Abhishyandikar Food – like Dadhisevana, Aamakshira etc**

G. The *Visha* properties are initiated by the aggravating factors. This includes vitiation of *Kapha*, *Pitta* and *Rakta* and also the dysfunction of *Ojas* (*Dushivisha*).

H. The *Visha* then becomes difficult to cure and also may produce acute diseases, if the disease is caused by multiple cause or if mutually contradictory therapies are required (as in *Aama Visha*), if they are deep seated, if chronic, if vitiated in one of the ten resorts of life or if they afflict the vital organs.

I. When the potency of the toxin gets enfeebled, the *Visha* resolves back into the *Rakta Dhatu*. Again in favorable conditions the symptoms of allergy resume.

Toxins will be generated in the body by three different causes' viz; *viruddhahara*, *Agnimandya* and *Bahya Krutrim Visha Sevana*.

*Viruddhaahara* by interaction with intrinsic factors produces *Gara Visha*. While due to *Agnimandya*, the ingested food would initially be converted to *Shukta Paka* and later to *Annavisha*. The normal food gets transformed to *Visha* after digestion due *Agnimandya*.

*Visha* due to its peculiarity reaches blood without interacting with *Dosha*. The *Visha* situated in the *Rasa Raktadi Dhatu* gets suppressed or partially neutralized by extrinsic and intrinsic factors. *Viruddhaaharjanya* (incompatible food generated) ill effects will be counteracted by their nullifying factors such as exercise, oleation, increased digestive power etc. other supervening factors include *Vyadhishatwa* and increased *Bala*. The resultant enfeebled toxin remains in the *Rasa Rakta Dhatu* due to *Kaphaavarana* (enveloped by *Kapha*).

The aggravating factors or favorable conditions are intake of *Abhishyandi*, *Kaphavardhaka* food (curd etc), substance which decreases the digestive power and that which increases the potency of *Visha*. On exposure to these aggravating factors, the *Visha* acquires potency. On exposure to these the vitiated *Visha* produces dysfunction of *Ojas* simultaneously and thus resulting in the manifestation of the disease Allergic Bronchial Asthma. When the potency of the *Visha* subsides or regresses, the symptoms disappear. The mild *Visha* remains latent till next exposure to aggravating factor. When it is further exposed to similar aggravating factors, attack of Allergic Bronchial Asthma reappears.

Role of *Dushivisha* in Allergic Bronchial Asthma (*Tamaka Shwasa*)



From Above discussion, it is clear that, role of *Dushivisha* in its pathogenesis is very much important for its proper management.

- 1) Poison whether animal, vegetable/chemical in origin or *Kritrima Visha* and toxins (*Nija Garavisha*) produced in the body due to *Viruddhaahara* (unwholesome food), *Agnimandyakar Nidana* (factors which decreases the digestive power), *Ajirna* etc. are not properly expelled out or is partially neutralized by the various factors. This mild toxin is enfeebled by intrinsic and extrinsic factors and it remains latent in the *Dhatu*s (tissues) labeled as *Dushivisha*.
- 2) *Dushivisha* on vitiation produces dysfunction of *Ojas* and vitiation of *Rasa* and *Rakta* causing type I hypersensitivity reaction in trachea-bronchial tube manifested as a

disease i.e. Allergic Bronchial Asthma. When the potency of the toxins regresses the symptoms disappear. Again on re exposure to aggravating factors, attack of Allergic bronchial asthma occurs. So it is concluded that *Dushivisha* is one of the important causative factor of *Tamaka Shwasa*.

### PROBABLE TREATMENT OF ALLERGIC BRONCHIAL ASTHMA

As earlier mentioned that, various factors like altered immune system due to vitiation of *Dushivisha*, *Kapha-Vata Prakopak Ahara Vihara* mentioned in *Shwasa Nidana*, *Bahya Agantuj* and *Nija Gara Visha*, *Dushti Rakta* are responsible for the *Samprapti* of *Tamaka Shwasa* (Allergic bronchial Asthma). Considering all these causative factors Ayurvedic line of management in *Tamaka Shwasa* should be applied as mentioned in *Ayurvedic* texts. Basically treatment of *Tamaka Shwasa* consists of two parts. One the *shodhana* therapy, i.e., to expell out the vitiated *Doshas* from the body to prevent recurrence. The other one is the *Shamana* therapy, which normalizes the vitiated *Doshas* by the use of medications.

#### Shodhana Therapy

1. **Vamana - Virechana** – External application of *Tila taila* with *Saindhav lavan* (rock salt) and then fomentation by *Nadi* or *Prastar* or *Sankar Sweda* is indicated in *Tamaka Shwasa*. Liquidation of *Kapha* and *Srotomardava* takes place which helps in easy expectoration of *Kapha* by *Vamana*. *Vamana* and *Virechana* are very helpful *Shodhana* procedure in such respiratory conditions.

Although *Virechana* and *Vamana* are contraindicated in children, however, if these are required should be given of mild nature.

#### Shamana Therapy

This line of management can be well caterogized as under –

1. **Srotas or Adhishthanik Chikitsa** - The principle line of treatment for respiratory disorders is to consume diet, drinks and medicines which are *Kaphaghna* and *Vataghna* (pacify vitiated *Kapha* and *Vata Dosh*), *Ushna* and *Vatanuloman*. e.g. *Vata-Kapha Shamaka: Pippali, Maduyashti, Kantakari, Vatanuloman – Haritaki*

2. **Amapachaka** – Allergies are the hypersensitive reactions of the body to a foreign substance *Vijatiya Dravya*, which has not undergone proper *agnipaka* after entering into the body. Thus resulting into *Ama* and *Amavisha* (especially, in case of food allergy). Therefore, *Amapachaka Chikitsa* in the form of antioxidants which eliminate oxidative toxicity (Wright R.J. et. al, 2002), is to be done by administration of *Shunthi, Pippali* etc.

3. **Rasayana Chikitsa** – To overcome *Srotovagunya* (system specific), to prevent the recurrence of allergic manifestations and for the modulation of the immune system, one should treat the patient with "*Apunarbhava Chikitsa*" i.e., the *Rasayana Therapy*. After deciding the *Prakriti* of the patient, the physician should decide the adequate *Rasayana* drug. Some of the common *Rasayana* drugs used for the purpose are *Guduchi, Pippali, Amalaki, Haritaki* etc.

4. **Vishaghna Chikitsa** – Allergens are considered as *Visha* (toxins) for the body, may be *Ama Visha, Dushi Visha* or *Gara Visha*. So for neutralizing the toxic/allergic effect of those *Vishas* certain specific drugs should be prescribed. These are *Shirish, Haridra, and Tulsi, dushivishari Agada* etc.

5. **Shothahara Chikitsa** – To overcome the inflammatory changes in the *Pratishayaya* (allergic rhinitis) and *Tamaka Shwasa* (allergic asthma), anti-inflammatory line of treatment should also be adopted. E.g. *Kantakari, Tulsi, Pippali, Shirisha* etc.

6. **Symptomatic treatment** – This should be done side by side as the *Kasahara* (antitussive), *Shwasahara* (bronchodilators), *Shleshmahara*(mucolytic), *Jwarahara* (antipyretic, if mild fever co-exists), *Shulahara* (analgesics) etc. e.g. *Shati, Pushkarmula, Kantakari, Tulsi, Pippali, Maricha* etc.

7. **Anti-stress Management** – As per Jeff Migdow, M.D. Director of *Prana yoga* through the open center in New York.

"Allergies are worsened by a stress reaction, which causes physiological responses, including the release of stress hormones and histamines and triggers inflammation".

To manage the mental stress one should use anti-stress drugs as *Ashwagandha* and adopt a healthy life style, along with yoga therapy. Yoga can help in two ways for the respiratory allergic disorders, one by the smooth and relaxing *Asanas*, distressing the immune mechanism and other by breathing practices (*Pranayam*) strengthening the respiratory system.

### CONCLUSION:-

In my opinion Ayurveda has perfect line of treatment for allergic Bronchial Asthma . The collective treatment by Shodhan & Shaman therapy it may get defiantly defeat this dreaded disease.

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