

ROLE OF VARIOUS THERAPIES IN ASTHMA MANAGEMENT

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ABSTRACT

Asthma and chronic obstructive pulmonary disease (COPD) are increasing at a rapid pace in the last decade. Research is going on, but the fact remains that prevalence is on the increasing trend. The important question is why it is so? Cost of treatment is an issue worldwide but the major problem for a country like India. The combination therapy of Ayurveda, Homeopathy, Unani, Allopathy, and Yoga can resolve up to a great extent in a country like India. The treatment should not be restricted to a particular medical stream. It should be structured in such a way that patient condition can be made reversible. They should be treated with Ayurveda/homeopathy/Unani/yoga /Allopathy so that the patient can be cured. Govt need to design a separate course in medical college which should be a combination of the various stream for Asthma.

Keywords: Asthma, Allopathy, Homeopathy, Ayurveda, Unani, Yoga, Cure

INTRODUCTION

Asthma is a chronic lung disorder which is caused due to inflammation of the airways. The airways are filled with mucus, become narrower and blocking the airflow which then results in recurring periods of wheezing, short gasping breaths, chest tightness and coughing (1). It has been reported that asthmatic subjects with continuous symptoms despite complete maintenance therapy should be systematically assessed to identify risk factors responsible for poor control. Factors are genetic, pollution, pollen, socioeconomic factors etc. But need to identify at what stage of Asthma which therapy and which medicine will be effective and up to what duration. There is quite a medicine available in each stream of medicine which reduces the viscosity of sputum, Inflammation of

bronchioles (2). Patients should be assessed using a systematic assessment protocol including, psychiatric assessment, induced sputum analysis, ear, nose and throat (E.N.T.) examination, pulmonary function evaluation, Indeed, the precise relationship between symptoms, lung function, health-related quality of life, and therapeutic intervention remains (3).

The study should be done to assess a cohort of sequential subjects of poorly controlled asthmatics using a systematic assessment protocol, and to identify the risk factors contributing to poor control, the frequency with which they occur, and to determine if any factor or combination of factors predicted. However, these recommendations for asthma management need to be included in local conditions,

resources, and services (4). Global Initiative for Asthma, a network of individuals, organisations and public health policymakers, has played a crucial role in propagating the information about the therapy of patients with asthma based on algorithms of continuous evaluation of published scientific investigations (5). But I feel even they have not thought of combining various medical streams which should suit local requirement. This will be an economical and effective treatment for asthma.

Material and Methods

Asthma and chronic obstructive pulmonary disease (COPD) are increasing at a rapid pace in the last decade. Research is going on, but the fact remains that prevalence is on the increasing trend. The important question is why it is so? Cost of treatment is an issue worldwide but the major problem for a country like India. The procedure should not be restricted to a particular medical stream. Hence, we conducted a systemic review to evaluate the methods of combination treatment with Ayurveda/homeopathy/Unani/yoga /Allopathy so that the patient can be cured.

Pathophysiology of asthma

The pathophysiology of asthma can be explained as in 2 process

- 1) bronchial inflammation,
- 2) bronchoconstriction

1) The bronchial inflammation – It occurs when we breathe in trigger factors which are very minute in size present in the environment and makes their way into the bronchial passage. The white blood corpuscles (WBC) are one of the parts of the complex immune system. There are five types of WBC, neutrophil, eosinophil, basophile, Lymphocytes, monocytes. Among them, the lymphocytes play a vital role in the allergic reaction. Lymphocytes are categorised into two types –T lymphocytes or ‘T cells’ and B lymphocytes or ‘B cells. T cells and B cells distributed everywhere in the body through the blood. Their role is to identify the foreign particles which enter the body and then to destroy them. When T lymphocytes enter the bronchial airways, they check every cell to determine whether it is a safe cell or a foreign cell. When they find a foreign cell, then it releases chemical substances called cytokines. These chemical substances (cytokines) activate the B cells to convert

the plasma cell. The plasma cell produces IgE antibody that attaches to the IgE receptors of the mast cell, which are present on its surface. Mast cells are the specialised cells which are distributed in various systems of our body like inside the respiratory tract, over the skin, inside the GI tract etc. These mast cells contain tiny protein granules known as the histamines. When an allergen or antigen enters our body and makes passage in our airspace, it reacts and attach to IgE antibody and then IgE receptors on the mast cell. When the antigen and antibody reaction occurs the mast cell secretes histamines in the surrounding areas. These histamines have pro-inflammatory properties. So, when histamines attach to epithelial cells of the bronchial tube with H1 receptor presents on every cell surface the inflammatory process starts. So, this causes the inflammation of bronchial airways. Due to the bronchial inflammation, there is also mucus secretion around the areas (6).

2) Bronchial constriction – the bronchial inflammation leads to over secretion of mucus from the hyperactive mucus glands, thickening of the mucous lining of the airways and which makes the bronchial passage narrower and that results into bronchial constriction.

Besides these mechanisms, the inflammatory mechanisms at bronchial mucous lining sends some impulses to the vagus centre of the brain stem from afferent nerves ending of parasympathetic nerve fibres which are present in bronchial airways and then signals from vagal efferent pathway reach downwards again to the bronchial small airways and release acetylcholine from nerve ending which stimulate the smooth muscles fibres surrounding the bronchial tubes to be tighten more and more that result bronchial constriction and bronchospasm (7).

Sign of asthma

Rapid breathing along with chest retraction, Rapid movement of nostrils, Increased heartbeats/palpitation, Restlessness and feeling of uneasiness, stomach and Chest moving in and out rapidly and deeply, there is cyanosis reported in case of an acute asthmatic condition (8)

Symptoms of asthma

Coughing - In asthmatic condition, the airways are swollen. But body thinks that any outer substance is sticking on it, so it tries to expel out and produce a

cough. The more coughing occurs, the more bronchial spasm seen, and the discomfort is reported more. (19)

Wheezing – or whistling sound is produced when the airways are narrowed because of swelling of inner mucosal lining and mucus secretion.

Chest tightness – Due to inflammation of the inner mucus layer of the bronchus because of allergens and tightening of smooth muscles around the bronchial airways.

Shortness of breath - It occurs due to airways inflammation and restriction of space for free flow of air during respiration. Due to shortness of breath patient may express breathlessness or suffocation or be gasping for breaths.

Trouble in sleeping – Asthma generally worsens during night time it is because at night time the airways remain cool and airways passage is warm that's why during the night it gets worse. The second cause is the lying posture which unable the lungs to breathe comfortably. Therefore, allergens exposure in night leads to asthmatic peoples face difficulties in their sleep (9).

DISCUSSION

In the present systemic review, we reviewed Ayurveda, Homeopathy, Unani Allopathy, and yoga view on Asthma treatment and drawing inference out of this.

Ayurveda

Detailed differential diagnosis and description of a group of disorders leading to respiratory distress or dyspnoea are given in all the three major Ayurvedic compendiums. These respiratory diseases are collectively called svasa roga, of which five varieties are described. These include urdhva svasa, maha svasa, chinna svasa, tamaka svasa and sudra svasa. The tamaka svasa has literature about chronic and persistent bronchial asthma and considered as the only type of respiratory disease which can be controlled. Tamaka svasa described as a chronic condition which is characterised by cough, dyspnoea, airflow obstruction and wheezing with multifactorial aetiology, including emotional and environmental factors. However, the concept of atopy and hyperreactivity were unknown (10).

At initial stages in the disease pathology, if these symptoms and signs are recognised and adequately treated by elimination and pacification of the increased

doshas, asthma will not appear. Although, if left untreated and it further exuberated, Kapha will obstruct the movement of Vata in the chest area. Due to airway obstruction, Vata comes out of its normal srotas and spreads in all directions, with already aggravated Kapha Dosha. This leads to blockage of the three main channels in the chest region and a variable degree they became dysfunctional. These channels are namely Anna Vaha Srota (governs digestion of food), Prana Vaha Srota (governs respiration) and Udaka Vaha Srota (governs water distribution). At this point, the disease is no longer in its incipient stage, and asthma tamaka svasa has manifested (11).

Ayurvedic Asthma Treatment

Ayurvedic treatment of asthma based upon restoring digestion with herbal preparations and lifestyle changes including the right diet. The Ayurvedic medicines mainly work on elimination and pacification of Kapha and cleansing all toxins from the body. To increase the body's immunity, specific herbal remedies and combinations are also supplemented. The advice on diet & lifestyle is quite useful.

Home Remedies	Dosages
A mixture of a powdered black pepper, long pepper and dried ginger root in equal proportions.	Take ½ tsf of this powder and mixed with a ½ tsf of honey twice a day with lukewarm water.
11 black pepper 11 guava leaves, 1 cup milk and cup water. Boil all of them in a pot till it reduced to one cup	drink in empty stomach. Take this preparation daily for at least six months or a year
Boil cumin seeds in water and inhale the steam	It helps dilate the bronchial passage
5 gm of ginger, cardamom, black pepper, clove, turmeric, cinnamon and 30 gm of sugar. Grind the mix to a powder	Take ½ to 1tsf and mix it nicely with honey. Take it twice a day

Ksudra svasa is said to be curable, and it is the mildest form of svasa roga; it roughly corresponds to mild intermittent asthma. Tamaka svasa (asthma) is difficult

to cure and it is next mildest form of svasa roga. It corresponds to mild persistent asthma in the modern allopathic diseases classification. Asthma management is possible if the condition is of recent duration or if it occurs in a physically strong and healthy individual. In a weak individual, only palliation (i.e. alleviation) should be attempted.

The treatment has two main strategies:

- a) To eliminate the vitiated doshas, purification therapies (panchakarma).
- b) To establish normal physiological function in affected organs and tissues with the help of herbal treatments.

The Ayurvedic principle is to initially achieve control of the disease as quickly as possible with high Kapha and Vata purification methods which are then followed by accurate use of herbal therapies. Foods which are to be seldom used (apathya) or avoided include those which are heavy, sticky, cold, and mucous-producing. In addition, Ayurveda recommends reduced intake of raw foods to one-fifth of the total diet.

UNANI

The asthmatic condition can be effectively managed with Unani medicine which is an ancient traditional way based on natural ways of treating a disease. A brief knowledge of Unani medicine regarding how it can act in preventing asthma. It is also known as an Islamic medicine or Arabian medicine, as the Mughals in India once used it. It follows a humoral theory, which represents the presence of 4 'humour', which are Balgham or phlegm, Dum or blood, Sauda or the black bile and Safra or yellow bile. It is not a single medical treatment. Considering diseases to be the natural processes of the body, Unani medicine believes in restoring the balance between the body's power to control the body's reaction to the diseases.

Unani medicine Offers diet-therapy, regimental therapy and also pharmacotherapy which ensure that the body regains its self-healing power over the respiratory problem called asthma. Detoxification method of Unani medicine helps in defending the body's internal mechanism against asthma, the Unani regulation about the quantity and quality of food

alleviates the signs and symptoms of asthma. Also, the consumption of the natural drugs made from animals, plants, and minerals help in dealing with asthma in the best possible way (12).

Proven effective treatment in Unani are:

1. Take 5g from a mixture of ginger and 50g Trachyspermum (Ajwain Seeds)
2. Consume 1g from a mixture of 5g of Mahghz amaltas (Indian Laburnum), 10g of Abhal (Juniper Berry) and Ginger

Homeopathy

There are two ways homeopathy treatment helps asthma– It manages the acute asthmatic condition by both oral medicines and homoeopathic nebuliser developed by Dr Satapathy. The acute symptoms of asthma-like chest tightness, shortness of breath, coughing, wheezing sound are immediately required to control as fast as possible so the patient can breathe freely. In acute symptoms, medicines can be administered repeatedly from 30 minutes to 1-hour interval until the symptoms subside. In Homeopathy, there is no specific medicine for any particular health issues. One medicine may be given in different diseases when the symptoms of the disease are entirely identical homeopathically with the patient's symptoms. The selection of medicines depends upon the symptoms of the patient. But it is altogether true that Homeopathy has effective medicines for all acute symptoms. If correct medicine with accurate potency is given, it gives immediate relief to the patients (13).

Hence, a homoeopath has dual responsibility, i.e. to diagnosis the remedy and then to diagnosis the diseases. The active principle or alkaloid of all Homeopathy remedies has some specific therapeutic property. All the homoeopathic medicines and Dr.Satapathy nebuliser offers a long-lasting and rapid relief to the acute signs and symptoms of asthma. Although, there is a chance of reappearance of asthma symptoms when the patient is again being exposed to the triggers. It is because the person's immune system is still in the hyperactive state so whenever he gets exposed towards any allergens the symptoms will again reappear. To attain long-term cure, it is required to lower the hypersensitive immune system. An ideal

constitutional homeopathy remedy based upon history which physical, general mental symptoms, miasmatic background, past history of all health issues, family history of any diseases, and now medicine should be given for an optimal time so that it modifies the hypersensitive immune system. This type of homeopathy treatment is termed as classical homeopathy treatment (14).

Some important homeopathy medicines for bronchial asthma

Medicines	Uses
Aconite	Dry teasing cough that worse during the winter season or due to cold air
Arsenic alb	Asthma with wheezing sounds and tightness of chest, difficulty breathing
Ipecac	Where there is a more wheezing sound associated with a cough
Antim tart	In loose wheezing sound due to the chest is full with a cough but on coughing nothing comes out. Foraged person and children who cannot expel out the sputum spontaneously.
Ars iod	Allergic asthma
Aralia racemosa	Asthma is associated with more cough.
Baccilinum	This is generally prescribed as a constitutional remedy for asthma.
Blatta orientalis	Given in mother tincture/ lower potency to control the acute attack of asthma.
carbo veg	Asthma with a dry cough and an itching sensation in the larynx.
Coca	Asthma with shortness of breath and feeling of compression of the chest
Grindelia	chronic bronchitis and bronchial asthma problem.
Natrum Sulph	Asthma with a productive cough.

Sambucus	when blockage of nose especially in children and wakes up with a feeling of suffocation.
Calcarea carb	Obese with a lack of physical activities. It is the constitutional remedy
Nux vom	asthmatic complaint of digestive origin with dyspepsia (prominent)
Thuja occidentalis	Children with asthma which is worse in damp climate or season change.
Kali carb	In asthmatic attack comes at night, especially after midnight
Belladonna	In violent spasm with the tightness of chest along with constriction of throat.
Kali-bi	In asthmatic attack followed by coitus. Cough with thick ropy like expectoration.
Lycopodium	Asthma due to suppression, excitement, anger or emotion.

Yoga and Pranayam (breathing exercise) for asthma:

The breathing in asthma patient is faster than a normal person. Therefore, all the asthma patients are mostly mouth breathers. This results in their lungs expose to cooler and drier air. It is being reported in many clinical studies that along with any types of treatment if breathing exercise is added the cure rate is more. There are various types of breathing exercises which are very much beneficial for asthma patients including a deep breath slowly through your nose. When you inhale your abdomen should go out not the chest. Then hold the air for 5 seconds and exhale slowly, Savasana kriya, Bending pose of yoga and prayanam kriya respectively (15).

Allopathy

A comprehensive research report "A Global Strategy about Asthma Management and Prevention", which published in 1995, has reported detailed about asthma and translated, reproduced, and incorporated in many national guidelines. The 2006 report of asthma stated

that new important themes. Firstly, it reported that “it is necessary to control of the acute disease symptoms to be controlled” and concluded a change in therapeutic approach to asthma, with asthma control, and focus on treatment decisions. The importance of the patient-caregiver partnership, along with setting goals for treatment and guided self-management are also emphasised. The goals of healing a pharmacotherapy are the reduction of bronchial hyperreactivity, suppression of the inflammation of asthma and airway obstruction (16). The medicines which are used for these purposes belong to two groups:

Uses	Medication
Reliever (medications for symptomatic relief)	rapidly-acting inhaled beta ₂ sympathomimetic agents, e.g., the short-acting salbutamol, terbutaline, fenoterol and long-acting formoterol. Inhaled anticholinergics and rapidly-acting theophylline (drops or solution)
Preventive (medications for prevention and maintenance)	the inhaled corticosteroids, inhaled long-acting beta ₂ agonists such as salmeterol or formoterol, montelukast, and delayed-release theophylline.

Formoterol can be act as a reliever because of its rapid action for acute asthma or as a controller with inhaled corticosteroids.

- Administration of a short-acting inhaled beta two sympathomimetic agents in a dose of two inhalations q.i.d.
- Administration of theophylline with inhaled corticosteroids, which is as effective as a long-acting beta two sympathomimetic agent
- Inhalation of formoterol, which provides rapid relief and long-lasting effect
- Long-term systemic glucocorticoids, their risk/benefit ratio is similar to the ICS
- long-term montelukast, which has antihistaminic property and highly effective locally

CONCLUSION

Asthma is among one of the leading chronic morbidity of our times, with millions of patients worldwide and it is described as a chronic inflammatory disease of respiratory airways which is reversible either spontaneously or by therapeutic management. Although there are many allopathic treatment protocols including corticosteroids, bronchodilators which focuses on immediate relief and long-term control. Sometimes, mono-drug therapy is not effective against both the inflammatory and broncho-constrictive pathology of asthma. Therefore, in many patient’s combination therapies and different remedies are used in conjunction with their regular medications. It is concluded that therapies like Ayurveda, Unani, homeopathy, acupuncture and yoga should be incorporated in treatment therapies by medical practitioners. Results from various research reported alternative therapies for asthma to have a significant role in alleviating symptoms. However, well-organised clinical trials are further needed to elaborate on the efficacy of treatment protocols.

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