



RESEARCH ARTICLE

RELEVANCE OF HAHNEMAANIAN CONCEPTS IN THE MANAGEMENT OF BRONCHIAL ASTHMA ASSESSED BY IMMUNOGLOBULIN E (IGE), ABSOLUTE EOSINOPHIL COUNT (AEC) AND PULMONARY FUNCTION TEST (PFT)

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ABSTRACT

Bronchial Asthma is the most common respiratory disease which needs awareness among public. Homoeopathy is a unique system of medicine which treats the patients based on symptoms and individually considering the susceptibility of the person affected. In recent era more research are done to focus on controlling and relieving the symptoms of Bronchial Asthma.

Key words:

Absolute Eosinophil count, Allergy, Bronchial Asthma, Homoeopathy, Immunoglobulin E., Pulmonary function test.

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INTRODUCTION

Bronchial asthma is one of the most important health issues all over the world. It is found that about 300 million persons are affected by bronchial asthma globally. 15-20 million patients are there with bronchial asthma in India, in which 10-15% was between the ages of 5-11 (Epidemiology and costs of chronic obstruction pulmonary disease, 2015). It affects one in four children in urban areas. (VemulaKumar Sateesh, 2011) Allergy is a condition in which there will be biological and immunological alteration causing abnormal physiological activities. Most common available allergic diseases are asthma, allergic rhinitis and hay fever which plays important role in development of diseases. (Parveen, 2009) Due to the high prevalence and quick rapid development asthma is more focused globally to seek happy and peaceful life. (VemulaKumar Sateesh, 2011)

Review of Literature

Homoeopathy is a system which needs to be proved scientifically to compete with other systems of treatment. A clear complete study of Bronchial asthma and homoeopathic treatment is required due to the growing familiarity of homoeopathic system among people all over world in the recent era. (Lewith *et al.*, 2002) Immunity is considered as equal to Isopathic or Homoeopathic systems which causes rise in temperature due to stimulation of vital force. (Sarkar, 2013-2014) But Immunoallergology is a branch which deals about the changes and alteration happening due to administration of diluted substances into a living organism. Homoeopathy is also related to this concept which proves its merit when compared to the other system of medicine. (Sarkar, 2013-2014) Bronchial asthma is one of the most common and frequent allergic disease which seeks nearby homoeopaths by the public. (Eizayaga Xavier Francisco *et al.*, 1996)

Different approaches in prescription, Importance of evaluation & Hierarchy of prescription

Hierarchy is a method in which symptoms are ranked and given priority according to relative status. Evaluation of

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symptoms is a process of grading and analyzing the symptoms according to its importance. Totality of symptoms are the symptoms which plays an important role in selecting a remedy. (Sarkar, 2013-2014) Dr. Samuel Hahnemann classified symptoms into Characteristics and Generals. (Samuel Hahnemann, 1990) Dr. Von Boenninhausen considered changes in personality and temperament, nature and peculiarities of disease, seat of the disease, concomitants, the cause, the modalities and the time as characteristics. (Boger, 1991) James Tyler Kent gives importance to generals first followed by particulars and lastly to common symptom (Kent James Tyler, 1889). Dr Richard Hughes pointed out the relevance of generic, specific and individual similarity between disease and drug action. Generic similarity indicates that the drug should be capable of producing the suffering from which the patient is suffering, specific similarity includes seat of disease, kind of action, modification of disease which its originating cause impresses, character of pain and sensation, and concomitance. Individual similarity includes type of patient, mental and moral state, aggravation and amelioration, side of body, and time of day. (Richard Hughes, 1985) Herbert A. Roberts emphasis that individuality and personality of patient is given first priority. He ranks general symptoms as top grade symptoms followed by objective symptoms. Hahnemann gives top priority for strange, rare and peculiar symptoms. (Herbert A Roberts, 2012) Though the signs and symptoms are evaluated differently Hahnemannian classification as characteristics remains unique, classical and feasible in almost every cases.

Definition

Bronchial Asthma is characterized by variable flow limitation and airway hyperresponsiveness (AHR) caused by structural changes and airway inflammation. (Chakir *et al.*, 2010) In India it is found that usually bronchial asthma is present with history of food sensitization and 2-8% of persons are estimated to be suffered with bronchial asthma along with rhinitis. (Raj Kumar, 2013) Aetiologically, genetic factors are seen in 35-70% of asthmatics. (Natalya V. Kukhtinova, 2012) and factors like allergens, infection, emotional disturbances can provoke asthma. (Raj Kumar, 2013) Cold air, infection due to viruses, irritants, physical exercises and allergens can cause bronchial hyperresponsiveness. (Lama *et al.*, 2013) Several studies proved that asthma is more prevalent due presence of House Dust Mites.¹⁷ Housing environment especially in low socio economic families can predispose for development of asthma. (Parveen, 2009) Inflammation is the hallmark of bronchial asthma, which results in airway hyper-responsiveness and resistance to flow in the lower airways of lungs. (Lewith *et al.*, 2002; Eizayaga Xavier Francisco *et al.*, 1996) Air flow obstruction starting from mild to severe form were found in asthmatic individuals. (Raj Kumar, 2013) Clinically Bronchial asthma is classified as atopic and non-atopic. Atopic Asthma is a form of asthma where it starts before the age of 6 and having sensitivity to allergens and has tendency to cause bronchial hyper responsiveness in asthmatic individuals and it can extent to adult life also. Non- Atopic Asthma is a form of asthma which starts from 2nd, 3rd year and persists till age of 13. (Natalya V. Kukhtinova, 2012) Bronchial asthma presents with features like cough, shortness of breath, chest tightness and wheezing. Severe dyspnea associated with intermittent obstruction of airways gives indication of allergic asthma. (Barrios *et al.*, 2006) Diagnosis of Bronchial asthma can be done by pulmonary function test, absolute eosinophil count

levels, Serum IgE levels, skin prick test and Skin patch test. Baldacci *et al.* (2001) states that there are some allergic markers which helps in detecting the atopic individuals which includes increased serum IgE levels, positive skin prick test and blood eosinophilia. (Yousry, 2012) Recent studies proves that five biochemical parameters which includes histamine release, eosinophil cationic protein, total and specific serum immunoglobulin E and absolute eosinophil count as important markers to identify house dust mites activity and intensity in bronchial asthma. (Yousry, 2012)

It is found that there is inter-relationship between the levels of IgE and asthmatic attack. There is direct proportional in between these two factors. (Raj Kumar, 2013; Lama *et al.*, 2013) Concentration of IgE increases by the age of 14 years and usually reduces at the age of 70. Normal levels of serum IgE is estimated upto 120 IU/ml. (Jagadeeshwar *et al.*, 2012) Burrows and his colleagues found a close correlation between serum IgE levels and the bronchial asthma. (Lama *et al.*, 2013) According to Afshari *et al.* there is considerably increased levels of serum IgE and IL-4 in asthmatic individuals than in non-asthmatic individuals. (Lama *et al.*, 2013) The relationship between the absolute eosinophil count and asthma is clearly well known for the past few decades. (Jagadeeshwar *et al.*, 2012) But afterwards Satwani *et al.* demonstrates that increased serum IgE levels with eosinophilia will be one of the hall mark in diagnosing Bronchial asthma. (Satwani *et al.*, 2009) The normal Peripheral eosinophil percentage was 0-6% while the normal absolute eosinophil count is considered to be 40-440 cells/ mm³. (Jagadeeshwar *et al.*, 2012) Spirometry is an instrument which is used to evaluate the structural abnormalities of the respiratory tract in bronchial asthma. By this instrument we can assess the lung function during asthmatic attack to identify the clinical presentation, severity and the management to be done. (Shital S. Bhattad *et al.*, 2013) By the pulmonary function test the assessment of bronchial asthma is done by evaluating the values of FEV1, FVC, FEV1/FVC. FEV1/FVC is the percentage of the vital capacity which is expired in the first second of maximal expiration. In healthy patients the FEV1/FVC is usually around 70%. In patients with bronchial asthma FEV1/FVC decreases and can be as low as 20-30% in severe asthma. Differential diagnosis for bronchial asthma includes chronic sinusitis, chronic bronchitis, food allergy, gastro-esophageal reflux disease, obstructive sleep apnea, allergic rhinitis, eczema, urticaria, respiratory tract infections, atopic dermatitis, and eosinophilic disorders of the gastrointestinal tract, hyper-IgE syndrome. (Muditaarora, 2008)

Methodology

Study was conducted in the patients who were attending the outpatient, inpatient units and peripheral centers of Vinayakamissions homoeopathic medical college hospital, Salem. Out of 171 patients 149 continued treatment and all 149 patients were selected for this prospective study by using purposive sampling technique. Permission from ethical committee of VMHMC&H was obtained before implementing the research. Written consent was obtained from all the patients. The study was conducted for a period from 01.03.2013 to 30.09.2014.

Criteria adapted for study

- a) **Inclusion criteria:** Patients with bronchial asthma and having the symptoms such as daytime coughing,

wheezing, and shortness of breath, chest tightness; night-time coughing and wheezing were selected for the study.

- b) **Exclusion criteria:** Patients with status asthmaticus, patients who were taking other system medicines for treating any illness (Allopathy, Ayurveda, Siddha and Unani) and patients with other complications, uncooperative patients.

Case selection, prescription and follow up: After obtaining written consent, complete case recording was done. Blood sampling was collected from each patient and sent for measuring IgE, AEC. Quantitative Assay for total IgE antibodies by using BIORAD 680 Micro Plate Reader was used to measure IgE level. Normal level of AEC is 40 to 440 cells/ cumm. By using Swel lab 920 EO+ measurement of AEC was done. Pulmonary function test was done by the researcher and recorded; Each case was analyzed and evaluated and treatment was given according to the homoeopathic philosophy. Patient's history and clinical examination were recorded in a standard case sheet performa. Analysis and evaluation as per Hahemann's method was done. Rubrics were selected from synthesis repertory by Scroyens and repertorization was done to make a similimum. Patients were asked to visit monthly once. Two doses of exact similimum followed by plain saclac pills for one month were given and patients were advised to report immediately if any discomfort they felt in between. Potencies were selected according to the symptom similarity, susceptibility and chronicity of disease. Repetition of medicines was done when there is standstill of symptoms or when there is recurrence of symptoms. Average period taken for repetition of medicines ranges from 1 month to 3 months. 30th potency was rarely used in this study. 200th potency was given in the 1st visit of the patient as constitutional remedy and as acute remedy for acute diseases due to maintaining cause. 1M potency was given monthly once. 10M potency was administered after exhaustion of action of repeated doses of 1M potency. 10M were given trimonthly or after the exhaustion of action of previous dose. 50M potency was not used in any patients. Patients were advised to approach the investigator if there is any necessity. This procedure was repeated every month. Patient's level of

IgE was monitored monthly, level of AEC was monitored once in 3 months and readings of PFT were monitored monthly. Kruskal Wallis test and Wilcoxon signed rank test were used for the statistical analysis. Prospective study was used to conduct the study.

RESULTS

All patients included in this study had IgE level of more than 188 IU/mL. 30 patients had range between 189 – 376 IU/mL, 31 patients had a level between 377 – 564 IU/mL, 42 had a level 753 – 940 IU/mL, 7 had a level of 941-1128 IU/mL and 1 had level of more than 1317 IU/mL before administration of drugs. After administration of indicated homoeopathic drugs the results shows a shift to left with number of patients with higher levels reducing to lower levels. 27 patients came to normal level of less than 188 IU/mL, the number of patients increased to 47 from 30 in the group 189 – 376 IU/mL. This shift of IgE levels from right to left shows study was significant and there is a definite evidence of action of homoeopathic medicines on the IgE level reduction. Sulphur was indicated in 56 (37.6%) patients. Of this 48 (32.2) patients showed reduction in IgE and 5.4% not showed any reduction in IgE. Arsenicum album was indicated in 27 patients of which shown good reduction in IgE levels are 26 patients except in 1 patient where there is no reduction of IgE. Pulsatilla was indicated in 10 patients out of which 9 of them showed reduction in IgE and 1 patient shows no reduction in IgE levels. The remaining drugs such as Conium maculatum, Ferrum iodatum, Graphities, Lobellia inflata, Meddorrhoninum, Mercurius solubulis, Natrum arsenicum, Psorinum, and Sangunuria given in lowest percentage (0.7%) of patients where patient have shown reduction of IgE levels. This shows that study is significant and the result will be effective only when single indicated remedy with proper potency is selected. 109 patients had the absolute eosinophil count value <440 before treatment, which was increased to 140 patients after treatment. 4 patients had the absolute eosinophil count level of 641-840 and 2 patients had the level of 841-1040 before treatment but none of them had these values after treatment. This proves that homoeopathic medicine has effect on reducing the absolute eosinophil count levels when it is administered on the strict basis of homoeopathic principles.

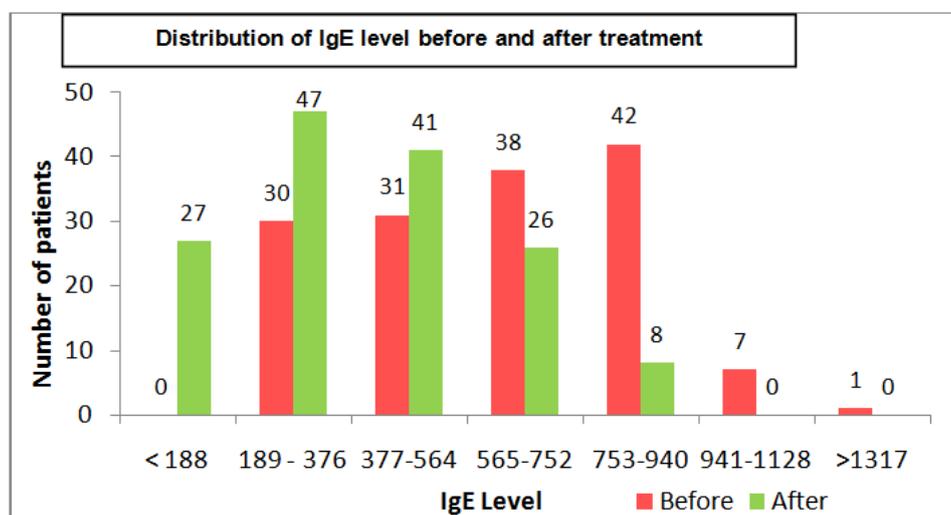


Figure 1. Distribution of IgE level before and after treatment

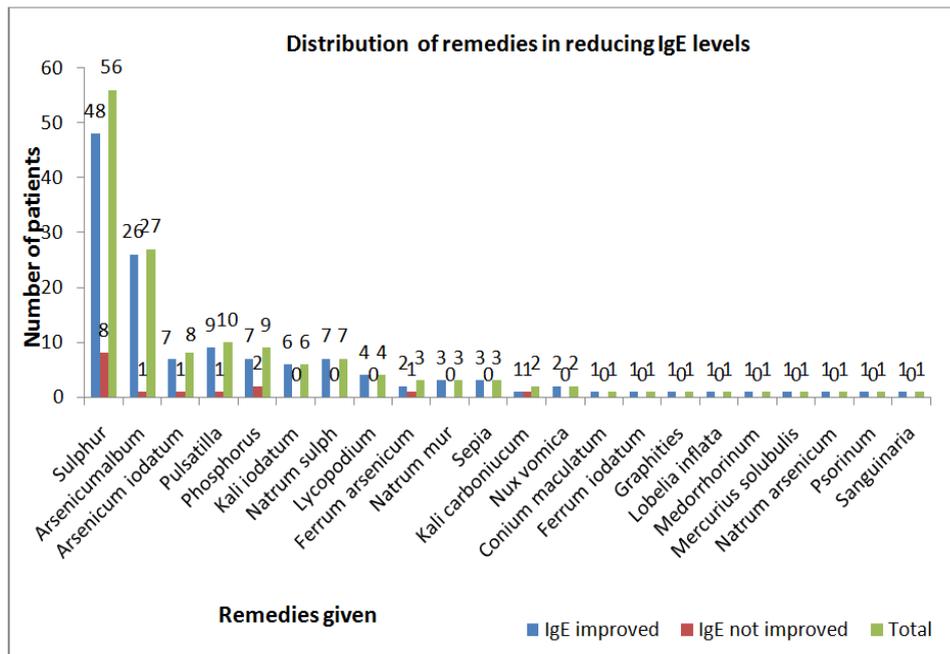


Figure 2. Distribution of remedies in reducing IgE levels

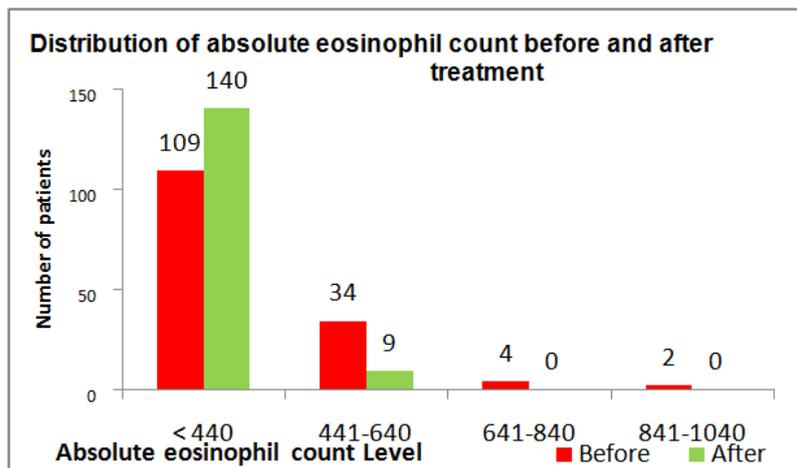


Figure 3. Distribution of absolute eosinophil count before and after treatment

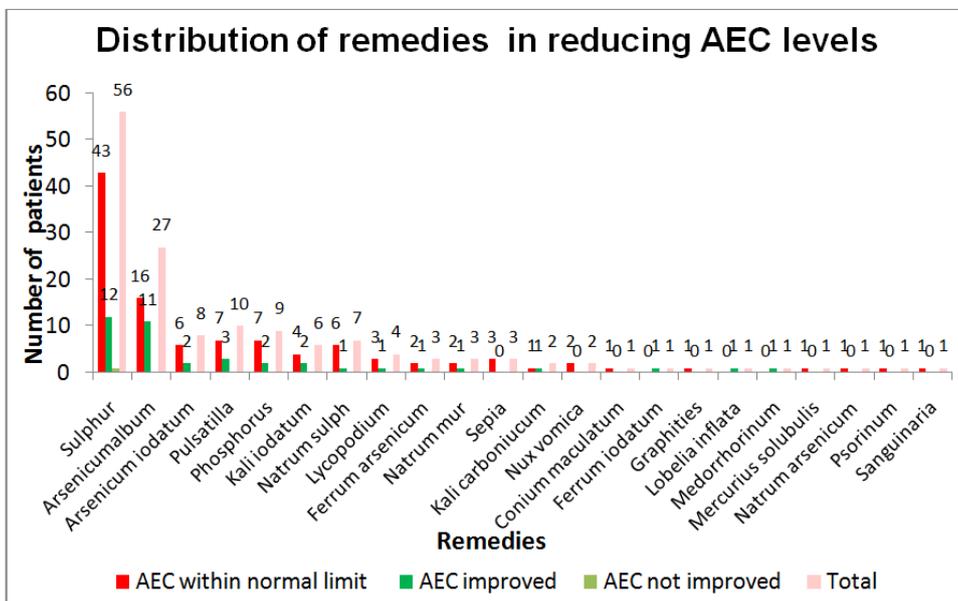


Figure 4. Distribution of remedies in reducing AEC levels

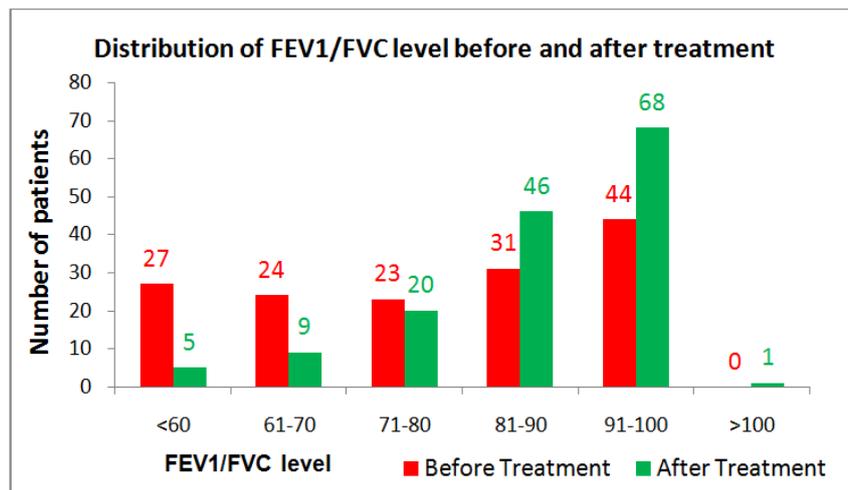


Figure 5. Distribution of FEV1/FVC level before and after treatment

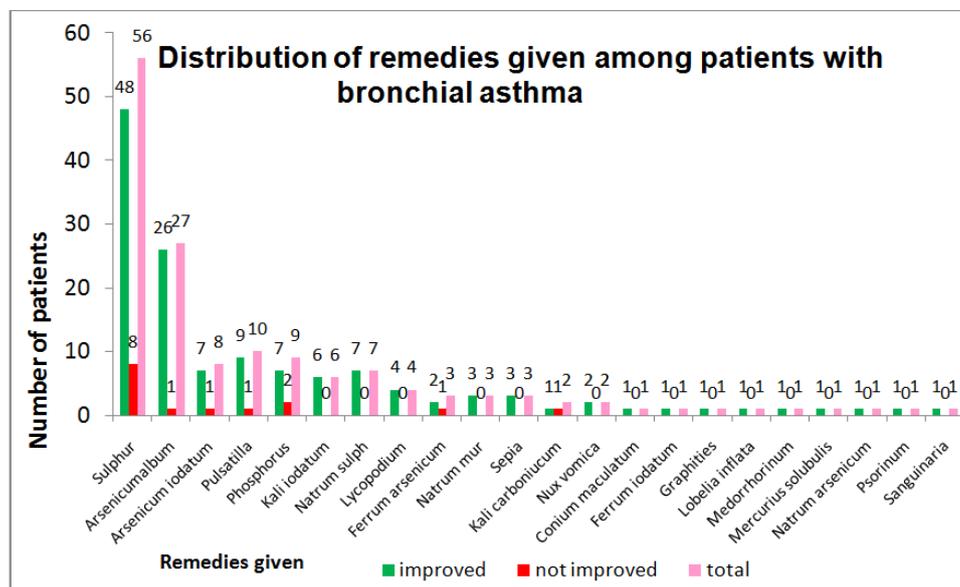


Figure 6. Distribution of remedies given among bronchial asthma patients

Sulphur was given for most of the patients with bronchial asthma have shown good improvement in reducing the level of Absolute eosinophil count. 43 patients had Absolute eosinophil count level within normal limit and 12 patients have shown improvement, whereas only one patient does not have improvement while under treatment by using the drug Sulphur. Next to Sulphur, Arsenicum album was found to be effective in reducing Absolute eosinophil count level. The other drugs also found to be effective in reducing Absolute eosinophil count level which shows effectiveness of homeopathic remedies on reducing Absolute eosinophil count levels. This shows that single indicated medicine will have the ability to reduce the absolute eosinophil count level when it is prescribed on basis of symptom similarity. 27 patients had FEV1/FVC value of < 60 [V (L)] before homeopathic treatment which were reduced to 5. The number of patients in the level of 91-100 [V (L)] of FEV1/FVC increased to 68 from 44 and that of group between 81-90 [V (L)] of FEV1/FVC increased to 46 from 31. Three were a shift to right indicating significance of homeopathic treatment in improving FVC, FEVI and FEV1/FVC levels and also shows evidence of improvement in the pulmonary function. Remedies mostly used in higher frequency was Sulphur (37.58%), followed by Arsenicum

album (18.12%). The remedies used with least frequency (0.67%) were Sanguinaria, Psorinum, Natrumarsenicum, Mercurius solubilis, Medorrhinum, Lobelia inflata, Graphites, Ferrumiodatum and Conium maculatum.

DISCUSSION

A study by Noha S. Elshaer *et al.* states that there is reduction in FEV1/FVC values in bronchial asthma can be made reversible with indicated homeopathic remedies which is correlated with our study. This study correlates the statement of association of definite proportional increase in IgE level with bronchial asthma, by Baldacci *et al* and statement of association of bronchial asthma with eosinophilia by Satwani *et al.* Further this study also correlates the finding of sulphur as the remedy which is highly indicated in bronchial asthma by Castellsagu.

Conclusion

Finally the study concludes that homeopathic treatment can modulate the immunoglobulin E, Absolute eosinophil count

and Pulmonary function levels with proper indicated homoeopathic medicines.

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