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A Clinical Study on Efficacy of Solanum Lycopersicum 30 in Management of Allergic Rhinitis

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Abstract

Background: Allergic rhinitis is an immunological disorder in which exposure to allergens triggers Ig E mediated hypersensitivity reactions. It is characterized by rhinorrhea, nasal obstruction, nasal congestion, and sneezing. Though a non-life-threatening condition it can affect the quality of life of a person. The homoeopathic system of medicine identifies the individuals' susceptibilities and helps in providing a lasting relief to patient.

Aims and Objectives: To assess the effectiveness of homeopathic remedy Solanum lycopersicum 30 in reducing symptoms of allergic rhinitis. To measure the changes in serum IgE and AEC in cases of allergic rhinitis.

Methods: A non-randomized single group pre and posttest study on 27 subjects with allergic rhinitis was conducted. The patients were administered Homeopathic remedy Solanum lycopersicum 30. Study outcome measures included symptomatic relief and serum Ig E and Absolute Eosinophil Count in subjects.

Results: Out of the 27 patients, 22 patients (81.4%) showed symptomatic relief with the remedy, and 19 (76%) patients had a reduction in serum IgE level ((1043.5±370.5, 972.1± 888, p=0.15) and 17 patients (62.9%) showed a reduction in serum AEC levels (568.8±516.6, 447.1±275, p=0.06.) However, the remedy did not produce a statistically significant changes in serum IgE and AEC values. The changes in serum AEC were more marked than that of Serum IgE values.

Conclusion: The preliminary findings indicate potential benefit from Homeopathic remedy Solanum lycopersicum 30 in symptomatic relief, but it does not show a statistically significant change in serum IgE or AEC levels.

Abbreviations: AEC-Absolute Eosinophil Count, AR-Allergic Rhinitis.

Keywords: Homeopathy, allergic rhinitis, totality of symptoms, solanum lycopersicum

Introduction

Allergic rhinitis is a disorder of upper airways resulting from IgE mediated inflammation upon contact of nasal mucosa with allergens and is characterized by rhinorrhea, nasal pruritus, sneezing, congestion, and nasal obstruction, occasionally associated with conjunctival symptoms while two or more symptoms occurring for more than one hour on most of the days [1, 2, 3]. It is observed that majority of the patients are allergic to house dust mites irrespective of the geographical location. Most common precipitating factors for allergy are dust exposure, followed by seasonal changes [4, 5].

The homoeopathic remedy Solanum lycopersicum or Lycopersicum esculanatum is prepared from the ripe fruit or whole fresh plant of tomato. The homoeopathic Materia Medica mentions the symptom under remedy Solanum lycopersicum '*hay fever marked aggravation from breathing dust, and in outdoors.*' [6, 7] Studies show that if a person has a grass pollen allergy, he or she will often become sensitive to tomatoes because they both contain a type of protein known

as profilin. While the profilins in tomatoes are not identical to those in pollen, they are close enough to trigger an allergic response [8, 9].

Allergic disorders are not usually life-threatening conditions but they impair the person's ability to function. It thus adversely affects the psychological wellbeing and quality of life [10]. Hence, we conducted this study on the therapeutic utility of Solanum lycopersicum 30 in the management of allergic rhinitis using blood parameters like serum IgE and AEC for the clinical verification.

Materials and Methods

A single arm, experimental, prospective, nonrandomized, non-controlled, short-term, before and after comparison pilot trial was carried out on patients suffering from AR at Father Muller Homoeopathic Medical College during the period of 2020-2021.

The calculated sample size was 26, and a total of 35 patients were recruited considering the attrition rate. The study

commenced after obtaining the ethical clearance from Father Muller Research centre. (CTRI/2020/03/024215)
 Samples were chosen from the out-patient department of the hospital and only those fulfilling the eligibility criteria were recruited in the trial after obtaining their written informed consent.

Inclusion Criteria

- Diagnosed cases of Allergic rhinitis of minimum 1 year duration.
- Both intermittent (seasonal and perennial) and persistent varieties of Allergic rhinitis, both mild and moderate to severe Allergic rhinitis.
- Age between 18 and 65 years.
- Both sexes.

Exclusion Criteria

- Cases with gross nasal developmental defects or structural abnormalities causing obstruction, e.g. nasal polyps, deviated septum.

- Respiratory infection, cases with severe/uncontrolled bronchial asthma,
- Presence of severe systemic diseases like cardiovascular, endocrinal, renal etc.,
- Pregnancy, breast feeding,
- Oral or parenteral steroids or decongestant in past 6 months

The subjects fulfilling the criteria underwent serum immunoglobulin E level and absolute eosinophil count. The medicine Solanum lycopersicum, 30 was prescribed for all the subjects, the dosage and repetition were decided as per need of the case. The follow ups were called for every two weeks and subjects are assessed. The cases were followed for a period of minimum 3 months. The investigations repeated after the intervention. Pre-trial and post-trial data obtained was verified and analyzed using statistical paired t test. Only the protocol compliant patient population from the treated/enrolled population were subjected to statistical analysis in the end. The study flow diagram was as follows

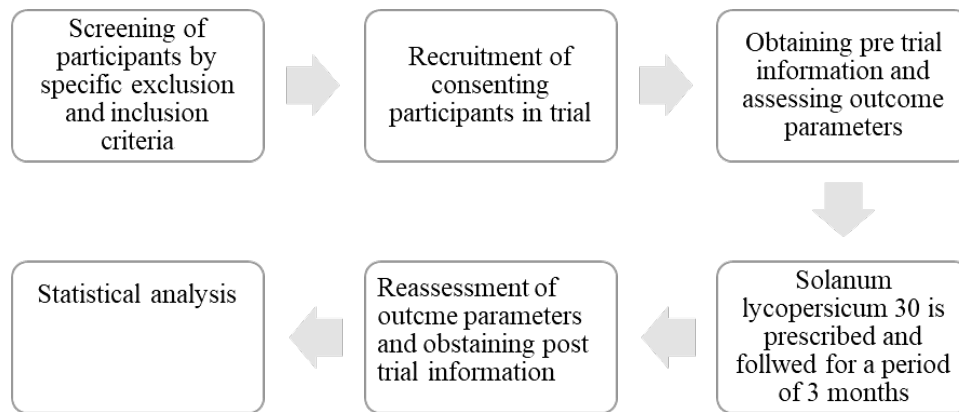


Fig 1: Study flow chart

Results

Out of the 35 recruited patients 27 patients completed the trial and 8 were dropout during follow-ups. Demographic data revealed that most of the patients were in 18-30 years age group and the mean ± SD expression of study sample was 31.3±11.4.

Table 1: Distribution of cases among age groups

Age group (in years)	No. of cases
18-30	16 (59.2%)
31-40	3 (11.1%)
41-50	7 (25.9%)
51-60	1 (3.7%)

In the study population 17 (62.9%) were females and 10(37.0%) were male patients. The study population was almost equally distributed among upper (n=15,55.5%) and lower (n=12, 44.4%) middle class socioeconomic status. The symptoms presented by patients included sneezing (n=23, 85.1%), rhinorrhoea (n=21, 77.7%), aggravation from indoor and outdoor dust exposure, (n=17, 62.9%), eye irritation, and nasal congestion. Out of the 27 patients, 22 patients (81.4%) showed symptomatic relief with the remedy, and 19 (76%) patients had a reduction in serum IgE level ((1043.5±370.5,972.1±

888, p=0.15) and 17patients (62.9%) showed a reduction in serum AEC levels (568.8±516.6, 447.1±275, p= 0.06.) However, the remedy did not produce a statistically significant changes in serum IgE and AEC values. The changes in serum AEC were more marked than that of Serum IgE values.

Table 2: Serum values before and after treatment

Serum values	Pretest	Post test	P value
IgE	1043.5±370.5	972.1± 888	0.15
AEC	568.8±516.6	447.1±275	0.06

Discussion

The study was conducted on a small sample size without a control arm, thus in future further studies by comparing with other potencies of the drug, or with individualized homeopathic constitutional remedies, along with a symptom relief score must be taken up to validate the data obtained from this study. The homeopathic literature mentions following as the indication of Solanum lycopersicum in allergic rhinitis:-hay fever, with marked aggravation from breathing least dust, profuse watery coryza excoriating alae, drops down throat, itching in anterior chamber, better indoor, and worse outdoors. Itching and tickling in roof of mouth. It also produces Hoarseness Hoarseness: with constant tickling in pit

of throat; with constant desire to clear throat and Dry, hacking cough coming on at night and keeping him awake.

The limitation of this study was that after selecting Solanum lycopersicum 30 as medicine for patients at baseline, the investigators were supposed to continue the same medicine during follow-up period, which contradicts the routine homeopathic practice where there could be requirement of change in prescription. Individualised treatment by a homeopath, regarded as the gold standard of homeopathic care, thus achieving the required sample size of patients with allergic rhinitis and the symptomatology of Solanum Lycopersicum posed a difficulty.

Conclusion

The study findings were encouraging and our data suggest that Homeopathic remedy Solanum lycopersicum 30 is effective in producing symptomatic relief in patients with allergic rhinitis. But the study results do not show a statistically significant changes in serum IgE or AEC levels.

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