

EVALUATION OF SOFT NASAL FILTERS IN INHALANT ALLERGIES IN LUDHIANA

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One hundred patients suffering from various allergic disorders due to inhalants were advised to use soft nasal filters. They included 46 patients of urticaria, 44 patients of bronchial asthma and 10 patients of allergic rhinitis. The response was excellent in 47%; good in 32% and poor in 21% cases. The acceptance rate was 80%. The main reasons for non-acceptance were foreign body sensation, increased nasal secretions and cosmetic problem. The main drawback in soft nasal filters was their short life because these did not last for more than six months even when used under standard conditions.

Key words : Nasal filter, Allergy, Inhalant.

It is well known that attacks of any allergic disorder can be avoided if the antigen is prevented from entering the patient's body. In allergy due to inhalants, the antigen ordinarily enters the body through the nose. This suggested that it might be possible to prevent the entry of the antigen by placing a suitable filter at the level of the nostrils.¹

The nasal filter is a mechanical device meant to relieve patients having asthma, allergic rhinitis, urticaria, atopic dermatitis or any other allergic disease caused by inhalants.² An attempt to study the filtration efficiency of aeroallergenic pollen and fungal spores quantitatively using Tilak volumetric air sampler with and without nasal filter wire gauze, as used in the nasal filters revealed the filtration from 33.3 percent to 95.4 percent for the pollen and 41.5 percent to 63.5 percent for the fungal spores³ depending upon the size of the pollen/fungal spores.

The present study was conducted primarily to evaluate the efficacy of soft nasal filters in patients suffering from inhalant allergies.

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Materials and Methods

One hundred patients suffering from allergy due to inhaled antigens were selected for the study based on the criteria as described by Pasricha.⁴ The causative agents of inhalant allergy were detected by performing intradermal tests with various antigens e.g. pollens, fungi, dust and dander. Nasal filters were given to only those patients who showed positive intradermal tests with inhalant allergens and showed improvement in their symptoms by using cloth mask for 48 hours.⁴ All the patients were advised to use nasal filter continuously for a period of 4 weeks. Clinical response of each patient was recorded in regard to the severity of symptoms, frequency of attacks and decrease in the requirement of drugs for symptomatic relief.

The clinical response was considered, (1) Excellent if there was a marked reduction in the severity and frequency of attacks requiring no administration of drugs for symptomatic relief; (2) Good if there was a moderate reduction in the severity and frequency of attacks requiring occasional administration of drugs for symptomatic relief; and (3) Poor if there was no change in the severity and frequency of attacks.

Results

One hundred patients selected for this study included 46 patients of inhalant urticaria, 44 of bronchial asthma and 10 of allergic rhinitis. There were 52 males and 48 females ranging in age between 5 and 70 years. Results of intradermal tests are depicted in table I. Majority (61%) of patients were sensitive to pollen.

Table I. Results of intradermal tests.

Disease	Number of patients with a positive intradermal test to			
	Pollen	Insect antigens	Fungi	Dust
Inhalant urticaria	26	11	9	0
Bronchial asthma	31	5	4	4
Allergic rhinitis	4	1	2	3
Total	61	17	15	7

Results of clinical response are shown in table II.

Table II. Clinical response of patients to nasal filters at the end of 4 weeks.

Disease	Total number of patients	Number of patients with the response		
		Excellent	Good	Poor
Urticaria	46	16	12	18
Bronchial asthma	44	26	16	2
Allergic rhinitis	10	5	4	1
Total	100	47	32	21

Correlation of the clinical response with the results of intradermal tests is shown in table III.

Table III. Correlation of the clinical response in relation to the causative agent.

Clinical response	Percentage of patients having positive intradermal tests with			
	Pollen	Insect antigens	Fungi	Dust
Excellent	47.5	47.1	40	57.1
Good	27.8	35.3	40	42.8
Poor	24.5	17.7	20	0

The rate of acceptance and the side effects are shown in table IV.

Comments

The response to the nasal filters was excellent in 47%, good in 32% and poor in 21% patients. All the patients suffering from diseases caused by dust particles showed excellent or good response whereas approximately 25% patients suffering from pollen allergy, 20% patients having allergic disorders due to fungi and 18% patients due to insect antigens did not respond. The acceptance rate was to the tune of 80%. The drawbacks in the use of soft nasal filters were the foreign body sensation and increased nasal secretions in 7% each respectively, difficulty in breathing in 2% and cosmetic unacceptability in 4% patients. The acceptability was much more in bronchial asthma patients than in inhalant urticaria patients. The reason probably lies in the fact that the patients of bronchial

Table IV. Acceptance rate and side effects with soft nasal filters.

Type of inhalant allergy	Total number of patients	Number of patients showing				
		Acceptance	Non-acceptance			
			Foreign body sensation	Cosmetic problem	Increased nasal secretions	Difficulty in breathing
Urticaria	46	33	4	3	4	2
Bronchial asthma	44	41	1	1	1	0
Allergic rhinitis	10	6	2	0	2	0
Total	100	80	7	4	7	2

asthma had a more serious disease as compared to urticaria patients and they found it more beneficial in relieving their symptoms, even though the filters caused them a little inconvenience in the form of foreign body sensation or cosmetic unacceptability.

The patients who found the soft nasal filters indispensable had to face some inconvenience of changing them at frequent intervals, because even when kept under standard conditions, the soft nasal filters did not last for more than six months.

References

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