

Diagnostic importance of Nasal smear Eosinophil in Vataja Pratishayaya (Allergic Rhinitis): An Observational Study

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Abstract

Vataja Pratishayaya presents with symptoms as *NasagataTanusrava*, *Kshavatu* and *Nasavarodha* which are similar to allergic rhinitis. The value of detecting eosinophil in nasal secretions amongst patients with allergic rhinitis has already been reported. Thus it is hypothesized that detecting eosinophil in nasal secretion may be an important tool in diagnosing *Vataja Pratishayaya*. The aim was to establish the validity of nasal eosinophilia in *VatajaPratishayaya*, to study its various clinical correlates and interpret it in *Pratishyaya*. *Pratishyaya* patients were selected randomly irrespective of age, sex, and religion from the OPD of KLEU's Shri BMK Ayurveda Hospital Belgaum, Karnataka. 30 patients were diagnosed on the basis of history and clinical examination of *Pratishyaya*. Following inclusion into the study, nasal smear eosinophil count & blood AEC (Absolute Eosinophil Count) were performed on all the patients. The results from the study show that *VatajaPratishayaya* is more of allergic in nature as Eosinophil has been found significantly ($p < 0.01$) more than in other *Pratishyaya*. Absolute Eosinophil Count have also been found more in *VatajaPratishayaya* significantly ($p < 0.001$) than in *Pittaja* and *Kaphaja*. Overall, seventy six percent of nasal smears were positive in *VatajaPratishaya*. However results of our study were in as a diagnostic value of *VatajaPratishayaya*. Nasal smear eosinophilia was found to be a useful diagnostic test in *VatajaPratishayaya*.

Keywords: *VatajaPratishaya*; Nasal smear eosinophil; Allergic rhinitis; Absolute eosinophil Count.

Introduction

The Allergic Rhinitis is an IgE-mediated immunologic response of nasal mucosa to airborne allergens and is characterized by watery nasal discharge, nasal obstruction, sneezing and itching in the nose.[1] The value of detecting eosinophil in nasal secretions amongst patients with allergic rhinitis has already been reported.[2] Most textbooks on allergy comment on the frequent presence of eosinophil in nasal mucus of seasonal allergic rhinitis patients. *Vataja Pratishayaya*, *anasagataroga* and one among five types of

Pratishyaya[3] present with similar symptoms as *Nasagata Tanusrava*, *Kshavatu* and *Nasavarodha*. [4] Thus it is hypothesized that detecting eosinophil in nasal secretion may be an important tool in diagnosing *Vataja Pratishyaya*. If the test is recognized as valuable in allergic rhinitis, there are obvious indications for its use in *Vataja Pratishyaya*. Hence the present study was planned to evaluate the diagnostic value of nasal smears for eosinophilias as a simple, non-invasive and inexpensive method for diagnosing *Vataja Pratishyaya*.

Objective

The aim was to establish the validity of nasal eosinophilia in *Vataja Pratishyaya*, to study its various clinical correlates and interpret it in *Pratishyaya*.

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Materials and Methods

Source of the Patients

30 patient of *Pratishyaya* were selected randomly irrespective of age, sex, and religion from the OPD of KLEU's Shri BMK Ayurveda Hospital Belgaum, Karnataka.

Inclusion Criteria

Diagnosed case of *Pratishyaya* within the Age 10 to 50 years and having the disease course less than a year were included.

Exclusion Criteria

Participants who were on antihistamines, nasal sprays and/oral corticosteroids, for 24 hours prior to the test, and complication of *Pratishyaya* were excluded.

Methodology

The study was initiated after getting clearance from Institutional ethical committee. 30 patients (12 female and 18 male) diagnosed on the basis of history and clinical examination of *Pratishyaya*, were selected for the study. Nasal smear eosinophil count & blood routine were performed on all the patients. Nasal smear was performed by scraping the mucous membrane over the inferior turbinate using a sterile air dried cotton applicator & transferred to a glass slide. The slide was stained with May Grunwald & Giemsa stain. A smear was considered positive for eosinophilia when there was more than 10% eosinophil of total leukocytes in each high power field (X

Table 1: Showing the Age Pattern of *Pratishyaya*

Age	No of patient	Percent (%)
10-20	07	23.33
20-30	08	26.66
30-40	12	40
40-50	03	10

40) of microscopic slide. Blood routine was performed on standard procedure done.

Statistical Analysis

Statistical analysis was performed using graphpad prism. The baseline data was expressed as percentages & proportions. Chi square test & unpaired 't'-test were applied for comparison between the two tests & for analyzing the values of nasal smear eosinophil counts and Absolute Eosinophil Count.

Observations

There was significant difference ($p=0.0049$) between eosinophil count in *Vataja Pratishyaya* compared to all other types of *Pratishyaya*.

There was significant difference between *Vataja Pratishyaya* compared to other types of *Pratishyaya* in Lymphocytes, Eosinophil count, and AEC.

Discussion

Although allergic rhinitis is considered to

Table 2: Showing the No of Subjects Positive for Eosinophilia

Table 3: Showing the Hematology Parameters

Parameter	VatajaPratishyaya (Mean +Sd)	PittajaPratishyaya (Mean +Sd)	KaphajaPratishyaya (Mean +Sd)	SannipatajaPratishyaya (Mean +Sd)
Hb%	13.96±1.33	10.03±.41**	12.61±1.18	11.82 ±1.91
WBC	8353.85±407.37	8533.33±899.38	7880.00±788.42	8375±286.13
Neutrophils	63.85±4.52	61.33±3.40	63.90±3.14	64.5±2.17
Lymphocytes	27.08±4.36	30.67±2.72	30.00±2.72	27.5±1.5
Esinophils	6.92±0.83	5.00±0.82*	4.00±0.89***	5.5±1.65
Monocytes	2.08±0.62	3.00±0.00	2.10±0.70	2.25±0.43
ESR	15.68±11.26	36.67±6.94**	12.50±5.92	28.25±16.09
AEC	560.46±53.91	340.00±28.28***	360.00±66.93***	465±135.36

*p<0.05; **p<0.01; ***p<0.001

be a male predominant disease[5], our study group had male: female ratio of 3:2. Onset of *Pratishyaya* can occur at any time of life 70% of these develop it before 30years of age.[6] In our study 40% patients were between 30-40 years of age. This may be due to the sample size. 76.92% of *Vataja Pratishyaya*, 0% of *Pittaja Pratishyaya*, 7.69% of *Kaphaja Pratishyaya* and 15.38% of *Sanipataja Pratisyaya* were positive for eosinophilia. The results from the study show that *Vataja Pratishyaya* is more of allergic in nature as Eosinophil has been found significantly (p<0.01) compared to other *Pratishyaya*. Absolute Eosinophil Count have also been found more in *Vataja Pratishyaya* significantly (p<0.001) than in *Pittaja* and *Kaphaja*. However results of our study were in as a diagnostic value of *Vataja Pratishyaya*.

Pratishyaya are fairly common cases in *Shalakya* out-patient department (OPD). With an appropriate history and detailed examination the diagnosis is usually not problematic. Routine investigations may not contribute much to the final diagnosis but may help in ruling out other possibilities. Complicated tests like skin tests, (RAST) Radio Allergosorbent Test etc, may not be possible in many hospital setups. Hence Nasal smear for esinophil is a reliable and simple investigation.

Conclusion

The performance of nasal smear test helps

to either in diagnosis or treatment evaluation of *Vatajas Pratishyaya*.

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