



## Research Article

### A CLINICAL STUDY ON *JALOUKAVACHARANA* IN THE MANAGEMENT OF *VATAJA ABHISHYANDA* W.S.R. TO ALLERGIC CONJUNCTIVITIS

Prakruthi.G<sup>1\*</sup>, Hamsaveni.V<sup>2</sup>

<sup>1</sup>P.G.Scholar, <sup>2</sup>Professor and Guide, Department of PG studies in Shalakyatantra, Sri Kalabyraweshwara Ayurvedic Hospital and Research centre, Bangalore, India.

**KEYWORDS:** *Vataja abhishyanda*, Allergic conjunctivitis, *Jaloukavacharana*.

#### ABSTRACT

Allergic conjunctivitis is the inflammation of conjunctiva due to allergic or hypersensitivity reactions which may be immediate or delayed. Among the 17 *Sarvagata Netra Roga*, *Abhishyanda* is one which is classified on the basis of *Doshic* predominance. *Vataja Abhishyanda* is characterized by *Toda* (pricking sensation), *Stambha* (rigidity), *Romaharsha* (horripulation), *Sangharsha* (foreign body sensation), *Parushyata* (roughness), *Shiroabhitapa* (headache), *Vishushkabhava* (feeling of dryness), *Shishirashruta* (lacrimation), *Alpa Shophata* (mild chemosis). Based on signs and symptoms, *Vataja abhishyanda* can be correlated to Allergic conjunctivitis. *Acharya Vagbhata* states that *Syanda* develops from the profound vitiation of *Rakta* and it should be cleared quickly through *Shodhana* procedure like *Raktamokshana*, in which *Jaloukavacharana* is said to be best.

A Randomised clinical study was taken up to scientifically validate the effect *Jaloukavacharana* wherein 20 patients of *Vataja Abhishyanda* were selected. Patients were treated with 2 sittings of *Jaloukavacharana* with an interval of 5 days. Parameters considered for study includes *Nistoda* (Pricking sensation), *Sangharsha* (Foreign body sensation), *Shishirashruta* (Lacrimation), *Raga* (Congestion), *Prakasha Asahishnuta* (Photophobia), *Vartma Sopha* (Odema), presence of papillae. The effect of treatment was statistically analyzed using Paired student's 't'-test. On comparing the t-values, better effect on all the considered parameters were noted which shows highly significant results and hence *Jaloukavacharana* is an effective modality of treatment which can be adopted in *Vataja Abhishyanda* where *Shodhana* is considered to be the best line of treatment.

#### \*Address for correspondence

**Dr G Prakruthi**

P.G.Scholar

Department of PG studies in

Shalakyatantra,

Sri Kalabyraweshwara Ayurvedic

Hospital and Research centre,

Bangalore, India.

Email:

[prakruthikalpana@gmail.com](mailto:prakruthikalpana@gmail.com)

Mobile: 8951895583

#### INTRODUCTION

The growth of knowledge of Ayurvedic medicine attained such proportions that it has to be classified into eight specialities. *Shalakyatantra* is one among the *Ashtangas* of Ayurveda, where *Acharya Sushruta* has contributed a maximum extent in the field to Ophthalmology.

**Abhishyanda:** *Netra rogas* are divided based on the *sthanas* viz., *Sandhigata*, *Vartmagata*, *Shuklagata*, *Krishnagata*, *Sarvagata* and *Drushtigata rogas*. *Sarvagata rogas* are 17 and *Abhishyanda* is one of the *Sarvagata roga*, which is considered as a *Vyadhana sadhya vyadhi*.<sup>[1]</sup> It is characterised by

excessive discharges i.e., *Syandana* in all channels of head and neck, including eyes.

**Synonyms of Abhishyanda:** *Abhishyanda*, *Abhishyanna*, *Syanda*, *Akshikopa*.

*Vataja Abhishyanda* is characterized by *Toda* (pricking sensation), *Stambha* (rigidity), *Romaharsha* (horripulation), *Sangharsha* (foreign body sensation), *Parushyata* (roughness), *Shiroabhitapa* (headache), *Vishushkabhava* (feeling of dryness), *Shishirashruta* (lacrimation), *Alpa shophata* (mild chemosis).<sup>[2]</sup>

**Allergic conjunctivitis:** It is the inflammation of conjunctiva due to allergic or hypersensitivity

reactions which may be immediate (humoral) or delayed (cellular). It occurs very frequently and is seen most commonly in areas with high seasonal allergen and pollen counts, usually seen in the form of Hay fever conjunctivitis, seasonal allergic conjunctivitis, perennial allergic conjunctivitis. Common airborne antigens, including dust, molds, pollen, grass, and weeds, may provoke the symptoms of acute allergic conjunctivitis, such as ocular itching, redness, burning, and tearing.<sup>[3]</sup>

Older population studies estimate a prevalence of 15-20% of allergic conjunctivitis, but more recent studies implicate rates as high as 40%.<sup>[4]</sup>

*Acharya Vagbhata* states that *Syanda* develops from the profound vitiation of *Rakta* and it should be cleared quickly through *Shodhana* procedure like *Raktamokshana*, in which *Jaloukavacharana* is said to be best.<sup>[5]</sup>

*Jalouka* having *Ragahara* and *Shothahara guna* combats the vitiated *Rakta dosha* thereby removing the increased *Syandatwa*. The active constituents present in the saliva of the leech acts as anti-inflammatory, anti-thrombotic, anaesthetic which is essential to reduce the symptoms of allergic conjunctivitis.<sup>[6]</sup>

#### AIMS AND OBJECTIVES

- To understand the disease *Vataja Abhishyanda* w.s.r. to Allergic conjunctivitis.
- To evaluate the therapeutic effect of *Jaloukavacharana* in the management of *Vataja abhishyanda* w.s.r. to Allergic conjunctivitis.

#### MATERIALS AND METHOD

##### Source of Data

**Literary Source:** Classical, modern literatures, contemporary text books including the websites and journals to gather information about the disease and the drug.

**Sample Source:** Patients with the clinical features of *Vataja abhishyanda* w.s.r. to Allergic conjunctivitis coming under the inclusion criteria approaching the OPD and IPD of *Shalaky Tantra*, SKAMCH & RC, Bangalore were selected for the study. The sample collection was initiated with post approval from the Institutional Ethical Committee.

**Drug Source:** The *Nirvisha jalouka* which fulfills the *lakshanas* as per classics, required for the study was procured from authenticated vendors.

##### Methods of Collection of data

**Sampling Technique:** The subjects who fulfill the inclusion and exclusion criteria were selected using random sampling technique.

**Sample Size:** A clinical study where in 20 patients diagnosed as *Vataja abhishyanda* of either sex were

selected. A case proforma along with consent containing all the necessary details pertaining to the study was prepared along with consent.

#### Diagnostic criteria

- Patients presenting with *Lakshanas* of *Vataja Abhishyanda*.
- Patients presenting with signs and symptoms of Allergic conjunctivitis.
- Slit lamp biomicroscopy to examine papillae.

#### Inclusion criteria

- Patients of either sex from 10-60 years of age.
- Patients presenting with *Lakshanas* of *Vataja abhishyanda*.
- Patients presenting with signs and symptoms of Allergic conjunctivitis.

#### Exclusion Criteria

- Patients with complications like Marginal corneal ulcer, Trachoma, Dacryocystitis, Kerato-conjunctivitis, Infective conjunctivitis and other ocular infections.
- Patients with other systemic diseases that interfere with the course of treatment.

#### Intervention

The study was intervened for a duration of 15days which is divided into treatment and follow up study comprising of 7days each. 2 sittings of *Jaloukavacharana* with an interval of 5 days.

**Follow up:** After 7 days of treatment (on 8<sup>th</sup> day).

**Total duration of the study:** The total duration of the study in both the groups was 15days.

**Investigations:** Haemoglobin percentage, Random blood sugar, Total count, Differential count, Absolute eosinophil count, erythrocyte sedimentation rate, clotting time, bleeding time.

#### *Jaloukavacharana*<sup>[7]</sup>

*Poorva Karma*

#### Other materials required for *Jaloukavacharana*

Stove, Vessel, Kidney tray, surgical gloves, Cotton and gauze, surgical plaster, Scissors.

#### Preparation of *Jalouka*

- *Nirvisha jalouka* was taken and was activated using *Haridra churna* and then shifted to a kidney tray containing clean water.

#### Preparation of the patient

- The patient was made to comfortably lie down in supine position, after instructing about the procedure and taking consent, in *Kriyakalpa* theatre, free from atmospheric effects like direct blow of air or dust and with sufficient light.

#### *Pradhana Karma*

- After giving mild fomentation over the eyes with cotton gauze dipped in hot water, *Jaloukas* were taken and placed over the *Apanga sandhi*.

- When its mouth gets stuck and middle portion gets elevated assuming the shape of a horseshoe indicating that it is sucking well.
- *Jaloukas* were fully covered with a thin cotton piece dipped in water except for their mouth which should be left exposed.
- Waited till it falls by itself, otherwise little *Saindhava* was sprinkled upon its mouth.
- It was then transferred to kidney tray containing *Haridra churna*.

**Paschat Karma**

- After removing *Jalouka*, the area was cleaned using a sterile cotton pad and using *Haridra, Shitila bandha* was applied.
- The *Jaloukas* were made to vomit the sucked blood completely using *Haridra churna*.
- It was transferred to a clean vessel containing fresh water and its movement was noticed.
- It was then transferred into a container containing clean and fresh water mentioning all the details of its usage.
- The patient was instructed to remove bandage after 5 hours.



**Fresh and activated *Jaloukas* (Leeches)**



***Jaloukas* in *Apanga Sandhi* of Both the Eyes**

**Assessment Criteria**

The clinical findings were noted in the case proforma and assessment was done accordingly.

Subjective Parameters	Objective Parameter
1. <i>Nistoda</i> (Pricking sensation) 2. <i>Sangharsha</i> (Foreign body sensation) 3. <i>Shishirashruta</i> (Lacrimation) 4. <i>Raga</i> (Congestion) 5. <i>Prakasha asahishnuta</i> (Photophobia) 6. <i>Vartma sopha</i> (Odema)	1. Presence of Papilla

**Scoring Index**

***Nistoda* (Pricking sensation)**

Score	Criteria
0	: No pricking sensation
1	: Occasionally present
2	: Frequently present, not disturbing routine work
3	: Persisting throughout the day disturbing the routine work

**Sangharsha (Foreign body sensation)**

- 0 : No foreign body sensation
- 1 : Occasionally present, not troublesome
- 2 : Frequently present, troublesome
- 3 : Persisting throughout the day

**Shishirashruta (Lacrimation)**

- 0 : No lacrimation
- 1 : Occasionally present
- 2 : Frequently present
- 3 : Persisting throughout the day

**Raga (Congestion)**

- 0 : No congestion
- 1 : Occasional with clear pattern of blood vessels
- 2 : Intermittent congestion with disturbed pattern of blood vessels
- 3 : Red velvety conjunctiva with loss of pattern of blood vessels

**Prakasha asahishnuta (Photophobia)**

- 0 : No photophobia
- 1 : Occasionally when exposed to bright light
- 2 : Even with less intensity of light
- 3 : Continuously present which interferes routine work

**Vartma sophia (Odema)**

- 0 : No oedema
- 1 : Puffy lids with mild chemosis visible on slit lamp examination
- 2 : Puffy lids with mild chemosis visible on torch light
- 3 : Swelling of lids visibly evident chemosis

**Presence of Papillae**

- 0 : No papillae
- 1 : Presence of micro papillae
- 2 : Presence of macro papillae
- 3 : Presence of giant papillae

**Statistical analysis**

- ❖ For the statistical analysis the data obtained in both the groups were recorded, presented in tabulations.
- ❖ The parameters Mean, Standard Deviation (SD), Standard Error of Mean (SEM) and Standard Error of difference between two means (SE) were employed for descriptive statistics.
- ❖ To infer the clinical study Paired 't'-test was applied within the group.

**OBSERVATION**

**Age:** 5 (25%) patients belonged to the age group of 11-20years, 7 (35%) patients belonged to the age group of 21-30years, 5 (25%) patients belonged to the age group of 31-40years, 2 (10%) patients belonged to the age group of 41-50years and 1 (5%) patient belonged to the age group of 51-60years.

**Gender:** 13 (65%) patients were males and 7 (35%) patients were females.

**Religion:** 14 (70%) patients were Hindus and 6 (30%) patients were Muslims.

**Marital status:** 10 (50%) patients were married, 10 (50%) were unmarried.

**Educational status:** 2 (10%) patients were uneducated, 3 (15%) patients were educated up to primary school, 2 (10%) patients were educated up to middle school, 2 (10%) patients were educated up to high school and 11 (55%) were graduates.

**Socioeconomic status:** 2 (10%) patients belonged to lower socio-economic class, 18 (90%) patients belonged to middle socio-economic class.

**Occupation:** 3 (15%) patients were homemakers, 8 (40%) patients were from business category, 7 (35%) patients were students and 2 (10%) were into other occupations like tailoring, Group D workers etc.

**Diet:** 2 (10%) patients were vegetarians and 18 (90%) patients were consuming mixed diet.

**Family history:** In 6 (30%) patients family history was present and in 14 (70%) patients family history was absent.

**Chronicity:** 17 (85%) patients were having chronicity of  $\leq 2$  years, 1 patient was having chronicity of  $>6 \leq 8$  years, 2 (10%) patients were having chronicity of  $>8 \leq 10$  years.

**Seasonal variation:** 13 patients had seasonal allergic conjunctivitis and 7 patients had perennial allergic conjunctivitis.

**Nidana:** 18 (90%) patients had excessive intake of *Ruksha*, *Amla* and *Katu ahara* as *Nidana*, 16 (80%) patients had *Swapna viparyaya* as *Nidana*, 5 (25%) patients had *Shoka* as *Nidana*, 19 (95%) patients had *Vishamashana* as *Nidana*, 13 (65%) patients had *Sukshma nireekshana* as *Nidana* and 18 (90%) patients had exposure to aeroallergens as *Nidana*.

**Lakshanas:** 20 (100%) patients had the *Lakshana* of *Nistoda*, 20 (100%) patients had the *Lakshana* of *Sangharsha*, 20 (100%) patients had the *Lakshana* of *Shishirashruta*, 20 (100%) patients had the *Lakshana* of *Raga*, 20 (100%) patients had the *Lakshana* of *Vartma sopha*, 17 (85%) patients had the *Lakshana* of *Prakasha asahishnuta* and 20 (100%) patients had papillae.

## RESULTS

	Mean		Mean difference	Paired 't'-test				
	Before	After		SD	SE	t-value	p-value	Remarks
<b>Nistoda (Pricking sensation)</b>								
BT-AT	2.35	0.60	1.75	0.55	0.12	14.22	<0.001	HS
BT-AF	2.35	0.15	2.20	0.16	0.13	15.98	<0.001	HS
<b>Sangharsha (Foreign body sensation)</b>								
BT-AT	1.55	0.30	1.30	0.57	0.12	10.17	<0.001	HS
BT-AF	2.00	0.05	1.95	0.51	0.11	17.08	<0.001	HS
<b>Shishirashruta (Watering of eyes)</b>								
BT-AT	2.00	0.30	1.70	0.47	0.10	16.16	<0.001	HS
BT-AF	2.00	0.05	1.95	0.39	0.08	22.13	<0.001	HS
<b>Raga (Congestion)</b>								
BT-AT	2.25	0.25	2.00	0.64	0.14	13.78	<0.001	HS
BT-AF	2.25	0.00	2.25	0.44	0.09	22.64	<0.001	HS
<b>Prakasha asahishnuta (Photophobia)</b>								
BT-AT	1.17	0.00	1.17	0.39	0.28	4.12	<0.001	HS
BT-AF	1.17	0.00	1.17	0.39	0.28	4.12	<0.001	HS
<b>Vartmasopha (Odema)</b>								
BT-AT	1.35	0.20	1.15	0.41	0.09	12.53	<0.001	HS
BT-AF	1.35	0.10	1.25	0.44	0.10	12.58	<0.001	HS
<b>Presence of papillae</b>								
BT-AT	1.90	0.15	1.75	0.85	0.19	9.19	<0.001	HS
BT-AF	1.90	0.00	1.90	0.64	0.14	13.26	<0.001	HS

Before treatment to after treatment and before treatment to follow up, the p value (<0.001) revealed statistically highly significant with respect to all the subjective and objective parameters.

## DISCUSSION

As *Acharya Charaka* clearly explains, "*Shastram jyothi: Prakashartam darshanam buddhiratman:*" a scholar should be endowed with all the six qualities viz., *Vidhya*, *Vitarka*, *Vignana*, *Smruti*, *Tatparata*, *Kriya* which certainly helps in igniting one's knowledge ultimately helps to attain success in treating a disease. After going through *Upadesha* (authoritative instructions), *Prayojana* (object) of this clinical study is to re-establish the facts with the help of *Apadesha* (reasoning) and *Tarka sahita jnana*. By adopting proper *Vidhana* (correct interpretation), here is an attempt to give a valid conclusion by proper analysis after going through *Atitavekshana* (retrospective references) and *Anagatavekshana* (prospective references).

Due to *Achakshushya ahara vihara*, *Agnimandhya* takes place followed by the formation

of *Ama*. The vitiated *Doshas* leads to *Dosha sanchaya* in *Koshta*. Depending on the intensity of *Nidanas* specifically *Vata prokopakara nidana* and also due to triggering factors *Prakopa* of *Dosha* takes place. *Vata* along with other *Doshas* diffuses through different *Siras* and ascends to *Urdhwajatru srotas* reaches *Netra*. *Dosha dhatu samurchana* takes place with the manifestation of *Purva roopa* like *Samrambha*, *Ashru*, *Toda* and *Raga*. The cardinal symptoms manifest which are *Nistoda*, *Sthamba*, *Romaharsha*, *Sangharsha*, *Parushya*, *Shirobhitapa*, *Vishushkabhava*, *Shishirashruta*. If *Abhishyanda* is not treated it leads to *Adhimantha*, specifically if *Vatabhishyanda* is neglected leads to *Hatadhimantha* in the last stage.<sup>[8]</sup>

The general line of treatment of *Vataja abhishyanda* includes *Snehana* with *Purana ghrita*,

*Swedana, Siramokshana, Sneha virechana, Basti, Tarpana, Putapaka, Dhumapana, Aschyotana, Snehana nasya, Snigdha parisheka and Shirobasti.*<sup>[9]</sup> In the present study, *Raktamokshana* by means of *Jaloukavacharana* was undertaken.

Allergic conjunctivitis (simple) is a mild, non-specific allergic reaction characterized by itching, hyperaemia and papillary response. It occurs very frequently and is seen most commonly in areas with high seasonal allergen and pollen grains. Since allergic conjunctivitis generally clears up readily, the prognosis is favorable. Complications are very rare, with secondary corneal ulcers or keratoconus occurring rarely.<sup>[10]</sup>

### Discussion on observation

More number of patients belongs to adult age group and also more are from business category. The reason could be the patients of this age group spend most of their time in outdoor environment during the day hours where they may expose to more outdoor allergens which is the predisposing factor for the disease. In this study, middle socio-economic class of people are affected more when compared to lower socio economic class of people. This may be due to the place where the study has been done and also it may be due to the negligence towards the disease by them. A positive family history has increased risk of allergic conjunctivitis and in the present study 6 patients had a family history. Due to the small sample size this fact is not justifiable in this study. Seasonal allergic conjunctivitis is a response to seasonal allergens which is very common occurrence. The onset is sub acute; the condition is chronic in nature and occurring all through the year. In the present study also the common occurrence of the seasonal allergic conjunctivitis is elicited.

### Discussion on results

The conjunctiva is more susceptible to irritation from allergens. Nerves stimulated by the allergens send signals through the sensory nerves of the afferent trigeminal nerve which transmit the signals generating sensations like pricking pain i.e., *Nistoda* which is considered as a prominent symptom in case of *Vataja Abhishyanda*. Leech application has anti-inflammatory action due to presence of substance like Bdelins and Eglins in the saliva which prevents leukocyte accumulation in the surrounding vessels, thus inhibits release of inflammatory factors exhibiting analgesic effect.

The conjunctival epithelium undergoes hyperplasia and sends downward projection into the sub epithelial tissue which on friction with lid surface causes foreign body sensation. Here, *Jaloukavacharana* has a pivotal role in reducing this

symptom. Anti-inflammatory and anaesthetic factors present in the saliva of leeches inhibits inflammation thereby reducing hyperplasia which is causing foreign body sensation.

Anti-allergic components present in the secretory glands of leech inhibit the mast cells to reduce chemical mediators responsible for hyper secretion. As such this disease is considered due to increased *Syanda guna* of *Rakta* and hence *Raktamokshana* is considered as best to reduce *Syandatwa* there by further reducing *Shishirashruta*.

Leech therapy is very much recommended here because it acts by draining the congested blood vessels. Eglins, an anti-inflammatory agent present in the saliva of the leech inhibits the production of inflammatory mediators like cytokines, leucotrienes and hence reduces congestion. vasodilation effect by acetyl choline and histamine like substances and carboxy peptidase inhibitors removes congestion by increasing flow by dilating the constricted vessels.

If the vitiated blood is not let out, it gives rise to *Shopha, Daha, Raga, Paka* and *Vedana*. In *Abhishyanda* also there will be *Sopha* and *raga*, which can be considered as *Dushita rakta lakshana*. By virtue of its *Sophahara* and *Ragahara* property *Jaloukavacharana* has done well in this study pertaining to congestion by removing the *Avarana* of *Rakta* by *Vata*.

### CONCLUSION

Statistically the p-value revealed highly significant effect on parameters like *Raga, Sangharsha, Shishirashruta, Vartma sopha, Nistoda, Prakasha asahishnuta* and Presence of Papillae. The profound vitiation of *Rakta dosha* causes increased *Syandatwa* in *Urdhwa jatru srotases*. By means of *Raktamokshana* the vitiated *Rakta dosha* is corrected thereby relieving the signs and symptoms of *Vataja abhishyanda*. *Jaloukavacharana* has the properties to subside *Shoola, Shotha, Raga, Daha*. The anti coagulating factors like Hirudin, Calins, Destabilase, anti-inflammatory factors like Bdelins, Eglins, vasodilator substances like carboxy peptidase a inhibitor, Histamine like substance, mast cell inhibitors like Tryptase present in the saliva of the leeches together helps in reducing pain, congestion, inflammation by normalizing the blood circulation.

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