



Pharmacological Action of *Shigru Haridradi* Eye Drop And *Rasayanadi Yoga* on *Netrabhishandhya* - A Conceptual Review

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Abstract:

Eye is an important sense organ, because its loss of function leads to serious disability of man by keeping him in the darkness. Ayurveda therapies are typically based on complex herbal compounds, minerals and metal substances and *Panchakarma* (Including *Kriya-Kalpa*). As many comprehensive and local curative applications has been mentioned in *Ayurvedic* classics for the treatment of *Netra roga*, but to rise restrictions of single drug therapy, the tradition of complex drugs came into continuation in consequence of slow acting nature of herbal drugs. *Abhishyanda* or *Netrabhishyanda* is classifying as the eye disease affecting all parts of the eye and it is possibly correlated with conjunctivitis. The gravity of *Abhishyanda* is such that it is often said to be the cause of all eye disorders. *Acharya Sushruta* has enumerated it under communicable diseases. *Shigruharidradi* Eye Drop (external) and internal *Rasayanadi* yoga (*Arogyavardhini Ras*, *Khadira Churna*, *Rasayana Churna*, *Haridra Churna*) used were selected in the treatment of *Netrabhishyanda*. Individual ingredient of *Shigruharidradi* Eye Drop having properties like *Chakhsushya*, *Vranaropan*, kadughna *Vedana Sthapaka* and *Shothahara* which is possibly effective on *Netrabhishyanda*. Allergic conjunctivitis is type of conjunctivitis treated with immune-modulator drug *Guduchi*, *Amalaki*, *Haridra*. In this article emphasis *Shigruharidradi* Eye Drop and *Rasayanadi* yoga.

Key Word: *Netrabhishyanda*, Conjunctivitis, *Shigruharidradi* Eye Drop, *Rasayanadi* yoga

Introduction: The term *Netrabhishandhya* is another name of *Abhishyanda*. *Abhishyanda* is most common disease in *Netraroga* (Ophthalmic Disease) and used extensively in Ayurvedic literature in different contexts. In medical science, sign and symptoms of *Abhishyanda* nearly similar to Conjunctivitis. *Acharya Sushruta* has enumerated *Abhishyanda* under *Auparagica Roga* (communicable diseases).¹ *Acharya Sushruta* mentioned that *Abhishaynda* is root cause of all eye disease in the context of *Sarvagata Roga*.² *Acharya Sushruta* state that if *Abhishyanda* is not treated properly or neglected then disease converted in *Adhimantha* (Acute congestive glaucoma/Acute uveitis. He had stressed on the importance of immediate need of treatment in this disease.

A Conjunctivitis or Red eye is a common eye infection, which is contagious and may present as a seasonal epidemic. Simple Viral and bacterial conjunctivitis may affect one or both eyes. Both are very

contagious and cause epidemics. In ophthalmic clinical practice, ocular allergy represents one of the most ordinary ocular circumstances.³

The terms ocular allergy and allergic conjunctivitis are used synonymously.⁴ Allergic conjunctivitis is inflammation of the conjunctiva due to allergy.⁵ It is a hyper-sensitivity reaction to specific airborne antigens. Common airborne antigens include pollen, grass, and weed.⁶ In allergic conjunctivitis, symptoms owe toward discharge of histamine and further vigorous substance by mast cells, which provoke dilation of blood vessels, aggravate nerve endings, and rise oozing of tears. Due to allergic conjunctivitis, serious sequels of corneal infection are rare, but painful signs and symptoms may cause excessive embarrassment to the patients, it can upset the patient's everyday life.

Epidemiology: Allergic conjunctivitis occurs more frequently among those with allergic conditions, with the symptoms having a seasonal correlation.⁷ Allergic conjunctivitis is estimated to affect 20 percent of the population on an annual basis and approximately one-half of these people have a personal or family history of atopy.⁸ These variations may be attributed both to genetic and environmental factors (including warm dry climate and extent of pollution).⁹

Considering this information, as many comprehensive and local curative applications has been mentioned in *Ayurvedic* classics for the treatment of *Netra Roga*, but to rise the restrictions of single drug therapy, the tradition of complex drugs came into continuation in consequence of slow acting nature of herbal drugs. One has to select a drug that can fulfil the aims and objectives. In this study “*Shigruharidradi*” Eye Drops for topical application. For internal used *Rasayanadi Yoga* were selected in the treatment of *Netrabhishyanda*.

Aims And Objective: Present work aimed to review the efficacy and probable mode of action of *Shigru Haridradi* Eye Drop and *Rasayanadi Yoga* in *Netrabhishyandya*.

Materials And Method: This study was done by compiling the classical Ayurvedic literature, Ayurvedic Shalakyta Tantra Book, Pharmacology (Dravyaguna) and *Rasashastra* books, magazines and research journals used for the search of relevant literature. Based on the collected information, an interpretation is done to know the efficacy and probable mode of action of *Shigru Haridradi* Eye Drop and *Rasayanadi Yoga*.

Ingredients of *Shigru Haridradi* Eye Drop and *Rasayanadi Yoga* had shown in table 1 & 2. Pharmacodynamic of individual ingredients of *Shigruharidradi* eye drop and *Rasayanadi Yoga* had shown in table 3.

Preparation of Eye Drop:-

A. Procedure of preparation of *Shigruharidradi* Arka-

One part *Haridra*, one part *Druharidra* and one part *Yastimadhu* was collected and kept soaked for 24 hours. After 24-hour drug kept in Owen for remove the moist present in this compound. Then in this compound added *ShigruPatra Kalka*. After that, added 1/100 parts of the distillate water mixed in sterile conical flask and subjected for distillation. At the end of proper distillation process collecting *Arka* and added one part *Madhu*. Content was transferred to a sterile (autoclaved) glass bottles after proper distillation process.

B. Processing done for *Shigruharidradi* Eye Drops:

As facilities for the sterile packing of the eye drop is not available at Institute pharmacy, packing of the eye drop was done at Indiana Ophthalmic, Surendranagar, under aseptic measure. The procedure in brief is as given below-

- a. Filtration by 2.0 microns glass filter followed by 0.2 microns nylon filter.

- b. Filtered solution was filled in sterile plastic bottles under Laminar Air Flow in aseptic conditions.
- c. Plugging and capping was also done in aseptic area.

C. Packing and Storage of *Shigruharidradi* Eye Drops: Air tight packing in plastic bottle of eye drop was done. Store in a cool, dry place, away from direct light and heat.

Some researches works on individual ingredients of *Shigruharidradi* eye drop and *Rasarayanadi yoga*

Shigruharidradi eye drop

1. *Shigru*: Ingesting drumstick leaves juice can be instilled into eyes in cases of conjunctivitis¹⁰
2. *Haridra*: Curcumin is the main chemical compound of Turmeric is anti-inflammatory, antioxidant, antimutagenic, antidiabetic, antibacterial, hepatoprotective, expectorant and anticancerous pharmacological activities.¹¹
3. *Daruharidra*: Steam and bark of root was applied externally to the eyelids to cure ophthalmia.¹² *Daruharidra* (*Berberis aristata*) is used in Ayurvedic medicine from long time. It has hypoglycaemic, antibacterial, antifungal, antipyretic, anti-inflammatory, hepatoprotective and antioxidant activities.¹³ Paste of this herb is used externally to reduce pain and inflammation in eye disorders and also used in conjunctivitis.¹⁴
4. *Yashtimadhu*: The anti-inflammatory activity of glycerretic acids and its diacetate was similar that of hydrocortisone on formalin-induced arthritis in albino rats.¹⁵ The chemical constitution of the *Glycyrrhiza glabra* Linn) has proved various remarkable activities such as anti-microbial, anti-histamine, anti-oxidant etc.¹⁶ *Glycyrrhiza glabra* Linn possesses antibacterial, anti-inflammatory, antiviral, antihepatotoxic, and antifungal properties.¹⁷
5. *Madhu*: Honey may be helpful in treating dry eye disease, post-operative corneal edema, and bullous keratopathy. It can be used as an antibacterial agent to reduce the ocular flora.¹⁸ Consumed honey mixed with carrot juice on a regular basis will get better vision.¹⁹

Rasarayanadi yoga

1. *Rasayan Churna*

- a. *Amalaki*: *Amalaki Rasayana* is said to have growth promoting effect (growth and longevity).²⁰ Fruit possesses immune-modulator properties and enhance natural killer cell activity and antibody.²¹ The fruit contains superoxide dismutase exhibits anti-aging activity. Fruit, juice, its sediment and residue are antioxidant due to Gallic acid.²² Ethanol and acetone extract of *Triphala* (contain *Amalaki*) has antimicrobial activity against *Salmonella typhi*, *Shigella dysenteriae*, *Vibrio cholera*, *Staphylococcus aureus*, *Klebsiella aerogenes* etc.²³
 - b. *Guduchi*: Aqueous extract of *T. cordifolia* is potential immunomodulatory.²⁴ The alcoholic and aqueous extracts of *T. cordifolia* have been tested y for adaptogenic and immuno-modulatory activity.²⁵ *T. cordifolia* significantly effective allergic condition like allergic rhinitis and decreased all symptoms.²⁶ Combination of *T. cordifolia* extract and turmeric extract is effective in preventing the hepatotoxicity.²⁷
 - c. *Gokshura*: **Experimental study shows analgesic** activities of *Tribulus terresteris* Linn were studied in male mice using formalin and tail flick test. Methanolic extract of *Tribulus terresteris* Linn having produced analgesic effect.²⁸
2. *Khadira*: A. Catechu is high degree of antioxidant activity. The antioxidant activity is believed to be responsible for the anti-inflammatory, antineoplastic, tissue protectant, and analgesic activities.²⁹
 3. *Haridra*: mentioned above
 4. *Arogyavardhini Rasa*: *Arogyavardhini* is beneficial in Cirrhosis of liver, jaundice and poor liver functioning. It provides total health and makes the body free from all types of diseases and brings a balance between the three *Dosha*. It is beneficial for oedema and hepatic disorders. *Arogyavardhini*

showed significant hepato-protective effects. The drug is also useful for individuals suffering from indigestion and irregular bowel movements. It brings about the promotion of the digestive power of the body, acts as a tonic for liver, heart, kidneys. *Arogyavardhini Vati* reduces inflammation of spleen, liver, kidneys and intestine.³⁰

DISCUSSION

Pharmacotherapy like *Ashyotana*, *Anjana*, *Nasya* as tropical use and medicated *Ghruta*, *Kwatha* for internal medication advocated in the classics for the patients of *Abhishyandya*. Ingredient of *Shigruharidradi* eye Drop having potent drug for ophthalmic disease and ingredient of *Rasayanadi Yoga* was effective on systemic allergic condition with *Rasayana Karma*. *Shigruharidradi* Eye drops is selected because its ingredients having *Vata-Kaphasamaka*³¹, *Chakshusya*³², *Krimihara*³³, *Shothahara*, *Vedana Sthapaka* and *Vrana Ropaka* properties. Ingredient of *Rasayanadi Yoga* having properties like *Rasayana*, immune-modulator, anti-allergic, anti-viral, antibacterial, anti-inflammatory, helpful for digestive system, tonic for liver and blood purifier. All properties of these drugs helpful for breaking pathology of *Netrabhishyanda* (Allergic Conjunctivitis). Allergic Conjunctivitis is a recurrent ocular pathology due to decrease immunity of the body. Hypersensitivity of the body's immune system to the allergen is the main ethological factor for allergic conjunctivitis. Therefore, the ultimate aim of approach should be to enhance the immune enhancing modalities. Therefore, *Rasayandi Yoga* is best in this study due to its *Tridosha Samaka*, *Chakshusya* and *Rasayana* properties. *Rasayanadi Yoga* is a systematic oral drug which have the quality to reduce allergic condition (reduce Eosinophils count) and inflammation. Ingredients of *Rasayanadi Yoga* is capable to pacify the symptoms like *Raga*, *Toda*, *Achchsruta*, *Kandu*, *Gharsha*, and *Alpa-dushika* which are the main symptoms of *Abhishyanda* – Allergic Conjunctivitis and also act on systemic infection.

5. **Probable mode of action of *Shigruharidradi* Eye Drops** - According to *Ayurveda* the instilled medicine will penetrate into *Akshikosha Srotas*, *Shira Srotas*, *Ghrana Srotas* and *Mukha Srotas* of the *Urdhvanga Bhaga* and remove the *Mala* present there. This happens because of the basic properties of *Shigruharidradi* eye drop i.e. *Vata Kapha Shamaka*.

Probable mode of action of *Rasayanadi Yoga*:-It is a systemic drug which contain *Amalaki*, *Gokshura*, *Khadira Haridra* and *Arogyavardhini* Rasa is specially indicated *Vrana*, *Kandu*, *Shotha*, *Yakrit Roga*. The causative factors for the production of complete aetiopathogenesis of the disease, *Netrabhishyanda* are: the *Agni*, the *Dhatu*s, the *Doshas*, *Vyadhi kshamatva Shakti* etc. So the ultimate aim of the treatment should be correcting in all these involved factors. The concept of *Agni* is of paramount interest in *Ayurveda*. Disturbances of *Agni* results in *Ama* formation which by itself may culminate in various ailments or by thwarting absorption and assimilation impede with the efficacy of the drug used in treatment. In *Rasayandi Yoga*, most of drug having *Agnivardhaka*, *Deepana*, *Pachana*, etc. properties which provoke the *Agni*. Another important concept forwarded by the *Ayurvedic* of medicine is that of *Rasayana*, *Shothahara*, *Vranaropaka Rasayana*, *Jeevaniya*, *Balya*, *Brimhaniya*, *Ojovardhaka*, properties, which indirectly increase the *Vyadhikshamatva*.

Table No.1: Ingredients of *Shigruharidradi* Eye Drop

Sr.no	Drug	Quantity	Part used
1.	<i>Shigru patra</i>	1 part	Leaves
2.	<i>Haridra</i>	1 part	Rhizome
3.	<i>Daruharidra</i>	1 part	<i>Twak</i>
4.	<i>Yashtimadhu</i>	1 part	<i>Kand</i>
5.	<i>Madhu</i>	1 part	-

Table No.2: Ingredient of Rasarayanadi Yoga

Sr.no	Drug	Latin name	Quantity	Part used
1.	<i>Rasayana churna</i> combination of – 2. <i>Amalaki</i> 3. <i>Guduchi</i> 4. <i>Gokshura</i>	1. <i>Emblica officinalis</i> Gaertn.	1 part	Fruit
		2. <i>Tinospora cordifolia</i> Willd.		Steam
		3. <i>Tribulus terresteris</i> Linn.		Root
		2.	<i>Khadira</i>	<i>Acacia catechu</i> Linn.
3.	<i>Haridra</i>	<i>Curcuma longa</i> Linn.	½ part	Rhizome
4.	<i>Arogyavardhini Rasa</i>	-	¼ part	-

Table No.3: Phamacodynamic of individual ingredients of Shigruharidradi eye drop and Rasarayanadi Yoga

Drugs		Rasa	Virya	Vipaka	Guna	Doshakrma	Pramukha Karma	
Ingredients of Shigruharidradi Eye Drop	<i>Shigru patra</i>	<i>Katu, Tikta</i>	<i>Usna</i>	<i>Katu</i>	<i>Laghu, Ruksha, Tiktsna</i>	<i>Kapha-Vata Shamaka</i>	<i>Chakshusya, Krimihara, Shothahra</i>	
	<i>Haridra</i>	<i>Katu, Tikta</i>	<i>Usna</i>	<i>Katu</i>	<i>Ruksha, Laghu</i>	<i>Kapha-Vata Shamaka</i>	<i>Shothahara, Vedanasthapan, Vrana Ropaka</i>	
	<i>Daruharidra</i>	<i>Tikta, Kashaya</i>	<i>Usna</i>	<i>Katu</i>	<i>Ruksha, Laghu</i>	<i>Kapha-Pitta shamaka</i>	<i>Chakshushya, Vedana Sthapaka,</i>	
	<i>Yashtimadhu</i>	<i>Madhura</i>	<i>Sheet</i>	<i>Madhura</i>	<i>Guru Snigdha</i>	<i>Vata-Pitta Shamaka</i>	<i>Daha Shamaka, Chakshusya</i>	
	<i>Madhu</i>	<i>Madhura-Kashaya</i>	<i>Sheet</i>	<i>Madhura</i>	<i>Laghu, Ruksha,</i>	<i>Vata-Pittahara</i>	<i>Chakshushya, Yogavaahi</i>	
Rasarayanadi yoga	<i>Rasayana Churna</i>	<i>Amalaki</i>	<i>Pancharasa except lavan</i>	<i>Sheet</i>	<i>Madhura</i>	<i>Guru, Laghu,</i>	<i>Tridosha Shamaka</i>	<i>Rasayana, Chakshusya,</i>
		<i>Guduchi</i>	<i>Tikta, Kashaya</i>	<i>Ushna</i>	<i>Madhura</i>	<i>Guru, Snigdha</i>	<i>Tridosha Shamaka</i>	<i>Rasayana, Daha Prashamana</i>
		<i>Gokshura</i>	<i>Madhura</i>	<i>Sheet</i>	<i>Madhura</i>	<i>Guru Snigdha</i>	<i>Vata-Pitta Shamaka</i>	<i>Vedana Sthapaka</i>
	<i>Khadira</i>	<i>Tikta, Kashaya</i>	<i>Katu</i>		<i>Laghu, Ruksha</i>	<i>Kapha - Pitta Shamaka</i>	<i>Raktasgodhaka, Kandughna</i>	
	<i>Haridra</i>	<i>Katu, Tikta</i>	<i>Usna</i>	<i>Katu</i>	<i>Ruksha, Laghu</i>	<i>Kapha-Vata Shamaka</i>	<i>Shothahara, Vedanasthapan, Vrana Ropaka</i>	
	<i>Arogyavardhini Rasa</i>	-	-	-	-	<i>Pitta Shamaka</i>	<i>Rasayan, Pachan, Dipan</i>	

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