

CLINICAL STUDY TO EVALUATE THE EFFICACY OF *SHIRISHBEEJADI ANJANA* ON LENGTH AND THICKNESS OF ARMA W.S.R. TO PTERYGIUM

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Article Received on
18 March 2018,

Revised on 08 April 2018,
Accepted on 28 April 2018

DOI: 10.20959/wjpr20189-12205

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ABSTRACT

“Arma”, one of the *Shuklagata Roga* is described as continuous growth in *Shuklamandal*. On the basis of signs and symptoms the disease ‘Arma’ can be very well correlated with the disease termed ‘Pterygium’. Pterygium is a common benign ocular-surface disorder capable of causing significant visual impairment & cosmetic deformity. Presently, surgical treatment is the only viable approach but recurrence after surgical excision is common. The *Ayurveda* approach mainly concentrates on preventing the progression of disease. With this aim “Clinical study to evaluate the efficacy of *Shirishbeejadi Anjana* in the management of Arma w.s.r. to Pterygium” was undertaken on 20

clinically diagnosed patients of *Primary Pterygium showing progression* selected from O.P.D of *Shalakya Tantra* Department, Rishikul Campus, Haridwar. Patients were treated with *Shirishbeejadi Anjana* along with *Madhu*. Clinical assessment was done including record of length and thickness of “arma” before start of treatment which was given in b.i.d dosage for duration of 30 days. Results were assessed in relation to length and thickness of Arma on the basis of grading and scoring system and data were statistically analyzed by adopting Wilcoxon Matched Pairs Signed Rank Test and Chi Square test for inter group comparison and significance of results were evaluated (Graphpad In stat – 3.10). “*Shirishbeejadi Anjana*” showed statistically insignificant results on length and thickness of Arma. There was no progression of the “Arma” with the use of the drug in the given period of time. Also, the

Drug showed no adverse effects. It can be concluded from the study that *Shirishbeedaji Anjana* may have a role in controlling progression of the disease.

KEYWORDS: *Arma*, *Shirishbeejadi Anjana*, Pterygium.

INTRODUCTION

The Eye is the organ of sight which is the most important and beautiful gift of God. Eye, the “Window of Mind” holds special status among all the sense organs. As eyes are the gateways of external world, visual defects tantamount to the obliteration of the world. The diseases of eyes are classified vividly in *Sushruta Samhita*. As per pathological site, *Arma Roga* is described under *Shuklagata Rogas*. This is a disease in which a wing like layer is gradually developed from the *Kaneenaka Sandhi* (inner canthus) or *Apangasandhi* (outer canthus) towards the cornea. This layer invades the cornea, which is transparent in nature and damages the transparency of that part, thereby causing disturbance in vision. *Arma*, can be correlated with Pterygium in contemporary science.

Pterygium or the “Surfer’s eye” as given in modern medicine, is a common disorder of ocular surface in many parts of the world, affecting one eye or both eyes, described as an “ophthalmic enigma”.^[1,2] The exact etiology and pathogenesis of Pterygium remains unclear. It is associated with and thought to be caused by ultraviolet-light exposure (e.g., sunlight), low humidity, and dust. The predominance of pterygia on the nasal side is possibly a result of the sun's rays passing laterally through the cornea, where it undergoes refraction and becomes focused on the limbic area. Sunlight passes unobstructed from the lateral side of the eye, focusing on the medial limbus after passing through the cornea. On the contralateral (medial) side, however, the shadow of the nose medially reduces the intensity of sunlight focused on the lateral/temporal limbus.

It is seen as a fibrovascular growth of the conjunctiva encroaching onto the cornea, usually triangular or wing shaped. It not only affects beautiful outlook of the patient, but also affects refractive astigmatism, and is a potentially blinding disease in the advanced stage due to invasion of the visual axis, which can have a significant impact on vision, and may require surgery for visual rehabilitation.^[3]

The epidemiological studies around the world have shown that the prevalence rates range from 0.3% to 37.46%.^[4,5] There is worldwide distribution of Pterygium, but they are more

common in warm and dry climates.^[6] The common factor appears to be latitude, since Pterygium occur primarily within the peri-equatorial “Pterygium belt,” within latitudes 37° north and south of the equator. *Pterygium is commonly seen in India, which is a part of the “Pterygium belt” which was described by Cameron.*^[7] The prevalence of Pterygium in rural Central India was about 13% among adult Indians aged 30+ years.^[8]

According to modern medicine, surgery is the only treatment for this disease. But *Ayurveda* prescribes certain *Anjanas* for the treatment in addition to surgical intervention. It is widely used by the thinning stage of *Arma* to prevent the speedy growth of the membrane. Hence it is essential to explore a safe and effective drug which can effectively tackle the disease condition.

Arma is considered as a *Chedana Sadhya Vyadhi*. In *Purva Avastha* of the disease *Lekhana Anjanas* are used and when it get to *Pravruddhavastha*, *Chedana* is the only option. *Sushruta* has explained a special surgical procedure for *Arma Chedana*. If *Arma* is in the early stage then, *Netrakriya Kalpa* like *Anjana (Lekhana Anjana)* is selected considering the *Dosha Lakshanas* with suitable drug. *Anjana Karma* is a process in which specific medicaments are pasted over the marginal conjunctiva in a systematic way from *Kaneenaka Sandhi* to *Apanga* and *Apanga* to *Kaneenaka Sandhi*. *Anjanas* mainly have *Lekhana* properties which can gradually taper the thickness of the membrane and thereby prevent the growth and also reduce the size. The process of administration is very easy and it is being practiced widely since the origin of *Ayurveda*. *Acharya Sushruta, Vagbhatta, Yogaratnakar, Bhavprakash, Chakradatta* etc. have mentioned different types of *Anjana* preparations for management of *Arma* in initial stages. *Shirishbeejadi Anjana* is one such formulation explained by *Acharya Sushruta* in treatment of *Arma* in its initial stages.

Considering the above factors, in this present study an effort has been made to evaluate the efficacy of *Shirishbeejadi Anjana* in the management of *Arma* and to assess the adverse effects/toxic effects of the drug.

AIMS AND OBJECTIVES

1. To evaluate the efficacy of *Shirishbeejadi Anjana* in the management of *Arma*.
2. To see the side effects/toxic effects of the drug.

MATERIALS AND METHODS

Acharya Sushruta, Vagbhatta and some other *Acharya* mentioned that *Arma* is a *Chedana Sadhya Vyadhi*. They also indicated about the uses of various *Lekhan Anjana* to combat non-surgical conditions of *Arma*. *Lekhana* drugs possess *Katu, Kashaya, Ushna, Ruksha, Laghu*, And *Tikshan* properties.^[9] (A.S.U.14/9).

In describing the treatment of *Arma*, *Acharya Sushruta* mentioned that in *Arma*, treatment like that of *Shukra Roga* should be done.^[10] In the treatment of *Shukra Roga*, various *Anjanas* has been indicated. Out of these, *Shirishbeejadi Anjana* has been selected for the present research work.

Composition of *Shirishbeejadi Anjana*^[11] and their used parts are given in this table:

Table 1: Composition of *Shirishbeejadi Anjana*.

S.N	Drugs Name	Latin Name	Used Part
1.	<i>Shirish</i>	<i>Albizzia lebbbeck</i>	Seed
2.	<i>Maricha</i>	<i>Piper nigrum</i>	Fruit
3.	<i>Pippali</i>	<i>Piper longum</i>	Fruit
4.	<i>Saindhava</i>	Rock salt	

Method of preparation

The constituents no. 1-4 were taken in equal amount and pounded in *Khalva Yantra* till it becomes fine powder. *Vastraghalana* is done to get fine powder. Then it has been made in the form of *Varti* with the help of water and dried in shade and preserved in air tight container.

Inclusion Criteria

- ❖ Patients aged between 20-60 years.
- ❖ Patients presenting with clinical features of progressive Pterygium.

Exclusion Criteria

- ❖ Patients with any other associated ocular disease and any systemic disease.
- ❖ Pseudopterygium/ atrophic pterygium.
- ❖ The patient who had undergone excision of Pterygium (recurred)

Study Design: Open random single blind prospective study.

Patient Selection: The selection was done on the basis of clinical examination. The patients were then subjected to a thorough, examination and after establishing the diagnosis; the patients were taken for the clinical study irrespective of caste, creed, race and religion of age 20-60 years. Patients were selected from the out door patients attending the *Netra Roga* OPD/IPD of *Shalakya Tantra*, Dept. of Rishikul Campus, Haridwar, Uttarakhand.

20 patients were subjected for *Shirishbeejadi Anjana* along with honey for local application in the affected eye.

Interventions

Drug	:	<i>Sheerishbeejadiya Anjana</i>
Dose	:	90 mg in two divided doses
Route of administration	:	External application in eye
Time of administration	:	Twice a day (morning & evening)
Duration of Therapy	:	30 days

Mode of Administration of The Yoga

Purvakarma – The patient was explained about the entire procedure and an informed consent was taken. The patient is then made to sit on a knee height chair comfortably.

Pradhana Karma: The eye of the patient was opened with left hand. Then holding the *Shalaka* dipped in *Anjana* mixed with honey, with right hand *Anjana* was smeared from *Kaneenaka Sandhi* to *Apanga Sandhi* on the inner side of the eyelid uniformly. It was applied twice daily in the morning and evening for 30days.

Paschat Karma: When tears stop flowing out of the eye, the eye is washed with lukewarm water.

Follow up – Follow up was done once in 15 days for a period of one month.

Clinical Assessment

The signs and symptoms were assessed by adopting suitable scoring method. The details are as follows:

1) Length

No Corneal invasion	0
Corneal invasion < 2mm	1

Corneal invasion 2- 4 mm	2
Corneal invasion >4 mm	3

2) Thickness

Negligible growth	0
Had clearly visible episcleral vessels under the body of Pterygium	1
Had partially visible episcleral vessels under the body of Pterygium (Intermediate)	2
Had totally obscured episcleral vessels underlying the body of Pterygium (Fleshy).	3

Statistical analysis

All the information was based on various parameters were gathered and statistical study was carried out in terms of mean (m) standard deviation (S.D), standard error (S.E.) Student paired t test(t. value) Finally result were shown in terms of probability (p value) as $p > 0.05$ - Not Significant, $p < 0.01$ -Significant, $p < 0.001$ - Highly Significant $P < 0.0001$ - Extremely significant.

OBSERVATION AND RESULTS

Table 2: Number of patients in each category.

Parameters	No. of Eyes
Length of Arma Grade 1	12
Length of Arma Grade 2	8
Length of Arma Grade 3	0
Thickness of Arma Grade 1	0
Thickness of Arma Grade 2	11
Thickness of Arma Grade 3	8

Table 3: Percentage of Improvement.

No.	Chief Complaints	n	BT Mean	AT Mean	Mean Difference	% Difference	SD	SE	t	P
1.	Length	20	1.45	1.45	0	0	0	0	0	NS
2.	Thickness	20	1.65	1.55	0.1	6.06	0.31	0.69	1.45	NS

DISCUSSION

LENGTH: Before the treatment mean score of length was 1.45 which after treatment remained same with a relief of 0% which was statistically insignificant.

THICKNESS: Before the treatment mean score of thickness was 1.65 which after treatment reduced upto 1.55 with a relief of 6.06% which was statistically insignificant.

CONCLUSION

- “*Shirishbeejadi Anjana*” is not effective on reducing the thickness and length of *Arma*.
- There was no signs of progression at the end of 30 days in all patients after the treatment.
- *Shirishbeejadi Anjana*” showed no adverse effect/toxic effect but side effects of

This *Anjana*, were irritation and excessive watering from eyes which was overcome by advising the patient to keep eyes closed for five minutes after its application. Modifications in the preparation of *Anjana* at the level of pharmaceuticals are also required to overcome this excessive irritation.

RECOMENDATIONS

As the study was done over a small period of time, some aspects of the study might have been left out of consideration in future. The present study needs to be taken under consideration in future, with some alteration in formation of *Anjana* and should be done for a longer period of time so that the actual effect of drug can be further evaluated.

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