



Research Article

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CLINICAL STUDY TO EVALUATE THE EFFICACY OF PIPPALYADI GUTIKA ANJAN IN COMPARISON WITH CHANDRODAYA VARTI ANJAN IN ARMA WITH SPECIAL REFERENCE TO PROGRESSIVE PTERYGIUM

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ABSTRACT

Arma described as broad based, in modern science which resembles like pterygium. It is thin at the growing end, Mansa sanchayrupruddi (fleshy mass) seen in Shukla mandala. The aim of this study is to study the effect of Pippalyadi Gutika Anjan in comparison with Chandradaya Varti anjan in Arma (Progressive pterygium). The Objective is to study the efficacy of Pippalyadi Gutika anjan and Chandrodaya varti anjan in arma. A detailed proforma was prepared to study the disease. Patient willing for treatment of age group 40-70 years and having symptoms of Arma (Pterygium) encroaching on cornea not more than 2 mm from limbal margin were recruited in the study. Group A treated with Pippalyadi Gutika anjan while Group B (Trial Group) treated with Chandradaya varti anjana for 15 days. Local Application of Anjana with the help of Shalaka Tamra was done once daily in the morning. The results of drug used in group A i.e., Pippalyadi Gutika Anjan is Very significant on all the parameters except Size of pterygium. There is marginal difference of just 3% between overall assessments of therapy between two drugs. Irritation of eyes is reduced by the Ushna Veerya and Lekhana properly which removes the dushti mamsa dhatu and dushta kapha dosha. Redness is reduced by the sheeta veerya. The both the drugs are described as Lekhan Karma. It is concluded that both the drugs i.e., Pippalyadi Gutika and Chandrodaya Varti are equally effective in progressive pterygium.

Keywords: Arma, pterygium, Chedana, Anjan, Lekhan, Veerya.

INTRODUCTION

Ayurvedic knowledge originated in India more than 5000 years ago is often called "the mother of all Healing." Ayurveda places great emphasis on prevention and encourages the maintenance of health. Shalakya tantra, one amongst the eight branches of Ayurveda deals with the precious supra clavicular orangs, head & neck the diseases affecting them and their management. Acharya Sushruta specialized in ophthalmic surgery as well as general surgery. He explains 76 eye diseases out of which Arma is one among the 11 types of shuklagata netra roga. Arma is a disease in which a Mamsvridhi growth) developed from the Kaneenaka Sandhi canthus) or Apangasandhi (outer canthus Krishnamandala.¹ Arma described as broad based, in modern science which resembles like pterygium. It is thin at the growing end, Mansa sanchayrupruddi (fleshy mass) seen in Shukla mandala. Generally, symptoms depend upon then type and growth of the pterygium.² The epidemiological studies show the prevalence rates range from 0.3% to 37.46%.^{3,4} The prevalence of Pterygium in rural Central India was about 13% among adult Indians aged more than 30 years.⁵ Arma is a type of Mams vridhhi (muscle like growth) and all type of Mamsa vridhhi is Kaphatmaka, hence Acharyas have indicated Lekhana⁶ and Chedana Chikitsa⁷. When its growth is small it is asymptomatic. Eye disorders are the worst thing to happen with anyone. Among these Arma is one of the irritating conditions. The management of Pterygium in early stage is through application of topical lubricants, anti-inflammatory & corticosteroids. All these are effective for a short period and surgery is the only line of treatment according to modern science. Medical treatment of pterygium, according to modern ophthalmology involves tear substitutes and topical steroids for inflammation.⁸ Surgical excision is the only

satisfactory treatment but recurrence after surgery is the main problem. Recurrence rate is also very high ranges from 2.1%-87%.⁹ Treatment of Arma in early stages is Lekhana Anjana but when it encroaches on Krishna mandala then it is removed by Chedana Karma.¹⁰ Lekhana Anjana is one among 3 types of anjana described by Acharya Sushruta.¹¹

In this study totally, 80 patients were selected, and Group-A treated with Pippalyadi Gutika anjan in the dose of once daily for first 15 days and Group B treated with Chandradaya varti anjana for 15 days. Local Application of Anjana with the help of Shalaka Tamra was done once daily in the morning.

Aim

To study the effect of Pippalyadi Gutika Anjan in comparison with Chandradaya Varti anjan in arma (Progressive pterygium)

Objectives

- To study of arma in Ayurveda and modern medical science.
- To study the etiological factors in development of Arma.
- To study the efficacy of Pippalyadi Gutika anjan and Chandrodaya varti anjan in arma.
- To observe the adverse effect of Pippalyadi Gutika anjan and Chandrodaya varti Anjan on arma.

MATERIALS AND METHODS

A detailed proforma was prepared to study the disease Arma with special reference to Pterygium. A well-informed consent was obtained from each participant before recruiting into the study.

Inclusion Criteria

- Patient willing for treatment of age group 40-70 years.
- Patients having symptoms of Arma (Pterygium) encroaching on cornea not more than 2 mm from limbal margin.

Exclusion Criteria

- Patients having arma encroaching on the cornea more than 2 mm from limbal margin.
- Patients of corneal ulcer; malignant eye condition dacryocystitis etc.

Ethical clearance

This study is carried out as per international conference of Harmonization-Good Clinical Practices Guidelines (ICH-GCP) and similarly study is approved with institutional ethics committee with reference no. YAC/04/2018.

Sampling Technique

Total 80 patients fulfilling the inclusion criteria of arma were selected from Yeshwant Ayurvedic College, Kodoli Taluk, Panhala, District Kolhapur, Maharashtra, India. Patients were recruited irrespective of caste, religion, income, sex, occupation, chronicity of the disease etc. Random sampling technique was adopted. All the patients were examined initially in O.P.D. and were selected for study based on clinical presentation. Patients were divided into two groups i.e., Group A and Group B.

Group A (Control Group)

Total 40 patients were included in this group. They were treated with Pippalyadi Gutika anjan. Dose – once daily for first 15 days and

Group B (Trial Group)

Total 40 patients were included in this group. They were treated with Chandradaya varti anjana for 15 days. Local Application of Anjana with the help of Shalaka Tamra was done once daily in the morning.

Administration

Local Application of Anjana with the help of Shalaka (tamra rod) was done once daily in the morning.

Assessment Phase (Criteria for assessment)

The effect of the treatment (result) was assessed regarding the clinical signs and symptoms based on grading and scoring system and overall improvement.

Clinical Assessment

The symptoms and signs were assessed by adopting suitable scoring method.

- Size of Pterygium
- Colour of Pterygium
- Watering of Eyes
- Effect on Irritation of Eyes

RESULTS

In this study total 80 healthy persons randomly taken for study between age group of 30– 80 years. The persons selected were divided in 2 groups. Group A administered with Pippalyadi Gutika Anjan and Group B administered Chandrodaya Varti Anjan as per plan of study. All the necessary information and observations documented in specified case paper is presented as-

Sex

Out of 40 Persons, 27 (67.50%) included in Group A was male and remaining 13 (32.50%) was female. Whereas in Group B, 27 (67.50%) males and 13 (32.50%) females contribute

Age

All Persons included in the study were divided into six age groups viz. 30 – 40, 41 – 50, 51 – 60, 61 – 70, 71 – 80. Highest persons i.e., 16 (40.00%) in Group A belongs to age group 41 -50 and 17 (42.50%) in group B were from age group 51 - 60. Following which, 11 (27.50%) in group A belongs to 30 – 40 and 13 (32.50%) from group B belongs to age group 41 -50 were included in the study. Rest in group A, 9 (22.50%) from 51 – 60, 4 (10.00%) from 61 – 70. In Group B, 5(12.50%) from 30 - 40, 3(12.50%) from 61 -70 and 2 (5.00%) each from 71 – 80.

Table 1: Effect of Pippalyadi Gutika on size of Pterygium

	Day			
	1 st	7 th	15 th	30 th
Mean	1.7	1.7	1.7	1.7
SD	0.46	0.46	0.51	0.46
p value		> 0.05	> 0.05	> 0.05

Table 3: Effect of Pippalyadi Gutika on Watering of Eyes

	Day			
	1 st	7 th	15 th	30 th
Mean	1.98	0.55	0.37	0.38
SD	0.53	0.90	0.77	0.77
p value		< 0.01	< 0.01	< 0.01

Table 5: Effect of Chandrodaya Varti

	Day			
	1 st	7 th	15 th	30 th
Mean	1.68	1.67	1.68	1.68
SD	0.47	0.47	0.47	0.47
p value		> 0.05	> 0.05	> 0.05

Table 2: Effect of Pippalyadi Gutika on colour of Pterygium

	Day			
	1 st	7 th	15 th	30 th
Mean	1.55	0.35	0.35	0.33
SD	1.11	0.86	0.86	0.8
p value		< 0.01	< 0.01	< 0.01

Table 4: Effect of Pippalyadi Gutika on Irritation of Eyes

	Day			
	1 st	7 th	15 th	30 th
Mean	1.63	0.57	0.4	0.35
SD	0.9	0.90	0.81	0.77
p value		< 0.01	< 0.01	< 0.01

Table 6: Effect of Chandrodaya Varti on colour of Pterygium

	Day			
	1 st	7 th	15 th	30 th
Mean	1.43	0.37	0.33	0.28
SD	0.84	0.70	0.73	0.68
p value		< 0.01	< 0.01	< 0.01

Table 7: Effect of Chandrodaya Varti on Watering of Eyes

	Day			
	1 st	7 th	15 th	30 th
Mean	2.15	0.37	0.30	0.28
SD	0.53	0.37	0.72	0.68
p value		< 0.01	< 0.01	< 0.01

Table 8: Effect of Chandrodaya Varti on Irritation of Eyes

	Day			
	1 st	7 th	15 th	30 th
Mean	1.6	0.4	0.3	0.3
SD	0.93	0.74	0.72	0.72
p value		< 0.01	< 0.01	< 0.01

Table 9: Comparison of Effect on parameters

Parameters	Mean± SD		P value
	Group - A	Group - B	
Size of Pterygium	1.67 ± 0.47	1.70 ± 0.46	0.8123
Colour of Pterygium	0.275 ± 0.67	0.325 ± 0.79	0.7634
Watering of Eyes	0.275 ± 0.67	0.375 ± 0.77	0.5409
Effect on Irritation of Eyes	0.30 ± 0.72	0.35 ± 0.76	0.7654

Effect of the therapy

Group A - Pippalyadi Gutika

Size of Pterygium

In the Group A of Pippalyadi Gutika Anjana, at the start of the study mean size of pterygium was 1.7 ± 0.46, at the end of 7th day the score remains constant i.e., 1.7 ± 0.46. The p value is > 0.05 hence the changes are statistically non-significant. Further after 15th Day, mean size score was 1.7 ± 0.51 the p value is > 0.05 which is statistically non-significant. At the end of the study i.e., on 30th Day, mean pterygium size score was 1.7 ± 0.46. The p value is > 0.05 which is also statistically non-significant.

(Table 1)

Colour of Pterygium

In the Group A of Pippalyadi Gutika Anjana, at the start of the study mean score for colour of pterygium was 1.55 ± 1.11, at the end of 7th day the score reduces to i.e., 0.35 ± 0.86. The p value is < 0.01 hence the changes are statistically very significant. Further after 15th Day, mean colour score was 0.35 ± 0.86. The p value is < 0.01 which is statistically very significant. At the end of the study i.e., on 30th Day, mean pterygium colour score was 0.33 ± 0.8. The p value is < 0.01 which is also statistically very significant. (Table 2)

Watering of eyes

In the Group A of Pippalyadi Gutika Anjana, at the start of the study mean score for watering of eyes was 1.98 ± 0.53, at the end of 7th day the score reduces to i.e., 0.55 ± 0.90. The p value is < 0.01 hence the changes are statistically very significant. Further after 15th Day, mean watering score was 0.37 ± 0.77. The p value is < 0.01 which is statistically very significant. At the end of the study i.e., on 30th Day, mean watering score was 0.38 ± 0.77. The p value is < 0.01 which is also statistically very significant.

(Table 3)

Irritation

In the Group A of Pippalyadi Gutika Anjana, at the start of the study mean score for irritation of eyes was 1.63 ± 0.9, at the end of 7th day the score reduces to i.e., 0.57 ± 0.90. The p value is < 0.01 hence the changes are statistically very significant. Further after 15th Day, mean irritation score was 0.40 ± 0.81. The p value is < 0.01 which is statistically very significant. At the end of the study i.e., on 30th Day, mean irritation score was 0.35 ± 0.77. The p value is < 0.01 which is also statistically very significant.

(Table 4)

Group B - Chandrodaya Varti

Size of Pterygium

In the Group - B of Chandrodaya Varti Anjana, at the start of the study mean size of pterygium was 1.68 ± 0.47, at the end of 7th day the score remains constant i.e., 1.67 ± 0.47. The p value is > 0.05 hence the changes are statistically non-significant. Further after 15th Day, mean size score was 1.68 ± 0.47 the p value is > 0.05 which is statistically non-significant. At the end of the study i.e., on 30th Day, mean pterygium size score was 1.68 ± 0.47. The p value is > 0.05 which is also statistically non-significant.

(Table 5)

Colour of Pterygium

In the Group - B of Chandrodaya Varti Anjana, at the start of the study mean score for colour of pterygium was 1.43 ± 0.84, at the end of 7th day the score reduces to i.e., 0.37 ± 0.70. The p value is < 0.01 hence the changes are statistically very significant. Further after 15th Day, mean colour score was 0.33 ± 0.73. The p value is < 0.01 which is statistically very significant. At the end of the study i.e., on 30th Day, mean pterygium colour score was 0.28 ± 0.68. The p value is < 0.01 which is also statistically very significant. (Table 6)

Watering of eyes

In the Group - B of Chandrodaya Varti Anjana, at the start of the study mean score for watering of eyes was 2.15 ± 0.53, at the end of 7th day the score reduces to i.e., 0.37 ± 0.37. The p value is < 0.01 hence the changes are statistically very significant. Further after 15th Day, mean watering score was 0.30 ± 0.77. The p value is < 0.01 which is statistically very significant. At the end of the study i.e., on 30th Day, mean watering score was 0.28 ± 0.68. The p value is < 0.01 which is also statistically very significant.

(Table 7)

Irritation

In the Group - B of Chandrodaya Varti Anjana, at the start of the study mean score for irritation of eyes was 1.6 ± 0.93, at the end of 7th day the score reduces to i.e., 0.4 ± 0.74. The p value is < 0.01 hence the changes are statistically very significant. Further after 15th Day, mean irritation score was 0.30 ± 0.72. The p value is < 0.01 which is statistically very significant. At the end of the study i.e., on 30th Day, mean irritation score was 0.3 ± 0.72. The p value is < 0.01 which is also statistically very significant.

(Table 8)

Comparison of effect of Pippalyadi anjana and Chandrodaya varti anjana (Table 9)

Size of Pterygium

Comparing effect of therapy for size pterygium between the groups, mean size of pterygium at the end of the study in Group A is $1.675 + 0.474$ while in Group B it is $1.7 + 0.464$. The p value is 0.8123 hence the changes are statistically non-significant.

Colour of Pterygium

Comparing effect of therapy for colour of Pterygium between the groups, mean colour of pterygium at the end of study in Group A is $0.275 + 0.678$ while in Group B it is $0.325 + 0.797$. The p value is 0.7634 hence the changes are statistically non-significant.

Irritation

Comparing effect of therapy for Irritation of Eyes between the groups, Mean Irritation at the end of study in Group A is $0.3 + 0.7232$ while in Group B it is $0.35 + 0.7696$. The p value is 0.7654 hence the changes are statistically non-significant.

Watering

Comparing effect of therapy for watering of Eyes between the groups, Mean Watering at the end of study in Group A is $0.275 + 0.678$ while in Group B it is $0.375 + 0.774$. The p value is 0.5409 hence the changes are statistically non-significant.

Overall Assessment of the Therapy

The overall assessment of the therapy suggests the percentage relief from signs and symptoms in group A (Pippalyadi Gutika anjan) is 59.76% which suggests the therapy is effective. In group B Chandrodaya Varti Anjan Percentage relief from signs and symptom is 62.97% which suggest the therapy is effective. Hence both the drugs are works effectively on arma (progressive pterygium).

The result of drug used in group A and Group B is very significant on all parameters except size of pterygium, while comparing both the drug are statistically insignificant also there is marginal difference of just 3% between overall assessment of therapy between two drugs. i.e., Pippalyadi Gutika anjana and Chandrodaya Varti anjan are equally effective on arma (Progressive Pterygium). There was no side effect of application although patients said that there was irritation on eye and then after watering there is cooling effect which was due to Sroto Shodhana.

DISCUSSION

Male patients working in outdoor conditions like farming are found more sufferer to progressive pterygium. The results of drug used in group A i.e., Pippalyadi Gutika Anjan is Very significant on all the parameters except Size of pterygium. The results of drug used in group B i.e., Chandrodaya Varti Anjan is Very significant on all the parameters except Size of pterygium. Also, there is marginal difference of just 3% between overall assessments of therapy between two drugs.

Current treatment for pterygium focuses on surgical excision and prevention of recurrence conjunctival auto grafting after pterygium excision which is done after it is fully developed, is associated with very low rates of recurrence and complications when compared to other surgical techniques. But scleral necrosis, cataract and iritis are the side effects of above therapy. To find the perfect path among these obstacles for complete cure of pterygium, Sharangadhara Samhita and Yogaratnakara had clearly mentioned Pippalyadi Gutika Anjan and Chandrodaya

varti anjan in Arma. But in Bhaishajya Ratnavali and Sharangadhara Samhita, there are references of application of Pippalyadi Gutika Anjan and Chandrodaya Varti Anjan for the treatment of Arma. It is very easy to apply and were cheap for the patients. Pippalyadi Gutika Anjan contain Pippali, Sendhanamak, Haritaki, Vibhitaki, Amalaki, Bhringaraja, Laksha, Loha Churna and Chandrodaya varti anjan contain Haritaki, Vacha, Kushtha, Pippali, Maricha, Vibhitaki. Patients often complain of irritation, watering and redness by all these symptoms we can say that there is predominance of vata, Pitta and Kapha Doshas. The disease is concerned with Shukla and Krushna Mandala which are made up of rasa, rakta and mamsa. The principle of treatment is to use Tridoshaghna, Chakshushya and rakta mansa dushti hara dravyas. Pippali has katu rasa, Anushra sheet veerya, Madhura vipaka, laghu and Tikshna Snigdha Guna. Sendhanamak has laghu Sukshma, Netrya and Tridoshaghna gunas. Haritaki has five rasas mainly kashaya madhura vipaka, ushna Veerya. Vibhitaki has kashaya rasa, madhura vipaka, Usha veerya Ruksha guru guna. Amalaki has five rasas, madhura vipaka, laghu, Ruksha Guna. Bhringaraja has katu tikta rasa, katu vipaka, kapha pittakaphakaram. Laksha has kashaya rasa, katu vipaka. Loha churna has tikta rasa, katu vipaka and kaphapitta shamaka. Vacha has tikta katu rasa, katu vipaka, ushna, Laghu veerya Tikshna guna. Kushtha has tikta katu, katu vipaka, ushna, Laghu Veerya Tikshna. Due to laghu Guna of drug the local obstruction in the Srotas is reduced, ushna veerya and katu vipaka of drugs reduction in the local vitiated kapha and Srotorodha. Irritation of eyes is reduced by the Ushna Veerya and Lekhana properly which removes the dushti mamsa dhatu and dushta kapha dosha. Redness is reduced by the sheeta veerya. The both the drugs are described as Lekhan Karma.

CONCLUSION

The principal of management of Arma according to Ayurveda is Lekhana. Hence various formulations having Lekhan properties are mentioned in the management of Arma. In the present study, Pippalyadi Gutika and Chandrodaya Varti are having Lekhana properties, hence both drugs work effectively in the management of Arma. While comparing of Effect of Therapy between both drugs, the comparative results are statistically insignificant. Hence, it is concluded that both the drugs i.e., Pippalyadi Gutika and Chandrodaya Varti are equally effective in progressive pterygium.

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