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A Clinical Study to Evaluate the Efficacy of "*Guarea Trichiloides* 30C" in Adults of 30 to 70 Years Age Group with Progressive Pterygium

Dr. Ambala Sriharitha[1], Dr. A. Yagnasri[2]

[1]BHMS, M.D.(Hom) (HMM), Professor, Department of Homoeopathic Materia Medica, MNR Homoeopathic Medical College, Sangareddy, Telangana, India
[2]BHMS, MNR Homoeopathic Medical College, Sangareddy, Telangana, India

Corresponding Author: Dr. Ambala Sriharitha

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ABSTRACT

A pterygium is a wing-shaped conjunctival fold that protrudes over the cornea from each side within the interpalpebral fissure. This condition is more prevalent in people who work outside and reside in hot climates. Surgery is often recommended for Pterygium patients for a variety of reasons, including cosmetic purpose, chronic pain, ongoing inflammation, aberrant astigmatism, restricted ocular movement, and impaired vision due to encroachment on the visual axis. This study is taken up to study efficiency of homoeopathic remedy Guarea Trichiloides 30c in improvement of Progressive Pterygium, and the results confirmed its efficacy.

KEY WORDS: Guarea Trichiloides, Homoeopathy, Progressive Pterygium, Tan'sand colleagues and Youngson Grading system.

INTRODUCTION

Pterygium is a pathological term for the hyperplastic and degenerative state of the conjunctiva. The prevalence of Pterygium surged from 6.7±0.8% in the 30- to 39-year-old age group to 25.3±2.1% in the 70- to 79-year-old age group in a population-based research conducted in rural central India. The prevalence in India is between 9.5 and 13% as of 2022. Pterygium's exact etiology is unknown, but it is more commonly foundin rural parts of the country & those who live in warm climates are more likely to get the disease. The widely held belief is that it is a reaction to the long-term effects of environmental conditions like exposure to the sun's UV rays, dry heat, strong winds, and a lot of dust.

Grades of Pterygium according to Youngson

I. Pterygium invading <l.5mm of cornea
II. Pterygium invading <half the radius of cornea
III. Pterygium invading >half the radius of cornea
IV. Pterygium almost reaching the center of cornea

Signs & symptoms: Foreign body sensation, redness, defective vision, diplopia. Triangular fold of bulbar conjunctiva in the area of palpebral aperture on the nasal side. Presenceof dilated episcleral vessels shows the extent of inflammation.

Diagnosis: Slit lamp examination should be done to identify the lesion and evaluate the adjacent corneal integrity and thickness.

Complications: Cystic degeneration and

infection. Epithelioma, fibrosarcoma, malignant melanoma.

Management: Protect eyes from sun, dust, wind. Lubrication with artificial tears 4 to 8 times per day to reduce ocular irritation.

Conventional Treatment: lubricating agents, antihistamines, surgical intervention.

Homoeopathic Approach: Individualized treatment based on totality of symptoms.

Therapeutics:

Zincum met, is beneficial when there are stinging pains at the inner canthus, profuse lachrymation, marked photophobia, especially from artificial light, external canthi that are cracked, and severe pressure across the root of the nose and supraorbital area, smarting, lachrymation, itching. Calcarea carb is helpful in treating Pterygium, particularly when it is brought on by exposure to cold and moisture. Ratanhia – it has cured pterygium. Argentum Nitricum – photophobia, blurred vision, pterygium.

Guarea Trichiloides is indicated when hearing loss alternates with eye problems. This medication,which causes a variety of symptoms and has been used to treat cases of Pterygium and chemosis.

Guarea is useful in chemosis, where the pad was so thick and stretched that nothing of the eye could be seen but a pupil at the bottom of a true tunnel.

In Robin Murphy repertory it was given as fourth grade remedy.

AIMS AND OBJECTIVES:

1. To show the efficacy of Guarea Trichiloides 30c in progressive Pterygium through Tan's and colleagues and Youngson Grading system.
2. To reduce the patient's symptoms like foreign body sensation, redness, defective vision,diplopia.
3. To reduce the size of Pterygium for cosmetic purposes.

HYPOTHESIS:

1. Null Hypothesis (H0): Guarea trichiloides is not effective in treatment of progressive pterygium.
2. Alternate Hypothesis (H1): Guarea trichiloides is effective in treatment of progressive pterygium.

SELECTION CRITERIA:

Inclusion criteria: Adult Patients within 30 to 70 years age group with primary, progressive Pterygium are included into study.

Exclusion criteria: Recurrent Pterygium, history of trauma, chemical injury, plant allergies, prior ocular surgeries are not taken into study.

METHODOLOGY:

The "Clinical study on the efficacy of Guarea Trichiloldes 30c in progressive pterygium" includes:

Duration of study: 6 months

Type of Study: Experimental study

Statistical Tool: Paired T-test

Study population: Patients from rural areas around Sangareddy, Telangana, and patients visiting MNR Homoeopathic Hospital OPD.

Sample size: Total 30 cases

Data collection procedures & Instruments used: The details of study were explained to every patient and consent was taken before enrolling in the study. Visual acuity measurement, slit lamp bio microscopic examination was done for the data collection of the study.

Assessment tool: The improvement of the patient's condition symptomatically and clinically with the help of Tan's and colleagues Classification and Youngson grading system.

Ethical consideration: Ethical clearance to this research topic was taken from the institution and ethical committee.

OBSERVATION AND RESULTS

Table no 1: Distribution of cases based on Gender:

Sno	Gender	Total no. of patients
1	FEMALES	18
2	MALES	12
3	TOTAL	30

Figure 1: Distribution of cases based on Gender:

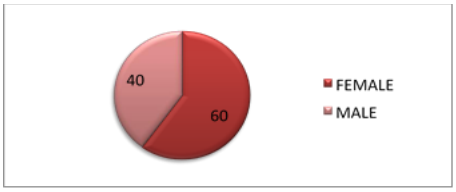
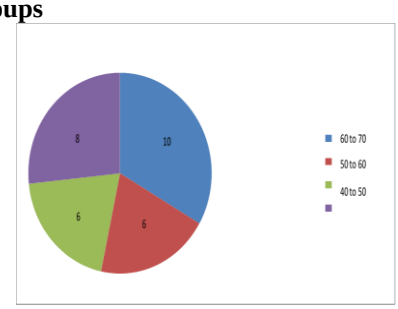


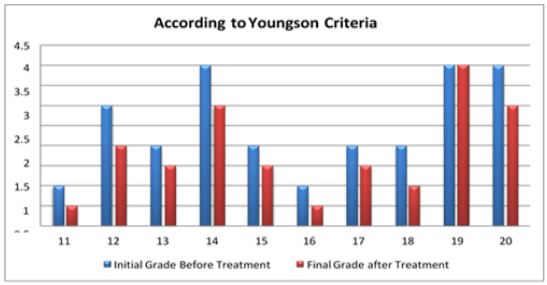
Table no 2- Distribution of cases among different age groups

AGE GROUP	NUMBER OF CASES
60 to 70	10
50 to 60	6
40 to 50	6
30 to 40	8

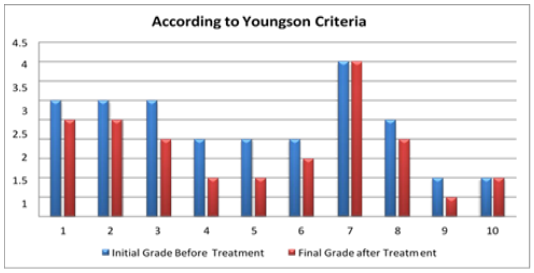
Figure 2: Distribution of cases among different age groups



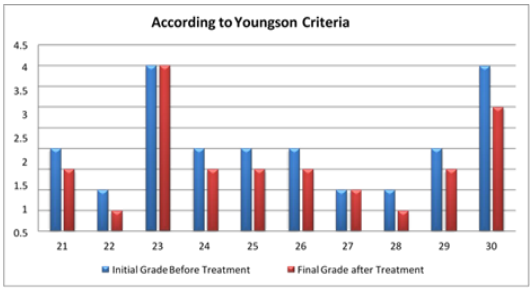
Graph 1: Improvement of each individual through graphical representation according to Young son criteria:



Graph: 1.a

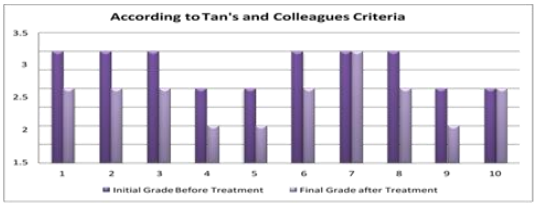


Graph: 1.b

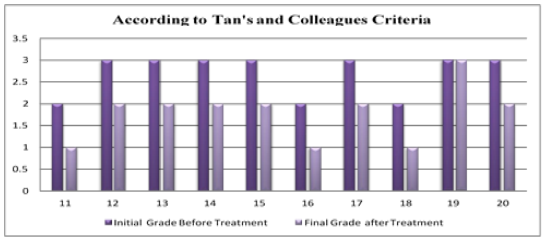


Graph 1.c

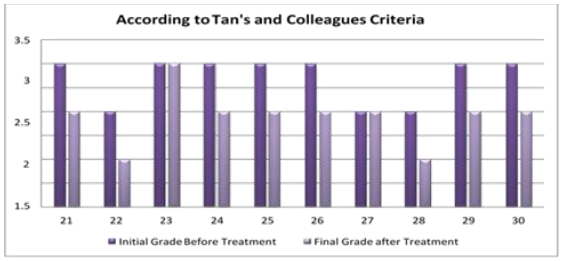
Graph:2 - Improvement of each individual through graphical representation according to Tan's and colleagues criteria:



Graph: 2a



Graph 2b:



Graph 2c:

Table no 3: symptomatic improvement according to Youngson Grading scale, Tans and Colleagues criteria:

S. No	Youngson Criteria[2]		Tan and Colleagues Criteria[2]		Symptomatic Relief
	Initial Grade Before Treatment	Final Grade after Treatment	Initial Grade Before Treatment	Final Grade after Treatment	
1	3 mm	2.5 mm	T3	T2	Redness decreased
2	3 mm	2.5 mm	T3	T2	Itching decreased
3	3 mm	2 mm	T3	T2	Redness decreased foreign body sensation decreased
4	2 mm	1 mm	T2	T1	Redness decreased
5	2 mm	1 mm	T2	T1	Redness decreased foreign body sensation decreased
6	2 mm	1.5 mm	T3	T2	Redness decreased foreign body sensation decreased
7	4 mm	4 mm	T3	T3	Redness decreased foreign body sensation decreased
8	2.5 mm	2 mm	T3	T2	Redness decreased
9	1 mm	0.5 mm	T2	T1	Redness decreased itching decreased
10	1 mm	1 mm	T2	T2	Itching decreased
11	1 mm	0.5 mm	T2	T1	Redness decreased itching decreased
12	3 mm	2 mm	T3	T2	Redness decreased foreign body sensation decreased
13	2 mm	1.5 mm	T3	T2	Redness decreased foreign body sensation decreased
14	4 mm	3 mm	T3	T2	Redness decreased foreign body sensation decreased
15	2 mm	1.5 mm	T3	T2	Redness decreased foreign body sensation decreased
16	1 mm	0.5 mm	T2	T1	Redness decreased
17	2 mm	1.5 mm	T3	T2	Redness decreased foreign body sensation decreased
18	2 mm	1 mm	T2	T1	Redness decreased
19	4 mm	4 mm	T3	T3	Redness decreased foreign body sensation decreased
20	4 mm	3 mm	T3	T2	Redness decreased, Itching decreased
21	2 mm	1.5 mm	T3	T2	Redness decreased foreign body sensation decreased
22	1 mm	0.5 mm	T2	T1	Redness decreased
23	4 mm	4 mm	T3	T3	Redness decreased foreign body sensation decreased
24	2 mm	1.5 mm	T3	T2	Redness decreased foreign body sensation decreased
25	2 mm	1.5 mm	T3	T2	Redness decreased, Itching decreased
26	2 mm	1.5 mm	T3	T2	Redness decreased foreign body sensation decreased
27	1 mm	1 mm	T2	T2	Redness decreased
28	1 mm	0.5 mm	T2	T1	Redness decreased
29	2 mm	1.5 mm	T3	T2	Redness decreased foreign body sensation decreased
30	4 mm	3 mm	T3	T2	Redness decreased

Table 4: Distribution of cases based on Results:

S.NO	RESULTS	TOTAL NO OF CASES
1	Marked improvement	8
2	Moderate improvement	17
3	No improvement	5
	Total	30

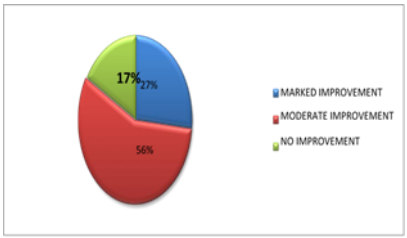


Figure: 3 Distribution of cases based on Results:

RESULTS

Among 30 cases 18(60%) are female, and 12(40%) are male. Females are more affected than males. Among 30 cases 10 cases are between 60 to 70 age group, 8 cases are between 30 to 40 age group, 6 cases are 40 to 50 age group, 6 cases are 50 to 60 age group. Most number of cases seen in 60 to 70 age group. After administering the remedy, it was observed that the level of invasion rate was decreased markedly and the tissue translucency was improved in 25 cases and in all cases symptomatic relief was seen. Among 30 cases of Pterygium marked improvement was seen in 8cases (26.6%), moderate improvement was seen in 17 cases (56.6%), no improvement was seen in 5 cases (16.6%) especially in thickness of the Pterygium and its invasion.

STATISTICAL ANALYSIS

Paired T test results:

P value and statistical significance:

The two tailed p value is less than 0.05. By conventional criteria this difference is considered to be extremely statistically significant.

Confidence interval:

The mean of before treatment minus after treatment equals 0.550. 95% confidence interval of thisdifference from 0.426 to 0.674

Intermediate values used in calculations:

t = 9.1044, df =29, standard error of difference=0.060

Table: 6 – statistical result

GROUP	BEFORE TREATMENT	AFTER TREATMENT
Mean	2.317	1.767
SD	1.054	1.058
SEM	0.193	0.193
N	30	30

DISCUSSION

Pterygium, common in people who live in hot areas and work outside are more susceptible to get this condition. In a population-based study from rural central India, prevalence of Pterygium increased from 6.7±0.8% in the age group from 30-39 years to 25.3±2.1% in the age group of 70-79 years. In India, as in the year 2022 the prevalence ranges from 9.5 to 13%. It is more commonly foundin rural parts of the country. In this study all cases are cases are from rural area. Bilateral Pterygium prevalence was 6.7% (95% CI: 6.2-7.2), while the prevalence of Pterygium in any eye was 13.2% (95% CI: 12.5%-13.9%). Regardless of gender, the incidence rose with age(0.001) and was highest among those in their 60s and 70s (15.8%). Plains (11.2%) and hilly regions (9.1%) had the highest prevalence, which was seen in coastal regions (20.3%)). In this study, it is observed that both Men and Women of 30 to 70 years age group are suffering with progressive Pterygium. Females are more effected than males according to this study. According to literature, symptoms of pterygium are foreign body sensation, redness, defective vision, and diplopia. In this study also all the cases have the above symptoms, and all cases have symptomatic improvement with Guarea Trichiloides. Gradation according to youngson criteria, 6 cases have 4 mm invasion, 12 cases have 2mm invasion, 7 cases have 1mm invasion, and 4 cases have 3 mm invasion and 1 case has 2.5 mm invasion. Invasion rate and tissue translucency is improved in 25 cases in this study.

CONCLUSION

The study reveals that Guarea Trichiloides is effective in improving Pterygium, & low potencies especially helpful in treating morphological and structural changes in Pterygium. Hence alternate hypothesis is accepted. This study also supports that Homoeopathy is effective even in surgical cases.

Declaration by Authors

Ethical Approval: Approved
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Source of Funding: None
Conflict of Interest: No conflicts of interest declared.

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