

TO STUDY THE EFFECT OF NETRA-TARPAN IN POST-SURGICAL PATIENT OF ARMA CHEDAN (PTERYGIUM EXCISION - BARE SCLERA TECHNIQUE) WITH SPECIAL REFERENCE TO POST-SURGICAL RECURRENCE OF ARMA (PTERYGIUM)

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ABSTRACT

Arma (Pterygium) is described by Acharyas under *Shuklagatrogas*. *Arma* is a wing shaped fold of conjunctiva encroaching cornea from either side within the inter-palpebral fissure. It is a response to prolonged effect of environmental factors such as exposure to sun, dry heat, wind and pollution. In rural population which is working in farms, occurrence of *Arma* (Pterygium) is common. For excision of *Arma* (Pterygium) mostly bare sclera surgical technique is accepted, as grafting surgical procedure is expensive. In bare sclera technique, recurrence rate is high. Hence patient have to undergo repeated surgeries. To avoid this recurrence, ayurvedic special therapy "*Netratarpan*" is one of the best option. Hence this therapy was selected for comparative study in post-surgical patient of *Armachedan* (pterygium excision-bare sclera technique) especially reference to post-surgical recurrence of *Arma* (Pterygium). After this comparative clinical study it can be concluded that use of *Netra-tarpan* with *TriphalaGhrit* in post-surgical patient of *Armachedan* (pterygium excision-bare sclera technique) can reduce chances of recurrence.

Key Words: *Arma-chedan*, bare sclera technique, *Netra-tarpan*, pterygium excision, *TriphalaGhrit*.

INTRODUCTION

Arma (Pterygium) is described by Acharyas under *Shuklagatrogas*.^{1,2,3,4} *Arma* is a wing shaped fold of conjunctiva encroaching cornea from either side within the inter-palpebral fissure.^{5,6,7,8}

Etiology: The etiology is unknown. An increased incidence is noted in latitudes nearer the equator and in individuals with a history of increased UV exposure. It is a response to prolonged effect of environmental factors such as exposure to sun, dry heat, wind and pollution.^{5,7}

Pathophysiology: The large number of theories that exist to explain the pathogenesis of pterygium (*arma*) growth underscores the uncertainty of the etiology.

The increased prevalence in hot dry climates and regions nearer to the equator suggest a role of environmental factors such as UV radiation and dryness. Actinic changes seen on histopathology similar to actinic keratoses on the skin also supports the role of UV radiation. It has been suggested that radiation activated fibroblasts may result in excessive production of material resulting in pterygium (*arma*). Other proposed theories include an inflammatory disorder, immune system and tear film abnormalities.^{5,6,7,8}

Primary prevention:As UV radiation, exposure to dust and pollution is believed to play an important role in the pathophysiology, avoidance of UV exposure is probably important to primary prevention. Ocular surface lubrication may also help.

Need of research topic:In rural population which is working in farms and other places where exposure to pollution is more, occurrence of *Arma* (Pterygium) is common. For excision of *Arma* (Pterygium) mostly *Armachedan* (bare sclera) surgical technique is accepted, as grafting surgical procedure is expensive. In *Armachedan* (bare sclera) surgical technique, recurrence rate is high. Hence patient have to undergo repeated surgeries. To avoid this recurrence, *Ayurvedic* special therapy “*Netratarpan*” is one of the best option. Hence this therapy was selected for comparative study in post-surgical patient of *Armachedan* (pterygium excision-bare sclera technique) especially reference to post-surgical recurrence of *Arma*(pterygium).

AIM & OBJECTIVES:

1. To study comparative results of *Netratarpan* with *Triphalaghrit* in post-surgical patients of *Armachedan* (pterygium excision – bare sclera technique) specially reference to post-surgical recurrence of *Arma* (pterygium).
2. To study the etiology and pathology of recurrence of *Arma*.
3. To aware and educate the people to take care to avoid occurrence and recurrence of *Arma*.

MATERIAL & METHODS:

Selection of drug:Trial drug *Triphalaghrit* was selected for netra-tarpan

Procurement of Drug:Triphalaghrit contents are *Amla* (*EmbeliaOfficinalis*), *Harad* (*TerminaliaChibula*) and *Behada* (*Ter-*

naliabellerica). Market preparation of *Triphalaghrit*was preferred.^{2,4}

RESEARCH DESIGN:

Study population:The study population having *Arma* was selected from patients attending NetraVibhag of Shalakyatantra department of Seth SakharamNemchand Jain Ayurved Hospital, Solapur and its periphery.

Sampling:Sampling was done randomly.

Sample size:30 patients having *Arma* and undergone for surgery *Armachedan*, willing to participate in study were selected for each group i.e. experimental as well as control group. These patient were selected from patients attending NetraVibhag of Shalakyatantra department of Seth SakharamNemchand Jain Ayurved Hospital, Solapur.

Study Setting: The study was carried at Seth SakharamNemchand Jain Ayurved Hospital, Solapur during Jan 2007 to Dec 2013.

Diagnostic criteria:The diagnosis was made by slit-lamp examination of the typical limbal growth at the characteristic location within the palpebral fissure. The diagnosis is most often clear clinically.

Inclusion criteria:Patients of 30 to 60 years age group, having *arma*and undergone for surgery “*armachedan*”, willing to participate in study were selected.

Exclusion criteria:

- Patients suffering from *pothaki*, *kumbhaki*and others *shothjanyavyadhi* of *vatrma*(follicles, papillae, giant papillae, concretions).
- Patients having *vathatvartma*, *kruchonmilan* and *pakshmagatvyadhi* (ptosis, lagophthalmos, entropion and ectropion).
- Patients already undergone for *Armachedan* and having recurrence.

- Patients having *Adhimanth* (glaucoma) *svrana* and *avranashukla* (corneal ulcer and corneal opacity) corneal degeneration and vascularization,.
- Advanced *Arma*(pterygium) crossing pupillary area.
- *Arma*with history of mechanical or chemical burn.
- Contact lens wearer as well as HIV patients were not included for clinical study.
- Patient not following line of treatment regularity in treatment.

TECHNIQUE OF DATA COLLECTION:The patient suffering from *Arma*(pterygium) were selected for the study as per inclusive and exclusive criteria. Detailed history in particular format was taken with present complaints. Visual acuity and other ocular examination was done thoroughly. Patients were examined for recurrence of *Arma* every month up to one year duration. After one year duration of therapy according to recurrence or non-recurrence of *Arma*, patient were added to particular group to evaluate results.

TREATMENT & METHODOLOGY SCHEDULE:Patients having *Arma*(pterygium) and undergone *Armachedan* (pterygium excision surgery with bare sclera technique) were selected for study. These patients were divided randomly in two groups. i. e. Experimental (Group A) and Control group (Group B).

After 21 days of surgery,

Group A was treated with *Netra-tarpan* with *TriphalaGhrit*. *Netra-tarpan* was given for subsequent 7 days each month for one year duration. Group B was prescribed carboxymethyl cellulose (lubricating) eye drops for one year duration.

Both groups were advised to use sun goggles for protection from pollution, dust and sunlight.

Precaution for Procedure of Netratarpan:

- Patients having *Abishyandaor* any infective or inflammatory condition of eye were given treatment for such condition then procedure of *Netra-tarpan* was followed.
- *Triphalaghrit* used for *Netra-tarpan* was sterile to avoid infection and inflammation to eye.
- *UdadPali* was used for *Netra-tarpan*.
- Flour of *Udad dal* (black lentils) was used for preparation of dough for *pali* around eye. Fresh preparation was used for *Netra-tarpan* each time.
- Proper sterilization precautions were taken using autoclave method to avoid infection and contamination.

Procedure of Netratarpan:

- *Snehan* with *til tail* and *aardraswed* was given at *mukh* and *manyapradesh* to each patient before *netra-tarpan*.
- Dough was prepared using flour of *Udad dal*, which was used to prepare *Pali* around eye for *netra-tarpan*.
- *TriphalaGhrit* was made luke warm in steel container with the help of hot water. Then it was gently poured with spoon in the *netrapali* prepared around eye from *apang* or *kaninikasandhi* (lateral canthus or medial canthus). Pouring of *ghrit* directly on *karnika* (cornea) was strictly avoided.
- *Triphalaghrit* was poured till eye lash merge in *Ghrit*.
- Patient was asked to blink gently so that *Triphala-ghrit* should reach every part of eye.
- Luke warmness of *ghrit* was maintained by removing old and adding fresh luke warm *ghrit* time to time as per season.
- The procedure of *Netra-Tarpan* was carried for 10 to 15 minutes.

- After that *ghrit* was removed from *netrapali* and *pali* was also removed and patient was asked to wash eyes with luke warm water.
- Patient was advised to use sun-goggle to avoid contact of dust, air and pollution.

Duration of therapy:

- One year.
- 10 to 15 minutes duration *Netra-tarpan* daily for subsequent 7 days each month for one year duration.

Assessment criteria:

- Patient were examined every month.
- After completion of one year duration the patients were examined specially for post-surgical recurrence of *Arma*

(pterygium) i.e. growth of *Arma* at limbus.

OBSERVATION & RESULTS

Total 30 patient were selected for each group. In group A (experimental group) 73% patients showed no recurrence and 23.66% patient showed recurrence of *Arma* while in group B (control group) 53.33% patients has no recurrence and 46.66% patients has recurrence.

After above mentioned therapy for one year duration, it was observed that chances of recurrence were reduced by 20% in patients of Group A as compare to Group B. Overall therapy effect is noticeable effective.

| | Recurrence | Percentage | No recurrence | Percentage |
|------------------------------|------------|------------|---------------|------------|
| Group A (Experimental Group) | 8 | 23.66% | 22 | 73% |
| Group B (Control Group) | 14 | 46.66% | 16 | 53.33% |

DISCUSSION

In Ayurveda many exclusive therapies are described which can be combined with modern medicinal as well as surgical treatment (described by Ayurveda as well as modern) for synergetic effect to benefit the patients and give the better lifestyle to people. In Shalakyatantra "*Netra-kriyakalpa*" is also a unique and effective therapy for treating and preventing eye diseases.^{1, 2, 3, 4} "*Netratarpan*" is one of them. *Triphalaghrit* is the trial drug used for *Netratarpan*. Its contents *Triphala* and *Ghrit* both are having *netrya* property.^{2,4} *Ghrita* contains vitamin A, K2 and lionelic acid. It is having anti-inflammatory and anti-cancer property. *Netratarpan* gives smoothening effect to eye. Thus it is useful in preventing inflammation and proliferation of tissue in post-operative period.

Probable Mode of Action

Pathologically *Arma* (pterygium) is a degenerative and hyperplastic condition of conjunctiva. The subconjunctival tissue undergoes elastotic degeneration and proliferation as vascularized granulation tissue under epithelium. *Triphala* and *ghrit* both are having *Netrya* property. *Ghrit* contains K2 and lionelic acid. It is having anti-inflammatory anti-cancer property. *Ghritis* also rich in vitamin A. Supplementation of Vitamin A reduces and treats dryness which occurs due to its deficiency. In *Netra-tarpan* all these properties nourishes the conjunctival layers and avoid inflammation and proliferation of tissue of conjunctiva. Thus helps to avoid recurrence of *Arma* after *Arma* chedan shastrakarma.

CONCLUSION

The clinical study reveals that use of *Netra-tarpan* with *Triphalaghrit* in post-surgical patient of *Arma* chedan (pterygium excision-bare sclera technique) can reduce chances of recurrence.

Limitation:

The study was limited to single geographical area having hot and dry climate. Sample size was very small.

Recommendation for future research:

The clinical study was a sincere effort to study the effect of *Netra-tarpan* with *TriphalaGhrit* in post-surgical patient of *ArmaChedan* (pterygium excision-bare sclera technique). Suggestion related to the study are welcome. As the sample size is small, the study has its own limitations so there is need to study and collect data in bigger sample size.

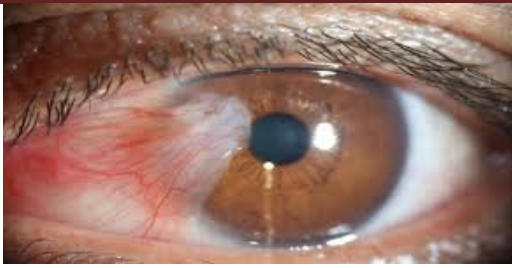
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