



# **‘ANCIENT DISEASE REVIEW ON ARMA W.S.R TO PTERYGIUM’**

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## ***Abstract –***

Eyes are the most important and beautiful among five sensory organs. It is said that 80% of the knowledge we gain through our eyes. It is needless to mention here the worth and praise about the eyes. Even though our eyes are one of the most important organs in our body, people neglect to care about them and rarely pay attention until there is some serious vision threatening problem. Arma is the Shuklagata roga, described in classical texts of Ayurveda. Disease Pterygium mentioned in modern science has its similarities with Arma based on its site of manifestation, clinical presentation, and surgical method of management. Pterygium is a common ocular-surface disorder capable of causing significant visual impairment and cosmetic deformity. At present surgical treatment is the only satisfactory approach, recurrence after surgical excision is common and recurred lesions grow more aggressively than the primary lesions. In Ayurveda all the Acharyas have said about Lekhan anjana for the treatment of Arma which is in early stage and

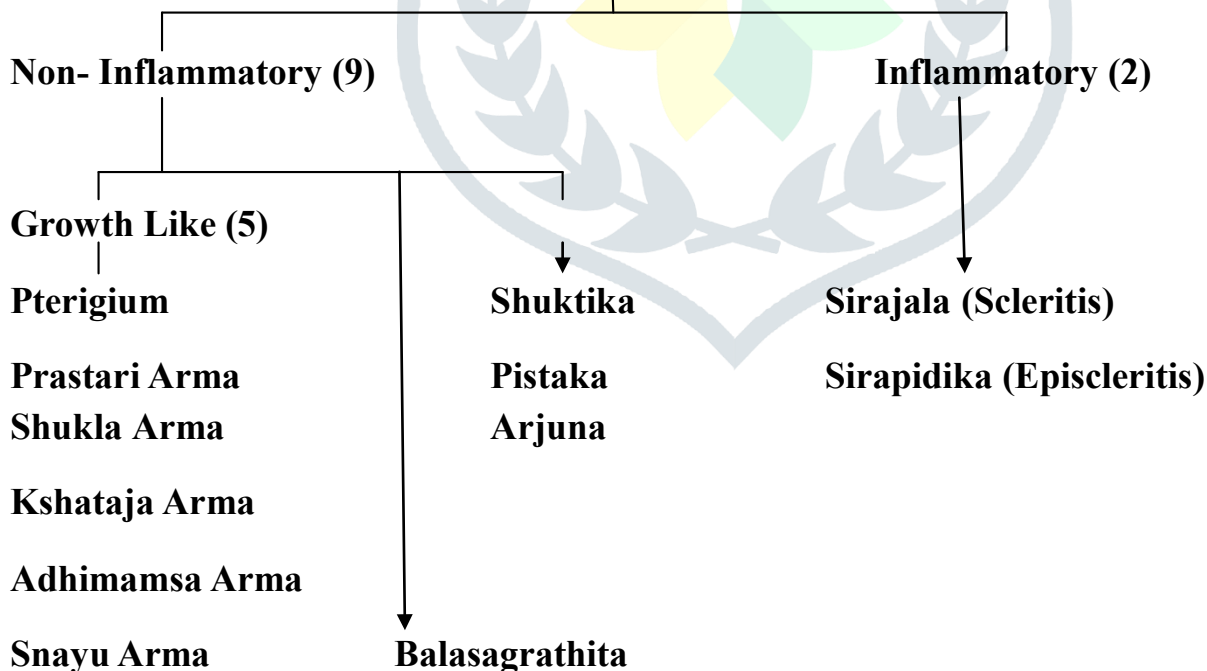
having thin membrane. When the growth encroaches to Krishna mandala then it is surgically removed.

**Keywords-** *Shalakyatantra, Netra, Arma, Pterygium, Management*

## Introduction-

Ayurveda is most old concise of medical science where many diseases have been described in details with advance treatment which is gradually achieved by conventional medical science now. Eyes are the most important and beautiful among five sensory organs. It is very difficult to imagine the existence of mankind without eyesight. Thus, one has to admit the sayings- “Sarvendriyanam nayanam pradhanam.” (chanakya). Pterygium is a degenerative condition of conjunctiva of unclear aetiology. Acharya Sushruta described 76 types of Netra Rogas among which 40 diseases indicated to be cure by surgical and Para-surgical procedure<sup>[1]</sup> Arma is a disease having exact similar entities to Pterygium explained in very advance form with absolute medical and surgical treatment to cure and prevent the recurrence of disease.

## Classification of Shuklagata Roga



Arma<sup>[2]</sup> is disease of Shukla Mandal (White part of eyeball) described by all Acharyas in Ayurvedic Text. “Iyarthi gacchathi ithi Arma” – the gradually spreading extra membrane in shukla

mandala (mamsa vrudhi) is known as Arma. [3] The common etiology of Netra Rogas can be considered as aetiology of Arma specially swedadi dhum nisevana (sweating, exposure to dust, smokes etc) causes locally khavaiguna (local erosion and irritation) and others aetiology like shukta arnala masadi sewana cause vitiation of dosha which further move upward in the head and reach at khavaigunya site (weak place) where dosh-dushya samurkshana (pathogenesis) takes place and clinical features appears. Prastari arma, shukla arma, raktaja arma, adhimamsa arma, and snayu arma (five types of arma) occur in the white portion of the eye.[3,4]

प्रस्तारिशुक्लक्षतजाधिमांस स्नाय्वर्मसंज्ञाः खलु पञ्च रोगाः ॥ सु उ ४ ३

- Prastari Arma arising in the white portion is extensive, thin, having bloody lustre and bluish.

**Dosha:** Sannipataja

**Prognosis:** Sadhya

A soft, quick developing, painless, growth of muscle spread sideways, bluish-red in colour is known as Prastaryarma and is caused by all the doshas together with blood.

According to B.P – प्रस्तारि –प्रस्तारि प्रथितमिहार्म शुक्लभागे विस्तीर्ण तनु रुधिरप्रभं सनीलम् ॥ सु उ४४

- Shukla arma appearing in white portion is soft, whitish and even and has delayed growth.

**Dosha:** Kaphaja

**Prognosis:** Sadhya

श्लेष्मजं इदं साध्यं च ॥ डल्हण

From Kapha, there develops on the sclera, an extra growth of muscle which is even, white and growing very slow, this is shuklarma.

According to A. H.: मृद्वशुवृद्धयरुड् मांस प्रस्तारि श्यावलोहितम् प्रस्तार्यर्म मलैः खात्रैः । अ ह् उ १०

The fleshy tissue having lotus like lustre and growing in the white portion is known as Raktarma.

**Dosha:** Raktaja

**Prognosis:** Sadhya एतद रक्तजं साध्यं च ॥ डल्हण

According to A. H.: लोहितार्म /क्षतजार्म –यन्मांसं प्रचयमुपैति शुक्लभागे पद्माभं तदुपदिशन्ति लोहितार्म ॥ सु उ ४ ५

- Shonitarma is an extra growth of muscle which is even, smooth and resembling a lotus flower (in colour).

Extensive, soft, thick, liver like or blackish in colour is known as Adhimamsa arma.

Dosha: Sannipataja

Prognosis: Sadhya

The muscle (of the sclera) becoming thick and hard, blue in colour like the clump of dried blood – this is known as Adhimamsa arma.

Fleshy tissue rough and pale growing in white portion is known as snayu arma.

Dosha: Sannipataja

Prognosis: Sadhya

Snava arma resembles a tendon.

**Chikitsa:** [5-8]

अर्म चाल्यं दधिनिभं नीलं रक्तमथापि वा धूसरं तनु यच्चापि शुक्रवत्तदुपाचरेत् ॥ Su. Ut. 15/17

अल्पं विस्तारेण दधिनिभं शुक्लार्मं नीलं प्रस्तारि रक्तं लोहितार्मं धूसरं पाण्डुरं

तनु स्नायु अर्मशुकवदेव लेख्याञ्जनैरेवोपचारणीयम् ।

स्निग्ध भक्तवतो यन्नमुपविष्टस्य यत्नतः ।

सरोषयेत् नयनं भिषक चूर्णस्तु लावणः ॥अ स.उ.५३

ततः "सैराषित तूर्ण" सुस्विन्न परिघद्वितम् ।

अ यंत्र वलीजातं तत्रैतल्लगयेद्भिषक ॥४॥

अपाङ्ग प्रेक्षमाणस्य बडिसेन समाहितः ।

मुचुण्ड्याऽऽदाय मेधावी सूचीसूत्रेण वा पुनः ॥९॥

न चोत्थापयता क्षिप्रं कार्यमभ्युन्नतं तु तत्

शस्त्राबाधभयाच्चास्य वर्त्मनी ग्राहयेद्दृढम् ॥६॥

ततः प्रशिथिलीभूतं त्रिभिरेव विलम्बितम् ।

उल्लिखन्मण्डलाग्रेण तीक्ष्णेन परिशोधयेत् ॥७॥

विमुक्त सर्वतश्चापि कृष्णाच्छक्लाच्च मण्डलात् ।

नीत्वा कनीनकोपान्तं छिन्दयान्नातिकलीनकम् ॥८॥

चतुर्भागास्थिते मासे नाक्षि व्यापत्तिमृच्छति

कनीनकवधादस्रं नाडी वाऽप्युपजायते ॥१॥

हीनच्छेदात् पुनर्वृद्धिं शीघ्रमेवाधिगच्छति /१०/सु.उ.१५/४-९

- Arma which is small, curd like, blue or red, grey and thin should also be treated like Shukra (Thus arma of five types should be treated with scraping with collyrium like shukra.)
- Arma which is leathery, thick and densely covered with fibres and fleshy tissue and has reached the black circle should be excised verily.
- Among the five varieties of Arma described, that which is thin, turbid like smoke, red and which resembles curds, are to be treated in the same manner as of Shukra.

अर्म यज्जालवद्वयापि तदप्युन्मार्ज्यं लम्बितम् ॥ छिन्दयाद्वाकेण शस्त्रेण वर्त्मशुक्लान्तमाश्रितम् | Su. Ut. 15/10-

- When Arma is small, white like curd or blue mixed with red colour or dusky colour and thin in consistency, treatment is indicated like Shukra Roga (corneal ulcer) with Lekhakha Anjana <sup>[9]</sup> for Lekhana karma (scarifying action).

स्वेदयिष्वा ततः पर चाद्बधनीयात् कुशलो भिषक् ॥१२॥

दोषर्लुबलकालज्ञः स्नेहं दत्त्वा यथाहितम् |

वागवत् संविधानं तु तस्य कुर्यादतः परम् ॥१३॥

त्र्यहान्मुक्त्वा करस्वेदं दत्त्वा शोधनमाचरेत् |१४|सु.३.१७/११-१३

करञ्जबीजामलकमधुकैः साधितं पयः ॥१४॥

हितमाश्च्योतनं शूले विरहनः क्षौदसयुतम् ।

मधुकोत्पलकिञ्जल्कदूर्वाकल्कैश्च मूर्धनि ॥१५॥

प्रलेपः सघृतः शीतः क्षीरपिष्टः प्रशस्यते |१६|सु.उ.१७/१४-१५

लेख्याञ्जनैरपहरेदर्मशेषं भवेदयदि ॥१६॥सु.उ.१५/१६

अर्म चाल्प दधिनिभं नीलं रक्तमथापि वा |

धूसर तनु यच्चापि शुक्रवत्तदुपाचरेत् ॥१७॥सु.उ.१७/१७

चर्माभं बहलं यत्तु स्नायुमांसघनावृतम् ।

छेदयमेव तदर्मं स्यात् कृष्णमण्डलगं च यत् ॥१८॥सु.उ.१७/१८

विशुद्धवर्णमक्लिष्ट क्रियास्वक्षि गतक्लमम् ।

छिन्नेऽर्मणि भवेत् सम्यग्यथास्तमनुपद्रवम् ॥१९॥ सु.उ.१५/१९

- Others drugs <sup>[10]</sup> used in Arma – Haritaki, Vibhitaki, Amlaki, Haridra, Daruharidra, Madhuyasti etc. Other medications
- Marichadi lepa - Yoga ratnakara, netrarogadhikara.
- Krishnalohadi putapaka and anjana - Yoga ratnakara, netrarogadhikara.
- Pippalyadi gutikanjana - Yoga ratnakara, netrarogadhikara.
- Pushpaakshadi rasakriya - Yoga ratnakara, netrarogadhikara.
- Nayana sukha varti – Bhaisajya ratnavali – 64/199.
- Shadanga guggulu - Chakradatta, 59/46.
- Vasakadi kwatha - Chakradatta, 59/47.
- Brhat vasadi kwatha – Chakradatta, 59/48-50.
- Satavaryadi churna - Yoga ratnakara, netrarogadhikara.
- Mahatriphaladi ghrita – Yoga ratnakara, netra rogadhikara.
- Lohadi guggulu – Yoga ratnakara, netrarogadhikara.

### Ayurvedic Shashtrakarma of Arma:<sup>[11]</sup>

After the patient has taken unctuous food and position the surgeon should irritate his eye carefully with powdered salt. Then the irritated arma should be fomented well and shaken and when it is wrinkled it should be caught hold of cautiously with hook held with a forceps while the patient looks at the outer corner of the eye; again, with the help of needle-thread it should be raised but should not be lifted too much suddenly; at the same time the lids should be held firmly to avoid surgical injury. Thus when loosened being held with all the three, it should be lifted and all its connection are removed with sharp mandalagra instrument and freed fully from black and white circles it should be taken near inner canthus and excised not touching it (inner canthus). If one-fourth of the tissue remains there is no risk to eyes but if inner canthus is injured, it may cause haemorrhage or sinus. If excision is deficient, it grows again quickly.

Arma which is spread like network and located in white circle near lids should also be lifted, held with hook and excised (with mandalagra).

### Arma Shashtrakarma Paschyata Karma (Post Operative Procedure):

‘प्रतिसारणमक्ष्णोस्तु ततः कार्यमनन्तरम् ॥

यावनालस्य चूर्णेन् त्रिकटोर्लवणस्य च । स्वेदयित्वा ततः पश्चाद्दध्नीयात् कुशलो भिषक् ॥

दोषर्तुबलकालज्ञः स्नेहं दत्त्वा यथाहितम् । व्रणवत् संविधानं तु तस्य कुर्यादतः परम् ॥

त्र्यहान्मुक्त्वा करस्वेदं दत्त्वा शोधनमाचरेत् । **Su. Ut. 15/11-14**

Thereafter eyes should be rubbed with powder of yavakshara, trikatu and salt. Then after fomenting, the expert surgeon considering dosha, season, strength and condition should bandage it after applying (suitable) sneha. Then it should be managed like wound; after three days the bandage should be removed, the wound fomented with hand and cleansed.

### Post Operative Management of Complication:

करञ्जबीजामलकमधुकैः साधितं पयः ॥ हितमाश्च्योतनं शूले द्विरह्यः क्षौद्रसंयुतम् ।

मधुकोत्पलकिञ्जल्कदूर्वाकल्कैश्च मूर्धनि ॥ प्रलेपः सघृतः शीतः क्षीरपिष्टः प्रशस्यते । **Su. Ut. 15/14-16**

In case of pain, milk cooked with karanja seed, amalaki, and madhuka mixed with honey should be used as eye drop twice a day.

The paste of madhuka, utpala, lotus stames and durva pounded with milk, mixed with ghee and cooled should be applied to head.

If there be residual of arma, it should be removed with scraping collyrium.

### MODERN CONCEPT- PTERYGIUM

**Definition:** Pterygium (L. Pterygion = a wing) is a wing-shaped fold of conjunctiva encroaching upon the cornea from either side within the interpalpebral fissure.

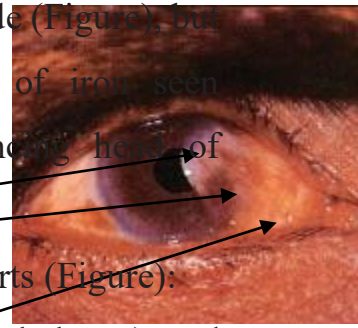
**Aetiology:** Aetiology of pterygium is not definitely known. But the disease is more common in people living in hot climates. Therefore, the most accepted view is that it is a response to prolonged effect of environmental factors such as

- exposure to sun (ultraviolet rays),
- dry heat,
- high wind
- abundance of dust.

**Pathology:** Pathologically pterygium is a degenerative and hyperplastic condition of conjunctiva. The subconjunctival tissue undergoes elastotic degeneration and proliferates as vascularised granulation tissue under the epithelium, which ultimately encroaches the cornea. The corneal epithelium, Bowman's layer and superficial stroma are destroyed.

**Clinical features:** Pterygium is more common in elderly males doing outdoor work. It may be unilateral or bilateral. It presents as a triangular fold of conjunctiva encroaching the cornea

in the area of palpebral aperture, usually on the nasal side (Figure), but may also occur on the temporal side. Deposition of iron seen sometimes in corneal epithelium anterior to advancing head of pterygium is called *stocker's line*.



**Parts:** A fully developed pterygium consists of three parts (Figure):

- i. *Head* (apical part present on the cornea),
- ii. *Neck* (limbal part), and
- iii. *Body* (scleral part) extending between limbus and the canthus.

**Types:** Depending upon the progression it may be progressive or regressive pterygium.

- *Progressive pterygium* is thick, fleshy and vascular with a few infiltrates in the cornea, in front of the head of the pterygium (called cap of pterygium).
- *Regressive pterygium* is thin, atrophic, attenuated with very little vascularity. There is no cap. Ultimately it becomes membranous but never disappears.

**Symptoms:** Pterygium is an asymptomatic condition in the early stages, except for *cosmetic intolerance*. *Visual disturbances* occur when it encroaches the pupillary area or due to corneal astigmatism induced due to fibrosis in the regressive stage. Occasionally *diplopia* may occur due to limitation of ocular movements.

**Complications:** like cystic degeneration and infection are infrequent. Rarely, neoplastic change to epithelioma, fibrosarcoma or malignant melanoma, may occur.

**Differential diagnosis:** Pterygium must be differentiated from pseudo pterygium. *Pseudo pterygium* is a fold of bulbar conjunctiva attached to the cornea. It is formed due to adhesions of chemoses bulbar conjunctiva to the marginal corneal ulcer. It usually occurs following chemical burns of the eye.

Differences between pterygium and pseudo pterygium.

	<b>Pterygium</b>	<b>Pseudo pterygium</b>
1. Aetiology	Degenerative process	Inflammatory process
2. Age	Usually occurs in elderly persons	Can occur at any age
3. Site	Always situated in the palpebral aperture	Can occur at any site



4. Stages	Either Progressive, regressive or stationary	Always stationary
5. Probe test	Probe cannot be passed underneath	Probe can be passed under the neck

**Treatment:** Surgical excision is the only satisfactory treatment, which may be indicated for:

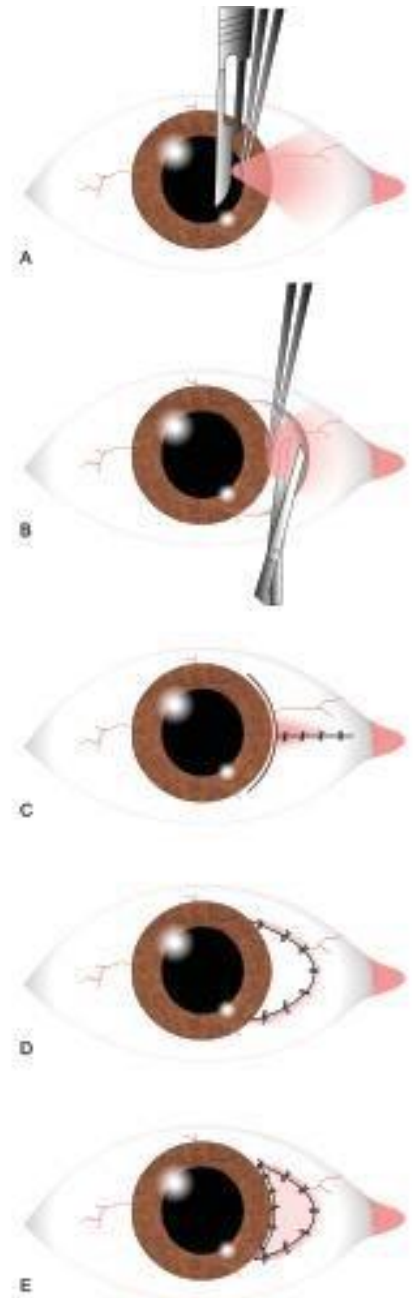
- (1) cosmetic reasons,
- (2) continued progression threatening to encroach onto the pupillary area (once the pterygium has encroached pupillary area, wait till it crosses on the other side),
- (3) diplopia due to interference in ocular movements.

*Recurrence* of the pterygium after surgical excision is the main problem (30-50%). However, it can be reduced by any of the following measures:

1. Transplantation of pterygium in the lower fornix (McReynold's operation) is not performed now.
2. Postoperative beta irradiations (not used now).
3. Postoperative use of antimetabolic drugs such as mitomycin-C or thiotepa.
4. Surgical excision with bare sclera.
5. Surgical excision with free conjunctival graft taken from the same eye or other eye is presently the preferred technique.
6. In recurrent recalcitrant pterygium, surgical excision should be coupled with lamellar keratectomy and lamellar keratoplasty.

## Surgical technique of pterygium excision:

1. After topical anaesthesia, eye is cleansed, draped and exposed using universal eye speculum.
2. Head of the pterygium is lifted and dissected off the cornea very meticulously (Fig. A).
3. The main mass of pterygium is then separated from the sclera underneath and the conjunctiva superficially.
4. Pterygium tissue is then excised taking care not to damage the underlying medial rectus muscle (Fig. B).
5. Haemostasis is achieved and the episcleral tissue exposed is cauterised thoroughly.
6. Next step differs depending upon the technique adopted as follows:
  - i. *In simple excision* the conjunctiva is sutured back to cover the sclera (Fig. C).
  - ii. *In bare sclera technique*, some part of conjunctiva is excised and its edges are sutured to the underlying episcleral tissue leaving some bare part of sclera near the limbus (Fig. D).
  - iii. *Free conjunctival membrane graft* may be used to cover the bare sclera (Fig. E). This procedure is more effective in reducing recurrence. Free conjunctiva from the same or opposite eye may be used as a graft.
  - iv. *Limbal conjunctival autograft transplantation (LLAT)* to cover the defect after pterygium excision is the latest and most effective technique in the management of pterygium.



### ***Discussion-***

Five types of Arma have been described in the Ayurvedic Text which is an example of fine elaboration of disease in ancient science are follow

- 1) Prastari Arma – It is wide and thin structure having red colour mixed with blue, situated on the white part of eye ball.
- 2) Shukla Arma – It is a soft, white structure progressing slowly and evenly on the white part of eye ball.
- 3) Kshataj Arma – It is a developing muscle on the white part of sclera resembling in colour of lotus flower. It has been called Rakatja arma by Vagbhata.
- 4) Adhiamamsaja Arma – It is wide, soft, thick structure on the white part of eye ball resembling to the colour of liver i.e., brown.
- 5) Snayu Arma – It is progressing muscular growth in stripe shape, rough and pale in colour on white part of eye ball.

### ***Conclusion-***

In all ayurvedic classics, arma is described under shuklagata netra roga, is a chedana sadhya vyadhi. Our acharyas have described aushadha chikitsa i.e., shukravat chikitsa in the form of lekhaana anjana, seka, lepa, pratisarana for arma in alpa, tanu, dadhinibha, rakta, neela or dhusara varna. Clinical features and management of arma simulates that of Pterygium in modern science. “Prevention is better than cure”, conjunctiva, the most superficial layer of the eyeball and hence utmost care and all precautionary measures should be taken to avoid its degeneration. Vata being the main causative factor for degeneration regular padabhyanga, intake of ghrita, shiroabhyanga has to be advocated in every individual who are under risk factors. In our classics, in view of arma nidana, chatra dharana, shirastrana measures to be observed regularly.

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