



## “Ancient Disease Review On Arma W.S.R To Pterygium”

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### ABSTRACT:

The eyes are not only the most important but also the most beautiful among our five sense organs. It is said that nearly 80% of the knowledge we acquire comes through vision. Their value is beyond measure, yet in daily life people often neglect proper eye care, paying attention only when a serious or vision-threatening problem arises <sup>(1)</sup>.

In Ayurveda, **Arma** is described as a *Shuklagata roga* (a disease affecting the white part of the eye). In modern science, it closely resembles **Pterygium**, as both share similarities in their site of occurrence, clinical features, and surgical management. Pterygium is a common ocular surface disorder that can lead to significant visual disturbances as well as cosmetic concerns.

Currently, surgery is considered the only reliable treatment, but recurrence is quite common, and the regrowth is often more aggressive than the original lesion. Ayurvedic texts, however, mention the use of **Lekhana Anjana** (scraping collyrium) in the early stages, particularly when the membrane is thin. Once the growth extends onto the **Krishna Mandala** (cornea), surgical removal becomes necessary.

**KEYWORD:** Shalakyatantra, Netra, Arma, Pterygium, Anjana.

### INTRODUCTION:

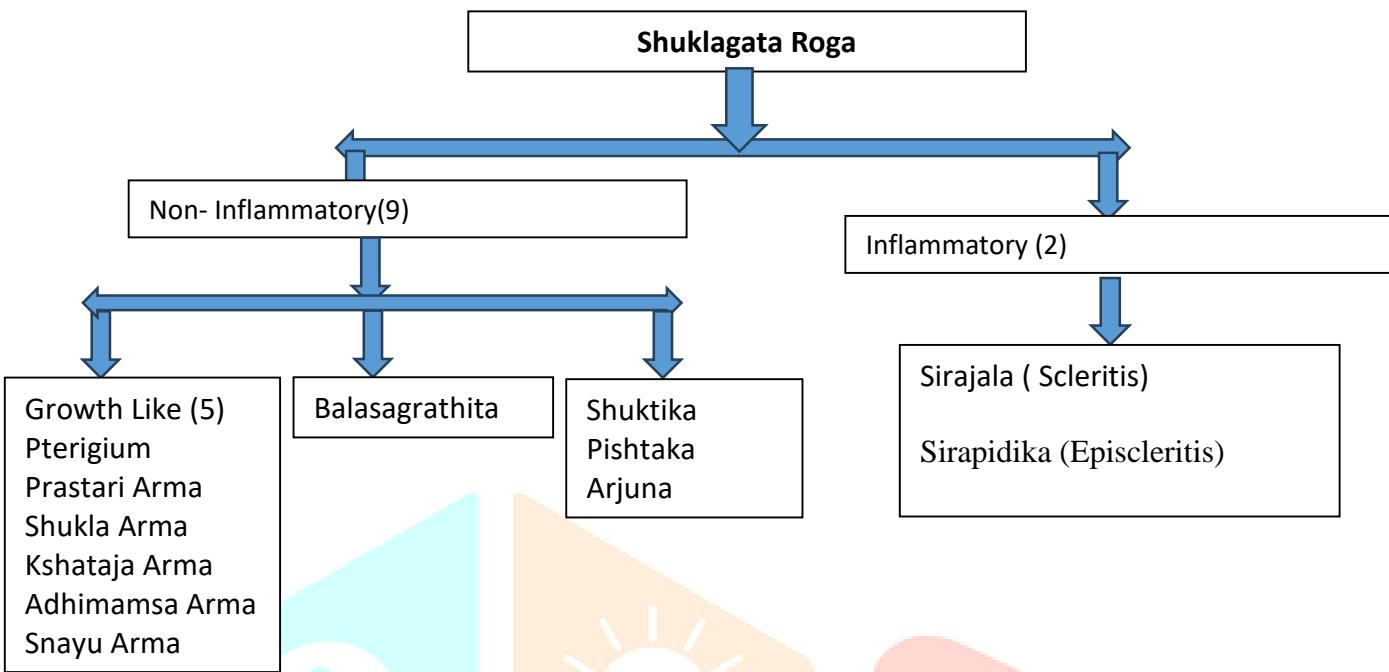
Ayurveda is one of the oldest and most comprehensive systems of medical science, describing many diseases in detail along with advanced treatments—some of which are only now being validated by modern medicine.

Among the five senses, the eyes are the most important and beautiful. Life without vision is hard to imagine, which is why the saying “*Sarvendriyanam nayanam pradhanam*” (Chanakya) holds true: the eyes are the foremost of all sensory organs.

**Pterygium** is a degenerative condition of the conjunctiva with an unclear cause. Acharya Sushruta described 76 types of eye diseases (*Netra Roga*), and 40 of these are treated using surgical or para-surgical methods <sup>(1)</sup>.

**Arma**, as described in Ayurveda, closely resembles Pterygium. It has been explained in detail with advanced medical and surgical approaches aimed not only at curing the disease but also at preventing its recurrence.

### Classification of Shuklagata Roga



1. Flow Chart: Classification of Shuklagata Roga

**Arma**<sup>(2)</sup> is a disease of the **Shukla Mandal** (the white part of the eyeball) described by all the classical Ayurvedic Acharyas. It is defined as a gradually spreading extra membrane on the white of the eye, also referred to as *mamsa vruddhi* (growth of tissue). The classic description goes: “*Iyarthi gacchathi iti Arma*”.

The causes of Arma are similar to those of other eye diseases. Local factors like excessive sweating, dust, smoke, and other irritants can weaken the white part of the eye, causing erosion and irritation (*khavaigunya*). Other causes, such as improper intake of certain foods like *shukta*, *arnala*, or *masa*, can disturb the body's doshas. These vitiated doshas then travel upward to weak spots in the eye, where the disease develops (*dosh-dushya samurkshana*), leading to visible clinical features. There are five types of Arma that can occur in the white of the eye<sup>(3,4)</sup>:

1. **Prastari Arma**
2. **Shukla Arma**
3. **Raktaja Arma**
4. **Adhimamsa Arma**
5. **Snayu Arma**

प्रस्तारिशुक्लक्षतजाधिमांस स्नायवर्मसंज्ञाः खलु पञ्च रोगाः ॥ सु ३ 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 ३४४

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

Dosha: Kaphaja

Prognosis: Sadhya

क्षेष्मजं 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.:

मृद्वशुवृद्धयरुद्ध मांस प्रस्तारि श्यावलोहितम् प्रस्तार्यर्म मलैः खात्रैः । अ ह ३ 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 ३४५

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

Snayu arma resembles a tendon.

**Chikitsa** <sup>(3,4)</sup>:

अर्म चाल्पं दधिनिभं नीलं रक्तमथापि वा भूखरं उनु वच्चापि शुक्रवत्तदुपाचरेत् ॥ Su. Ut.

अल्पं विस्तारेण दधिनिभं शुक्लार्म नीलं प्रस्तारि रक्तं लोहितार्म घूसरे पाण्डुरं उनु स्नायु अर्मशुकवदेव लेख्याञ्जनैरवोच्चारणीयम् ।

स्निग्धं भक्तवतो यन्नमुपविष्टस्य यत्रतः ।

सरोषयेतु नयनं भिषक चूर्णस्तु लावणः ॥ अ स .उ . 53

ततः "सैराषित तूर्ण" सुस्विन्नं परिभद्धितम् ।

अ यंत्र वलीजातं तत्रैतल्लग्येद्विषक ॥4॥

अपाङ्गं प्रेक्षमाणस्य बडियोन समाहितः ।

मुक्षुण्ड्याऽदाय मेधावी सूचीसूत्रेण वा पुनः ॥5॥

न चोत्थापयता क्षिप्रं कार्यमभ्युन्नतं तु तत् शखाबाघभयाच्चास्य वत्पनी ग्राहयेदुवम् ॥6॥

ततः प्रशिथिलीभूतं त्रिभिरेव विलम्बितम् ।

उल्लिखन्मण्डलाग्रेण तीक्ष्णेन परिशोधयेत् ॥7॥

विमुक्तं सर्वतथापि कृष्णाच्छक्लाच्च मण्डलात् ।

नीत्वा कनीनकोपान्तं छिन्दयान्नातिकलीनकम् ॥8॥

चतुर्भागस्थिते माझे नाशि व्यापतिमुच्छति कनीनकवधार्दर्श नाही वाऽप्युपजायते ॥9॥

हीनच्छेदात् पुनर्वृद्धिं शीघ्रमेवाधिगच्छति । 10/सु .उ . 15/4-9

- 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 यज्जालवद्यापि तदप्युन्मायं लम्बितम् ॥

छिन्दयाद्वाकेण राखेण वर्त्मगुक्तान्तमाश्रितम् । 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 Lekhana Anjana<sup>(5)</sup> for Lekhana karma (scarifying action).

स्वेदयिएचा ततः पर चाइधनीयात् कुशलो भिषक् ॥१२॥

दोषर्जुनलकालशः स्नेहं दत्त्वा यभाहितम् ।

वागवत् संविधानं तु तस्य कुर्यादतः परम् ॥१३॥

त्र्यहान्मुक्त्या करस्वेदं दत्त्वा शोधनमाचरेत् । १४ सु.३.१७/११-१२

करम्जभीजामलकमधुकैः साधितं पयः ॥१४॥

हितमाश्योतनं शूले विरहनः क्षौदसयुतम् ।

मधुकोत्पलकिम्बल्कयूर्या कल्कैश्च मूर्धनि ॥१५॥

प्रलेपः समूतः सौतः क्षीरपिष्टः प्रशस्यते । १६/सु.४.१७/१४-१५

लेख्यान्जनैरपहोदर्मशेषं भवेदयदि ॥१६॥सु.३.१५/१६

अर्म चाल्प दधिनिभं नौलं रक्तमथापि वा।

धूसर तनु यच्चापि शुक्रवत्तदुपाचरेत् ॥१७॥सु.४.१७/१७

चर्माभं बहलं यतु स्नायुमांसपना वृतम् ।

छेदयमेव तदर्भं स्यात् कृष्णमण्डलगे च यत् ॥१८॥ सु.३.१७/१८

विशुद्धवर्णमविलष्ट क्रियास्वचि गतक्लमम् ।

छिन्नेऽर्मणि भवेत् सम्यम्यथास्तमनुपद्रवम् ॥११॥सु.४.१५/१९

**Other drugs and formulations used in the management of Arma include<sup>(6)</sup> :**

- **Herbal medicines:** Haritaki, Vibhitaki, Amlaki, Haridra, Daruharidra, Madhuyasti, Satavaryadi Churna.
- **Medicated lepa (topical applications):** Marichadi Lepa (*Yoga Ratnakara*, *Netra Rogadhikara*).
- **Medicated anjanas (collyriums):**
  - Krishnalohadi Putapaka and Anjana (*Yoga Ratnakara*, *Netra Rogadhikara*)
  - Pippalyadi Gutikanjana (*Yoga Ratnakara*, *Netra Rogadhikara*)
- **Rasakriya and other therapies:** Pushpaakshadi Rasakriya (*Yoga Ratnakara*, *Netra Rogadhikara*), Nayana Sukha Varti (*Bhaisajya Ratnavali*, 64/199).
- **Kwathas (decoctions):** Vasakadi Kwatha, Brhat Vasadi Kwatha (*Chakradatta*, 59/47–50).
- **Guggulu preparations:** Shadanga Guggulu (*Chakradatta*, 59/46), Lohadi Guggulu (*Yoga Ratnakara*, *Netra Rogadhikara*).
- **Medicated ghrita (ghee):** Mahatriphaladi Ghrita (*Yoga Ratnakara*, *Netra Rogadhikara*).

These medicines are used either internally or externally depending on the stage and severity of the disease, aiming to reduce growth, control dosha imbalance, and improve eye health.

### Ayurvedic Shashtrakarma of Arma <sup>(7)</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):

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:

करञ्जनीजामलकमधुकैः साधितं पयः ॥

हितमाश्योतनं शूले द्विरसः क्षौद्रसंयुतम् ।

मधुकोत्पलकिञ्जल्कटूर्वाकल्कैश मूर्धनि ॥

प्रलेपः समृतः शीतः क्षीरपिण्डः 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 <sup>(8,9,10,11)</sup>

#### Definition:

Pterygium (from Latin *Pterygion*, meaning “wing”) is a wing-shaped fold of the conjunctiva that grows over the cornea, usually from either side, within the space between the eyelids (interpalpebral fissure).

#### Causes (Aetiology):

The exact cause of pterygium is not clearly known. However, it is more common in people living in hot, sunny climates. The most widely accepted explanation is that it develops as a response to long-term environmental exposure, including:

- Ultraviolet (UV) rays from the sun
- Dry heat
- Strong winds
- Dust and other irritants

## Pathology:

Pterygium is a degenerative and hyperplastic condition of the conjunctiva. The tissue under the conjunctiva undergoes elastotic degeneration and forms vascularized granulation tissue beneath the epithelium. Over time, this tissue grows over the cornea, destroying the corneal epithelium, Bowman's layer, and the superficial stroma.

## 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 of Pterygium:

A fully developed pterygium has three main parts:

1. **Head:** The apical part that lies on the cornea.
2. **Neck:** The limbal part, located at the junction of the cornea and sclera.
3. **Body:** The scleral portion that extends from the limbus to the canthus.

## Types:

Pterygium can be classified based on its progression:

- **Progressive Pterygium:** Thick, fleshy, and highly vascular, often with some corneal infiltrates in front of the head, known as the *cap of the pterygium*.
- **Regressive Pterygium:** Thin, atrophic, and less vascular. It gradually becomes membranous but never fully disappears.

## Symptoms:

In the early stages, pterygium is usually asymptomatic except for cosmetic concerns. Visual problems may arise when it reaches the pupillary area or induces corneal astigmatism due to fibrosis in the regressive stage. Rarely, it may cause double vision (diplopia) if ocular movement is restricted.

## Complications:

Complications like cystic degeneration or infections are uncommon. Very rarely, malignant changes such as epithelioma, fibrosarcoma, or melanoma may develop.

## Differential Diagnosis:

Pterygium should be distinguished from **pseudo-pterygium**, which is a fold of the bulbar conjunctiva attached to the cornea due to adhesions from a corneal ulcer. It commonly occurs after chemical burns to 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<sup>(8,9)</sup>:**

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

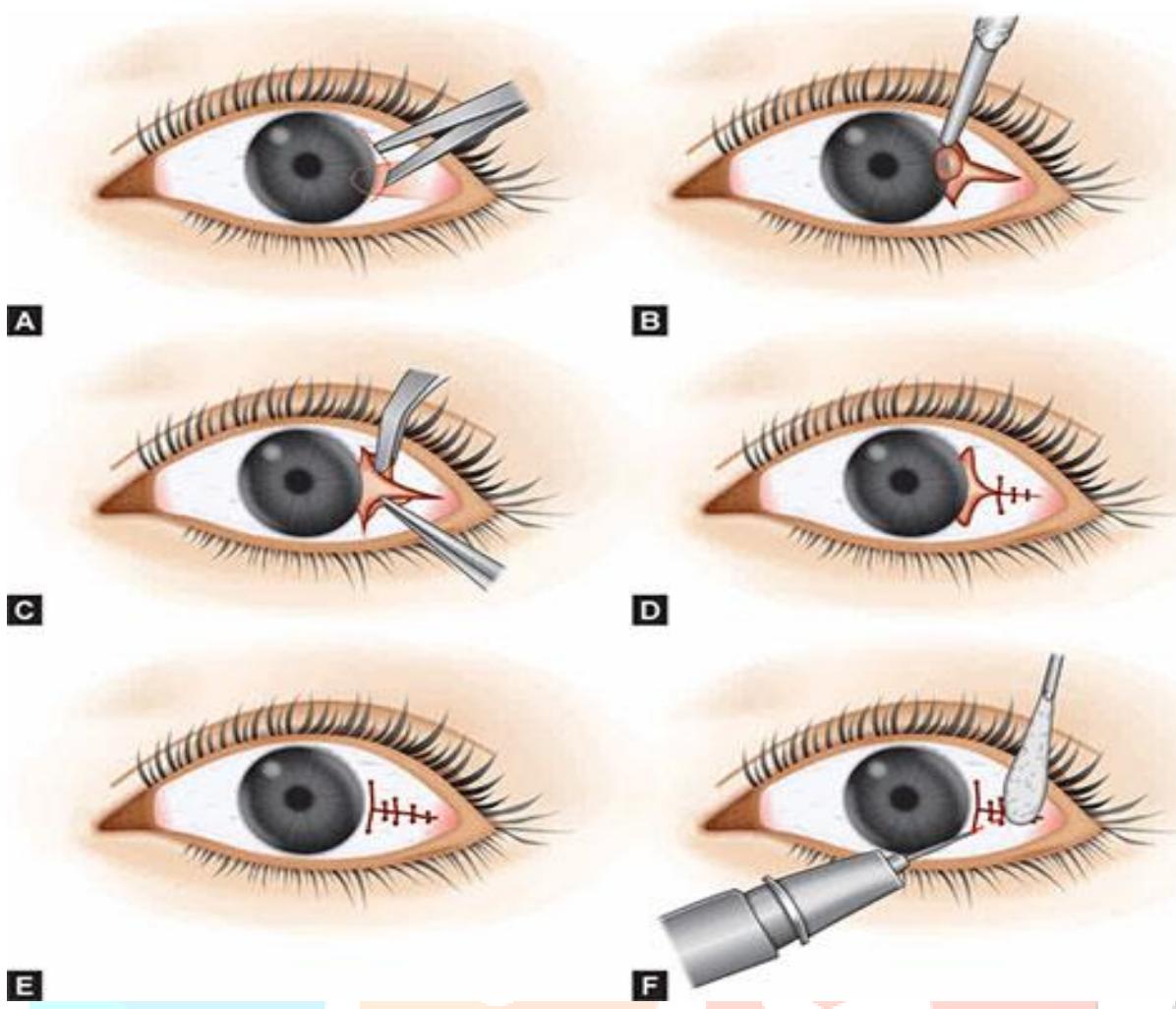
- (1) cosmetic reasons,
- (2) continued progression threatening to encroach onto the pupillary area (once the pterygium has encroached pupillary area, wait till it crosses on the other side),
- (3) diplopia due to interference in ocular movements. Recurrence of the pterygium after surgical excision is 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 antimitotic drugs such as mitomycin-C or thiopeta.
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 for Pterygium Excision:**

1. After applying topical anesthesia, the eye is cleaned, draped, and held open with a universal eye speculum.
2. The head of the pterygium is gently lifted and carefully dissected off the cornea.
3. The main body of the pterygium is then separated from the sclera underneath and from the superficial conjunctiva.
4. The entire pterygium tissue is excised, taking care to avoid injury to the underlying medial rectus muscle.
5. Haemostasis is achieved, and any exposed episcleral tissue is thoroughly cauterized.
6. The next steps depend on the technique used:
  - **Simple Excision:** The conjunctiva is sutured back to cover the sclera.
  - **Bare Sclera Technique:** Part of the conjunctiva is removed, and the remaining edges are sutured to the underlying episcleral tissue, leaving a portion of sclera near the limbus bare.
  - **Free Conjunctival Graft:** A piece of conjunctiva from the same or the opposite eye is used to cover the bare sclera. This method is more effective in reducing recurrence.
  - **Limbal Conjunctival Autograft Transplantation (LLAT):** The most advanced and effective technique, where a limbal conjunctival graft is transplanted to cover the defect after excision.



### Discussion:

Ayurvedic texts describe five types of **Arma**, illustrating the detailed understanding of eye diseases in ancient science:

1. **Prastari Arma:** A wide, thin structure on the white of the eye, with a red-blue coloration.
2. **Shukla Arma:** A soft, white growth that progresses slowly and evenly over the white of the eye.
3. **Kshataj Arma:** A developing muscular growth on the sclera, lotus-colored; Vaghbata refers to it as **Raktaja Arma**.
4. **Adhimamsaja Arma:** A wide, soft, and thick structure on the white of the eye, brown in color, resembling the liver.
5. **Snayu Arma:** A stripe-shaped, muscular growth that is rough, pale, and slowly progresses over the white of the eye.

### Conclusion:

In all classical Ayurvedic texts, **Arma** is classified under *Shuklagata Netra Roga* and is considered a condition manageable through surgical intervention (*Chedana Sadhya*). Acharyas have also described medical therapies (*Aushadha Chikitsa*), including **Lekhana Anjana**, **Seka**, **Lepa**, and **Pratisarana**, for early-stage Arma with different appearances, such as thin, soft, firm, red, blue, or grayish growths.

The clinical features and management of Arma closely resemble modern **Pterygium**. The principle “*Prevention is better than cure*” holds true here: since the conjunctiva is the most superficial layer of the eyeball, careful protection is essential to prevent degeneration. As **Vata** is considered the main factor in degeneration, preventive measures like **regular Padabhyanga**, intake of **Ghrita**, and **Shiroabhyanga** are recommended for individuals at risk. Additionally, classical measures such as **Chatra Dharana** (head protection) and **Shirastrana** (head hygiene and care) should be observed regularly to minimize the chances of developing Arma.

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