WJPMR, 2026, 12(5), 08-12

Review Article

WORLD JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.wjpmr.com

Impact Factor: 7.533

ISSN (O): 2455-3301

ISSN (P): 3051-2557

Coden USA: WJPMBB

A REVIEW ARTICLE ON ARMA WITH CORRELATION TO PTERYGIUM

[*1]Dr. Kalpana Sadashiv Gholve, [2]Dr. Mahesh Dolas, [3]Dr. Swati Sarwade

[1]PG 3rd Year, Department of Shalakya Tantra, PMT's Ayurved College, Shevgaon(Maharashtra).
[2]Associate Professor, Department of Shalakya Tantra, PMT's Ayurved College, Shevgaon(Maharashtra).
[3]Professor and HOD, Department of Shalakya Tantra, PMT's Ayurved College, Shevgaon(Maharashtra).

***Corresponding Author: Dr. Kalpana Sadashiv Gholve**

PG 3rd Year, Department of Shalakya Tantra, PMT's Ayurved College, Shevgaon(Maharashtra).

DOI: https://doi.org/10.5281/zenodo.19907320

How to cite this Article: [*1]Dr. Kalpana Sadashiv Gholve, [2]Dr. Mahesh Dolas, [3]Dr. Swati Sarwade (2026). A Review Article On Arma With Correlation To Pterygium. World Journal of Pharmaceutical and Medical Research, 12(5), 08–12.

Article Received on 16/03/2026 **Article Revised on 05/04/2026** **Article Published on 01/05/2026**

ABSTRACT

Arma refers to a fleshy overgrowth that can arise from either the inner or outer canthus *(Kaneenika or Apanga Sandhi)* and gradually extend toward the cornea *(Krishna Mandal).* In *Ayurveda, Arma* is classified under *Shuklagata Netra Roga.* From a modern medical perspective, it is comparable to pterygium, which is described as a wing-shaped fibrovascular proliferation originating from the palpebral conjunctiva and spreading onto the cornea, most commonly on the nasal side. Management primarily depends on the patient's symptoms rather than the visual appearance of the cornea. This topic has been explored through a detailed review of *Ayurvedic* classical texts along with their commentaries, as well as references from peer-reviewed journals and standard textbooks of modern medical science.

KEYWORDS: *Arma, Shuklagata Netra Roga,* Pterygium, *Krishna Mandal.*

INTRODUCTION

Netra (eyes) are described in classical texts as one of the most vital *Gyanendriyas* (sense organs). Among the five sense organs, the eyes are considered the most important and aesthetically significant. It is nearly impossible to imagine life without vision.

Acharya Sushruta and *Vagbhata* have elaborated on *Arma* under *Shuklagata Netra Roga. Arma* is defined as a fleshy growth *(Mamsa Vriddhi)* arising from the *Shleshmaka Kala Bhaga* (conjunctiva), which may progressively extend towards the cornea *(Krishna Mandala).*

Pterygium generally does not cause severe health complications; however, when this growth spreads over the transparent corneal area, it can interfere with vision.

The terms *Ru Dhatu* and *Manin Pratyaya Arman* are considered the roots of the word *Arma.* The phrase *"Shyati Gacchati Iti Arma"* indicates something that develops slowly over time.

The term "pterygium" is derived from the Greek word "pterygion," meaning a wing-like growth pattern.

ARMA – PTERYGIUM

Nidana / Etiology

Improper sleeping patterns, sudden immersion in cold water immediately after exposure to heat or sunlight, excessive sweating, and exposure to dust and smoke are among the common causes described for *Netra Rogas.* In addition, certain dietary factors such as the intake of *Shukta, Aarnala, Mamsadi* (meat-based foods), and excessive consumption of sour substances are believed to contribute to the pathogenesis, particularly affecting the vulnerable parts of the eye.

From a modern perspective, the exact cause of pterygium is not clearly established. It is generally regarded as an age-related degenerative condition of the conjunctiva. It is more frequently observed in individuals exposed to environmental factors such as dust, wind, ultraviolet (UV) radiation, smoke, and pollen, and is especially common in populations living in hot climates.

Prevalence

The occurrence of pterygium varies across different populations. It has been reported to affect approximately 3% of Australians, 23% of Black populations in the United States, 15% of Tibetans in China, 18% of Mongolians in China, 30% of Japanese individuals, and

around 7% of Singaporean Chinese and Indian populations.

In the *Ayurvedic Samhita*, there are five different types of *Arma*, according to the *doshas* involved.
1. *Prastari Arma* - Thin, wide structure with red and blue colors mixed togetherthat is located on the white of the eyeball i.e. *Shukla Tridosha*.
2. *Shulka Arma*- Soft, white structure that is growing slowly and uniformlyon the eyeball's white portion.*Kaphadosha*
3. *Kshataj Armaor Lohita Arma*-Fleshy linear growth resembling red lotus in colour. *Vagbhata* referred to it as *Rakatja Arma*. *Rakta*.
4. *Adhiamamsa Arma*- Broad, soft, thick structure on the white portion of the eyeball that is brown in color, much like the liver. *Tridosha*.
5. *Snayu Arma* - Striped in shape, rough, and pale in color.

Types according to modern review.
1. Progressive Pterygium Thick, fleshy and vascular with whitish infiltrates in the cornea, in front of the head of pterygium known as Fuch's spots/Islets of Vogt/Cap of pterygium.
2. 2. Atrophic Pterygium Thin, atropic, attenuated with very little vascularity. There is no cap, but deposition of iron (Stocker's line) may be present just anterior to its head.

Pathology
The above-mentioned etiological factors lead to the vitiation of *Doshas*, which then ascend towards the head and localize in the structurally weak areas of the eye. At this site, an interaction between vitiated *Doshas* and *Dushyas (Vata, Pitta, Kapha, and Rakta)* occurs, resulting in the manifestation of clinical symptoms.

Arma (specifically *Shukla Arma*) develops predominantly due to the aggravation of *Kapha Dosha*. It appears on the *Shukla Bhaga* (the white part of the eye) and is considered *Kruchchra Sadhya* (difficult to treat).

From a modern pathological perspective, pterygium is described as a degenerative as well as hyperplastic disorder of the conjunctiva. The sub-conjunctival tissue undergoes elastotic degeneration and proliferates into vascularized granulation tissue beneath the epithelium. This growth gradually extends onto the cornea. As the condition progresses, it leads to the destruction of the corneal epithelium, Bowman's layer, and the superficial stroma.

Signs and Symptoms
Pterygium is characterized by a triangular or wedge-shaped fibrovascular growth that originates from the conjunctiva and gradually extends onto the cornea. It is most commonly observed on the nasal side of the eye, although it can occasionally occur on the temporal side as well.

In the early stages, pterygium is usually asymptomatic and may go unnoticed. As the condition progresses, patients may begin to experience mild symptoms such as irritation, redness, and a sensation of a foreign body in the eye. These symptoms are often aggravated by exposure to environmental factors like dust, wind, or sunlight.

In advanced stages, when the growth extends over the cornea, it can lead to visual disturbances. Patients may develop blurred or defective vision, and in some cases, diplopia (double vision) may occur due to distortion of the corneal surface.

Pterygium is most commonly seen in individuals between 20 and 40 years of age and has a higher prevalence in males compared to females, possibly due to greater outdoor exposure.

A fully developed pterygium consists of the following anatomical parts.
Head: The apex of the growth, which is located on the cornea.
Neck: The narrow, constricted portion situated at the limbus (junction of cornea and sclera).
Body: The broader scleral portion of the growth.
Cap: A semilunar, whitish infiltrative zone present just anterior to the head, indicating active progression.

Stocker-Busaca's line
Deposition of iron in front of the apex of the pterygium is called Stocker- Busaca's line. Pterygium is more common on nasal side compared to the temporal side because of a More exposure of nasal conjunctiva to sunlight compared to temporal conjunctiva because of the reflection of light rays from nasal bones. b. Because the collection of tears in medial canthus and waste products, which are carried along with tears stay in the nasal side for more time there by irritating the nasal conjunctiva more than temporal conjunctiva.

Diagnosis
Inspection using torch, Slit lamp examination, Visual acuity test, Corneal Topography.

Differential Diagnosis
Pterygium has to be differentiated from. Pinguecula: Pinguecula appears as a yellowish nodule near the limbus with apex away from the cornea. Pseudo pterygium: Adhesion of a fold of scarred conjunctiva to part of peripheral cornea or sclera following inflammation. Papilloma. Ocular surface squamous neoplasia: Papilloma and OSSN have lobulated appearance with a sentinel vessel. Inflamed pterygium has to be differentiated from episcleritis, scleritis and phlyctenular conjunctivitis. All three present as nodular inflammation, whereas pterygium will have characteristic wing-shaped or triangular appearance.

Complications of Pterygium

Although pterygium is generally a benign condition, certain complications may arise, especially in advanced or neglected cases.

Cystic degeneration and infection: These are uncommon but possible complications. Degenerative changes may occur within the tissue, and secondary infection can occasionally develop, leading to discomfort and inflammation.

Neoplastic transformation: In rare instances, pterygium may undergo malignant changes. It can potentially transform into conditions such as epithelioma, fibrosarcoma, or malignant melanoma, although such occurrences are extremely infrequent.

Recurrent inflammation (Inflamed pterygium): Repeated episodes of inflammation may occur, characterized by redness, irritation, pain, and watering of the eyes. These recurrent inflammatory attacks can significantly affect the patient's comfort and quality of life.

Treatment

Arma

A) Lekhana Sadhya (non surgical)

B) Chedan Sadhya (surgical)

Arma should be removed because it is an aberrant growth in the Sukla Mandala. However, first attempt at medication before performing surgery. As a result, clinical classification should be done as follows.(a) Lekhana Sadhya (Non surgical).(b) Chedan Sadhya (Surgical).

(a) Lekhana sadhya arma characteristics include

sukrama (curd-like appearance), bluish (prastari arma), reddish (raktarma), greyish (snayu arma), and tanu. o Pittaj Abhishyand treatment and Krishnagata Rogas treatment are helpful in Arma. o In addition to lakhan anjanas, virechan and nasyakarma will remove dosas from the eyes, promoting a full recovery. o Nasya Karma: The liquid component of curds (Dadhi Mastu) should be mixed with fine powders of equal amounts of krshna loha, Tamra, Sankha, Pravala, Saindhav Lawana, Samudraphena, Kasisa, and Srotanjana. This can be used for Nasya karma or applied over the arma. o Oral medications: Satavaryadi Churna, Maha Triphaladi Ghrta, Lohadi Guggulu, Sadanga Guggulu, Vasakadi Kwath, and Brhat Vasadi Kwatha. o Marichadi Lepa: Apply the fine Marich and Bibhitaka powders.

(b) Chedan sadhya (Surgical) arma

A. Preoperative measures o Before performing an arma excision, the patient's body must be purified by delivering purifying treatments such emesis, purgation, and nasal purging.

o Ahara— Patient should be given oily food and ghee before surgery.

o Position: Patient can lie down in a bed, where head is slightly in a downward position; or sit comfortably.

o Lavana Churna Anjana/Avachurnana: The doctor should next apply collyrium, a finely powdered salt powder, to the eye to irritate the arma. Additionally, this will reduce the arma's swelling and get it ready for removal. Alternately, you could sprinkle the salt into your eye.

B. Operative Procedure

o When a lump of arma has been softened and made loose (bulged) by the administration of salt powder, sudation should be given to it. The eyes should be given fomentation with a cotton cloth (gauze piece) dipped in warm water.

o Parighattana - The arma must be frequently touched or rubbed after sudation in order to activate it.

o Chedana/Excision of Arma: The arma is freed up by mobilizing it and administering salt powder. These methods cause the swelling of the arma to develop folds and wrinkles. Applying the badisha yantra, or hook, should be done precisely where the arma begins to wrinkle. The patient is told to look in the direction of the eye's outer canthus or angle. The doctor performing the excision should be seated directly in front of the patient. The doctor should now lift the swelling arma while holding it with muchundi, or forceps. As an alternative, the patient is pierced exactly in front of a needle with a thread inserted.

o The significance of gently treating the swelling: The doctor should take his time and be gentle and slow when raising the edema. He risks prematurely rupturing the bulge if he rushes the procedure, which would lead to complications.

o Positioning the eye before excision is crucial- The surgeon should keep both eyelids open and in the right position to make the procedure convenient. Otherwise, there is always a chance that doing so will hurt or cut your eyelids. When are not securely secured in place, operating on the arma is challenging. Three hooks should be used to securely hold the swelling that has become loose and separated from the eyeball.

o Scalpel excision of swelling - The doctor should next cut or excise the arma using a Mandalagra shastra, or round-headed scalpel. The arma should be gradually dragged towards the inner canthus / angle of the eye and entirely excised when it separates from the white and black of the eye and other areas of the eyeball, all the while preventing harm to the angle of the eye.

o The significance of a sub-total excision - When removing the arma, the doctor should take care to leave one-fourth of the fleshy portion of it on the eyeball, rather than completely removing it. He won't harm the eye or eyesight by doing this, nor will he induce any new issues. If a doctor accidentally excises the inner canthus along with the arma without exercising caution, it results in hemorrhage and the development of a sinus tract in the eye. The remaining arma will grow back to its full size if less of it is removed.

C. Post-operative care

o Pratisarana: The operated part should be rubbed gently with powders of Yavanala, Trikatu and Saindhava lavana.
o Parisheka: The wound should be cleaned with sterilized gauze and honey; washed with cold water and lukewarm ghee.
o Vrana bandhana: Bandaging should be done after applying the honey and ghee.
o Sita Pradeha: The cooling medicaments like satadhatu ghrta should be applied to head and sole of the feet.
o When applying the bandages, he should take into account the patient's strength, the season, the dosha, and the time of day. After taking into account these variables, he should prudently administer fats as needed to the situation over the wound and treat it along the lines of ulcer wound treatment.
o Management of pain associated with excision of arma.
• Aschottana (drops) - If there is eye pain brought on by excision of the arma, the doctor should prescribe eye drops made from milk made with paste and a decoction of Pongamia pinnata, Gooseberry, and liquorice, to which honey has been added. Use this two times each day.
• Pralepa (ointment) - In addition to the aforementioned eye drops, the affected eye is covered with a paste made World Journal of Pharmaceutical and Medical Research of liquorice, lotus flower stamens, Bermuda grass, and milk with ghee added.
• Application of Lekhan anjana: If a piece of the arma that had to be excised has been missed, it needs to be eliminated by scraping collyrium on it. This collyrium removes the leftover piece. Signs of properly excised Arma
 Vishuddha varna: eye gets its normal colour.
 Aklishtam kriyasu akshi - eye functions properly like closing, opening, seeing etc.
 Gata klamam - tiredness of the eyes goes away.
 Anupadravam - the eye will not get afflicted by any complications.

Modern Concept of Treatment of Pterygium

In most cases, pterygium does not require treatment unless it interferes with vision or causes significant discomfort.
For symptomatic relief, eye drops or ointments containing corticosteroids may be prescribed to reduce inflammation and irritation.
Indications for Surgery

The primary indication for surgical treatment of pterygium is.
Visual impairment due to encroachment over the pupillary area
Astigmatism induced by the pterygium
Other indications include: Restriction of eye movements, persistent redness, foreign body sensation Cosmetic concerns Surgical Treatment.
Surgical excision is the treatment of choice for pterygium. The different surgical techniques include:
Simple excision of the pterygium
Excision with primary closure of the conjunctiva
Excision using the bare sclera technique
Excision combined with grafting procedures
Excision with free conjunctival autograft
Excision with amniotic membrane graft
Excision with mucous membrane graft
Excision with limbal conjunctival graft
Excision with rotational conjunctival flap
P.E.R.F.E.C.T. technique (Pterygium Extended Removal Followed by Extended Conjunctival Transplantation).

Surgeries to prevent recurrence of pterygium

Pterygium recurrence is attributed to the fact that pterygium is due to altered limbal stem cells, which continue to proliferate, resulting in recurrence. The recurrence rate is in the range of 30-50%. It is highest with simple pterygium excision by bare sclera technique, and least with limbal conjunctival grafting, as in the latter method, altered stem cells are replaced by normal ones. McReynolds operation: Transplantation of the head of the pterygium under bulbar conjunctiva. This will change the direction of pterygium growth, thereby preventing corneal encroachment, but cosmetically it may not be acceptable.

Other Methods

a) Pterygium excision with adjunct antimetabolites. Thiotepa eyedrops four times daily for 6 weeks. Mitomycin C (0.02%) applied topically to the bare sclera during surgery.
b). Pterygium excision with beta irradiation.
c)Treatment of pterygium encroaching the pupillary area of the cornea: Surgical excision of pterygium is followed by treatment of the residual opacity. Residual corneal opacity is treated by phototherapeutic keratectomy or lamellar keratoplasty.
Pterygium cannot be removed without leaving scar on the cornea, as it involves Bowman's membrane. Any lesion, which involves Bowman's membrane will leave scar. The scar left behind, depending on the density, requires phototherapeutic keratectomy or lamellar keratoplasty.

Work-up / Investigations for Pterygium Surgery

Before performing pterygium surgery, routine systemic investigations are carried out. These include.
Measurement of blood pressure
Assessment of blood sugar levels
Screening for human immunodeficiency virus (HIV)
Testing for hepatitis B surface antigen (HBsAg)
Electrocardiography (ECG)
Evaluation of bleeding time and clotting time.

Surgical technique of pterygium excision

Pterygium excision is usually done under topical anaesthesia with 4% Lignocaine and infiltration of anaesthesia (2% Lignocaine) into the pterygium. It can also be done under sub-Tenon's anaesthesia or peribulbar anaesthesia, particularly when a conjunctival graft is planned. After topical anaesthesia, eye is cleansed,

draped, and exposed using universal eye speculum. Head of the pterygium is lifted and dissected off the cornea very. The main mass of pterygium is then separated from the sclera underneath and the conjunctiva superficially. Pterygium tissue is then excised taking care not to damage the underlying medial rectus muscle. Haemostasis is achieved and the episcleral tissue exposed is cauterised thoroughly. Conjunctival limbal autograft (CLAU)Transplantation to cover the defect after pterygium excision. It is the latest and most effective technique in the management of pterygium. Use of fibrin glue to stick the autograft in place reduces operating time as well as discomfort associated with the sutures. Post operative care with intensive topical steroids may be needed. Follow up should be regularly done.

Complications of pterygium surgery

Intra operative

o Bleeding from conjunctival vessels.

o Injury to surrounding structures such as corneal perforation, scleral perforation and injury to horizontal rectus muscles.

Post Operative

o Corneal opacity is usually seen following pterygium excision as it usually invades deeper than Bowman's membrane.

o Diplopia due to restriction of ocular movements because of formation of adhesions. Suture granuloma and cyst formation.

o Scleral thinning and necrosis particularly when antimetabolites are used.

o Recurrence of pterygium is the most common complication.

Recurrence of Pterygium

Recurrence rate is 30-50%

Bare sclera excision has got maximum recurrence rate.

Pterygium excision by other methods has relatively less recurrence rates

Pterygium excision with limbal conjunctival graft has got least recurrence rate.

Causes for recurrence of Pterygium

Recurrence of pterygium is because of proliferation of granulation tissue, as the conjunctiva is incised during excision of pterygium. Recent hypothesis for recurrence of pterygium is regarded as due to problem in the stem cells, present in the limbal area and be- cause of proliferation of these stem cells pterygium recurs (i.e., why pterygium excision with limbal conjunctival grafting, which re- places these damaged stem cells, has the least amount of recurrence).

Measure stop recurrence of pterygium: Application of antimetabolites such as.

o Thiotepa eyedrops.

o Mitomycin C (0.02%) applied locally during surgery.

o Beta radiation.

Postoperative regimen after pterygium excision

o Milder topical steroids such as fluorometholone or dexamethasone with topical antibiotics to prevent secondary bacterial infection used four to six times for about 4 weeks (steroids have to be used carefully because of the presence of corneal epithelial defect, which is made by detaching/dissecting the head of the pterygium from cornea).

o Artificial tears used four to six times for about 2weeks.

Prevention

o Avoid exposure to environmental factors like pollen, smoke, dust etc.

o Use of sunglasses and hat to shield eye from UV rays.

CONCLUSION

In 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 lekhana anjana, seka, lepa, pratisarana, etc., for arma. Clinical features and management of arma simulates that of pterygium in modern science. Conjunctiva is the most superficial layer of the eyeball and hence utmost care and all precautionary measures should be taken to avoid its degeneration. Vata is the main causative factor for degeneration. That is why regular pada bhyanga, intake of ghrita, and shiro abhyanga has to be advocated in every individual who are under risk. A pterygium is a benign, fleshy triangle of tissue that typically develops in the However, it can sometimes cause discomfort and problems with vision. Prevention, conservative treatment or sometimes surgery is advised for treatment of pterygium.

REFERENCES

1. Shalakya Viyana, Dr. Ravichandra Chaudhary, Chaukhamba orientalia, Varanasi, 168-174.
2. A.K. Khurana, Comprehensive Ophthalmology, 6th Edition, Jaypee Brothers, New Delhi, 2015; 87.
3. Dr. Ambikadatta Sastri: Susruta Samhita Uttaratantra 4/5.6: Chaukhambha publications, Varanasi, Edition Reprint, 2006; 26.
4. Dr. Ambikadatta Sastri: Susruta Samhita Uttaratantra 15/4.5.6.7.8, 9; Chaukhambha publications, Varanasi: Edition-Reprint, 2006; 68.
5. Dr. Ambikadatta Sastri: Susruta Samhita Uttaratantra 15/11,12,13: Chaukhambha publications. Varanasi: Edition-Reprint, 2006; 69.
6. Dr. Ambikadatta Sastri: Susruta Samhita Uttaratantra 15/14.16.17: Chaukhambha publications. Varanasi: Edition-Reprint, 2006; 69.
7. Dr. Ambikadatta Sastri: Susruta Samhita Uttaratantra 15/19: Chaukhambha publications, Varanasi; Edition-Reprint, 2006; 70.