



Pterygium in Ayurveda- An Advanced Description and Treatment.

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Abstract

Ayurveda is most old terser of medical science where many diseases have been described in details with advance treatment which is gradually achieved by conventional medical science now. Pterygium is a degenerative condition of conjunctiva of unclear aetiology. Although, the successful treatment are available but frequent cases of recurrence occurring. Out of 76 types of *Netra Rogas* described by *Acharya Sushruta*, 40 diseases indicated to be cure by surgical and Para-surgical procedure. *Arma* is a disease having exact similar entities to Pterygium explained in very advance form with absolute medical and surgical treatment to cure and check the recurrence of disease. The types of pterygium mentioned are not explained in conventional science and would be area of research. The technique of surgery and precaution indicated while performing surgery is marvellous. Above it the drugs used after, to remove the remnant part and to check the recurrence in the form of *Lekhana Anjana* (scarifying agent) are having anti-angiogenic properties to stop the growth of tissue is now the idea to use anti-mitotic drugs (Mitomycin C etc) in conventional science to check the recurrence. The assessment of adequate excision of tissue and post-operative management to mitigate the pain, congestion indicates fines of surgery conducted during those days. Due to lack of understanding or inertness and some hindrances, surgery in *Netra roga* left behind and not got judicious position. So here it has been try to express the finest skill of eyes surgery in *Ayurveda* to make main stream of treatment.

Key word: *Ayurveda*, Pterygium, *Arma*, *Lekhana Anjana*, Mitomycin C.

Introduction

Pterygium^[1] term is derived from Latin word ‘pterygion’ means a wing, so it is a wing-shaped fold of conjunctiva encroaching upon the cornea from either side within the inter-palpebral fissure. The definite aetiology of pterygium is not known but most commonly found in elderly male and peoples working/living in hot climate. So, the most excepted view is that prolonged effect of environmental factors such as exposure to sun (ultraviolet rays), dry heat, high wind and abundance of dust induce pathology in exposed conjunctiva tissues.

Pathologically Pterygium is a degenerative and hyperplastic condition of conjunctiva. The sub-conjunctiva tissue undergo elastotic degeneration and proliferates as vascularised granulation tissue under the epithelium which ultimately encroaches the cornea and destroy the corneal epithelium, Bowman’s layer and Superficial stroma layer. Fully grown pterygium divided into head apical part present on the cornea, neck present on the limus and body present/spreading on the sclera between canthus and limbus.

Depending upon the progression pterygium is to be divided into progressive and regressive. Progressive is thick, fleshy and vascular with a few infiltrates at the cornea in front of the head of the pterygium called cap. Regressive is thin, atrophic, attenuated with very little vascularity with no infiltrate in cornea or cap. Cap is infiltration of leucocytes and an indication of progression.

Clinical features:

It appears as triangular fold of conjunctiva encroaching the cornea in palpebral aperture area, usually on the nasal side but may also occur on temporal side. It may be unilateral or bilateral. Some time deposition of iron seen in epithelium anterior to advancing head is called stocker's line. Pterygium becomes symptoms less except for cosmetic intolerance. Visual disturbance occurs due to corneal astigmatism induced by fibrosis in the regressive stage or when it encroached the pupillary area. Diplopia may occur due to limitation of ocular movement when it involves the rectus muscle. Cystic degeneration and infection are frequent complications but neoplastic changes are rare. Differential diagnosis is made from pseudopterygium, is a fold of bulbar conjunctiva attached to cornea due to adhesions of chemosed bulbar conjunctiva to marginal corneal ulcer usually occurs following chemical burn of the eye.

Treatment :

No medical treatment, surgical excision is the only satisfactory treatment indicated when, the cosmetic reasons, threatening to occupy pupillary area due to continuous progression and diplopia due to interference in ocular movement. Recurrence^[2] of pterygium is main issue as found in 30-50% of cases. The surgical procedures are;

McReynold's operation – transplantation of pterygium in lower fornix is not performed now.

Surgical excision with beta irradiation are now not in use.

Surgical excision of Pterygium and conjunctiva with bare sclera.

Postoperative use of antimetabolic drugs such as mitomycin-C or thiotepa.

Surgical excision with free conjunctival auto graft is preferred technique now.

In recurrent recalcitrant pterygium, surgical excision is coupled with lamellar keratotomy and lamellar keratoplasty.

Arma^[3] is disease of *Shukla Mandal* (White part of eyeball) described by all *Acharyas* in *Ayurvedic Text*. The common etiology of *Netra Rogas* can be considered as aetiology of *Arma* specially *swedadi dhuma 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.

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:

Prastari Arma – It is wide and thin structure having red colour mixed with blue, situated on the white part of eye ball.

Shukla Arma – It is a soft, white structure progressing slowly and evenly on the white part of eye ball.

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*.

Adhikamansaja Arma – It is wide, soft, thick structure on the white part of eye ball resembling to the colour of liver i.e. brown.

Snayu Arma – It is progressing muscular growth in stripe shape, rough and pale in colour on white part of eye ball.

Treatment :^[4]

Two types of treatment advocate in *Ayurvedic* text:

Medical treatment – When *Arma* is small, white like curd or blue mixed with red colour or dusky colour and thin in consistency, treatment are indicated like *Shukra Roga* (corneal ulcer) with *Lekhadha Anjana*^[5] ^[6] for *Lekhana karma* (scarifying action).

Others drugs^[7] used in *Arma* – *Harad, Baheda, Amla, Haridra, Daruharidra, Madhuyasti, Ilaichi, Lahshuna* etc.

Surgical treatment – When *Arma* is fleshy, thick and surrounded by tendon and muscle which encroached upon the cornea is indicated for excision.

Surgical procedure: Patient preparation is done one day before of surgery by providing oleation therapy (*Ghritha pana*) internally to mitigate the *Vata* causes pain. On the day of surgery, asked the patient to take food which reduces pain as well as Vaso-vagal shock may be caused if patient will be empty stomach.

First eye is enraged with *Saindhava lavana churna* properly then fomentation applied on the eye, after that eye is rubbed so that *Arma* get elevated from surface and wrinkle formed on *Arma*. Now hold the both lid firmly to keep eye open and ask the patient to look at *Apanga* (outer canthus) if *Arma* is on *Kaninka* side, if it is on *Apanga* side then ask to look at *Kaninka* (inner canthus)⁷. Pterygium is first hold with *Badish yantra* (hook) where wrinkle is formed, then lift the *Arma* with thread after passing the threaded needle under the surface of pterygium and *Muchundi yantra* (forceps). Now it is lifted up gently by the same three *Yantra* (instrument) at three places with equal pressure and then it is removed from surface of cornea first and then from sclera and cut it, leaving one fourth part remain on sclera with *Madagra shastra* (Took's knife). If it is cut more than that then chances of injury to inner canthus leading to bleeding or sinus formation. Inadequate cutting of *Arma* leads to recurrence quickly. If *Arma* is spreader like fishing net involving the lid conjunctiva also then cut this also through sharp curve blade after enraged with *lavana* (Salt). After cutting, the *Arma* edge is smeared with powder of *Yavanala kshar* (Alkali), *Pippali, Marich, Sonth* (Dry ginger), and *Saindhava lavana* then give fomentation and anoint the eye with *sneha* like *Madhu* (Honey), *Ghritha* and give bandage for how many days considering the strength of *Dosha, Ritu* and *Kala* and further treated as wound. After three days remove the bandage and give warm compression with warm palm and do therapy for healing, relieving pain and congestion.

Drugs uses for relieving pain and congestion – boiled milk with *Karanja* seed, *Amalaki* fruit and *Madhuka* (Honey) added with honey used as *Ashchyotana* (in drop).

Madhuka, Utapal kinjala, Durva are made in paste with milk added with *Ghee* and applied as cold poultice on the head, it gives best relieve.

Features to assess the adequate surgical treatment – Clean colour of eye (no redness), No any discomfort in eye function, Relieved eye fatigue and no any further complications.

Any remnant of *Arma* if remaining, should be removed by using *Lekhana anjana*⁵ (scarifying collyrium).

Conclusion:

Acharya Sushruta is known as father of surgery, and surgery is an integral part of *Ayurveda*. In *Veda* and *Ayurveda* there are many instances available which depict that in ancient age many surgical procedures such

as organ transplantation, plastic surgery and major surgeries like abdominal surgery, hernia surgery to minor surgery were done. Diseases emerge due to change in lifestyle, food habits, climatic and environmental conditions. The disease occurs due to these factors treated well through medicine as well as surgery in ancient age. In *Shalaky Tantra*, surgery was used in abundance to cure diseases as similar to conventional science now, especially in eye diseases but deficient in innovative thinking keep it behind. Other side in conventional science new researches and addition of allied science like physics, biochemistry etc. lead it to the top and popular. The instruments using now are also similar to instrument used in *Ayurveda* like mosquito forceps, crocodile forceps etc., but never developed till now in *Ayurveda*. Analysis of both diseases reveals that how far both diseases are similar even it (*Arma*) is more advanced and finely defined in *Ayurveda*. There is indication of bilateral *Arma* and both nasal and temporal presentation of *Arma* in same eye, as it is described now also. While analysing the surgical procedure it reveals that micro observation were taken to make prominent, while lifting and cutting the *Arma*. When *Arma* is lift from, at three site gently and evenly then there is no chance of cut on cornea while it is detaching from corneal surface because sharp instrument will be always move parallel to corneal surface. The instrument used like *Mandalagra*, *Muchundi* and *Badish* are similar to Took's knife^[8], Forcep and Toothed Forcep respectively as using now. The drugs^{[9] [10] [11] [12]} like *Pippali* (*Piper longum*), *Adrakha* (*Gingiber officinalis*), *Lahshuna* (*Allium sativum*), *Madhuyasti* (*Glacorrhiza glabra*), *Amla* (*Embilica officinalis*), *Haldi* (*Curcuma longa*) and *Kali Mircha* (Black Pepper) having anti-angiogenic properties which prevent the growth of new vessels ultimately to proliferation of tissue as it happens in Pterygium (*Arma*). The honey^{[13] [14]} is having healing and antibacterial activity. The *Saindhava Lavana* (Rock Salt) having scarifying properties and Licoris (*Yastimadhu*), Cardamom (*Ilaichi*) and Curcuma (*Haldi*) having also Immunomodulator and Anti-inflammatory properties^[11]. Others mineral drugs having many properties like Scarifying, Anti-inflammatory and Anti microbial properties which is proven on *Ayurvedic* parameters like *Lekhana*, *Ropana* and *Jantuhara* respectively which is experienced based and can be proved on modern parameter to spread better understanding.

On the basis of above evidences and after analysing the both science it can be said that in *Ayurveda*, surgery is an integral part of treatment along with medical treatment and it is available in very advance and more refined form. With course of time due attack on India by some western world perished it or put in dormant stage and further researches and development in their science make dominant in the world. Now, it is time to revive it by developing our own idea and methodology, which would be definitely better serve the society.

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