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A Review of Adhimantha (Glaucoma) from an Ayurvedic and Contemporary Perspective

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Abstract

Because of urbanisation and pollution, the entire universe is building better systems of therapy and medicine in medical science to treat sickness and maintain health. Shalakya tanta is a branch of Astanga Ayurveda that treats chakshu, nasa, and karna diseases. Shirah, Kantha, and Mukha. Adhimantha is a sarvagata netrarogas illness as explained by Acharya Susaruta and Vagbhatta. It is an Abhishyanda difficulty. Glaucoma is a neurodegenerative condition of the optic nerve that mostly affects the elderly, particularly those over the age of 80. Glaucoma is caused by any injury to the eye, Virudha ahar, or vihar. Glaucoma was characterised in the ancient texts as Adhimanth, which meaning Adhi (Excessive) and Manth (Churning); a situation in which excessive pain in the eye, similar to churning sensation, occurs in this disease. Headache, foreign body sensation, lacrimation, redness of the eye, and trouble seeing are some of the symptoms. In such a case, a study on Adhimantha, its concept, and its care according to Ayurveda becomes critical. Glaucoma is a leading cause of blindness worldwide, affecting millions of people. This page discusses the Ayurvedic and modern viewpoints on Adhimantha, as well as therapeutic options.

Keywords: *- Ayurveda, Adhimantha, Shalakya tantra, Glaucoma*

INTRODUCTION

"Sarvendriyam Nayanam Pradhanam"

Because of its importance in social and intellectual development, the eye is far more significant than any other sense organ. Adhimantha is described as a sarvagata netra rogas in authentic texts such as Sushrutha Samhita[1] and Astanga Hridayam[2]. It is an advanced Abhishyanda disease or complication. The primary symptom of Adhimantha is severe discomfort in the eyes. Adhimantha's samanya lakshana is intense pain in the eyes, such as scooping it from orbit, crushing kind of pain, churning type of pain, headache [3], and so on.

Type of Adhimantha[4]:

1. Vataja Adhimantha
2. Pittaja Adhimantha
3. Kaphaja Adhimantha
4. Raktaja Adhimantha

Vataja Adhimantha: If vataja abhishyanda is ignored, vataja Adhimantha is produced. Extraction, churning, Foreign body sensation, pricking, ripping, splitting, bursting, kampana, and half headache, among other symptoms. Vagabhatta increased karna nada discomfort, churning pain in the head, eye, and root of the nose, as well as giddiness [5].

Pittaa Adhimantha: Pittaja Adhimantha is produced when Pittaja abhishyanda is ignored. Pain or sensations as if caustic alkali or burning coal were applied to the eye, eyelids suppurated and their margins excessively swollen, red streaks are seen, indicating severe congestion and the eye appears to be a piece of liver, lacrimation, perspiration, fainting, burning sensation in the eye and head, and preservation of yellowish object[6].

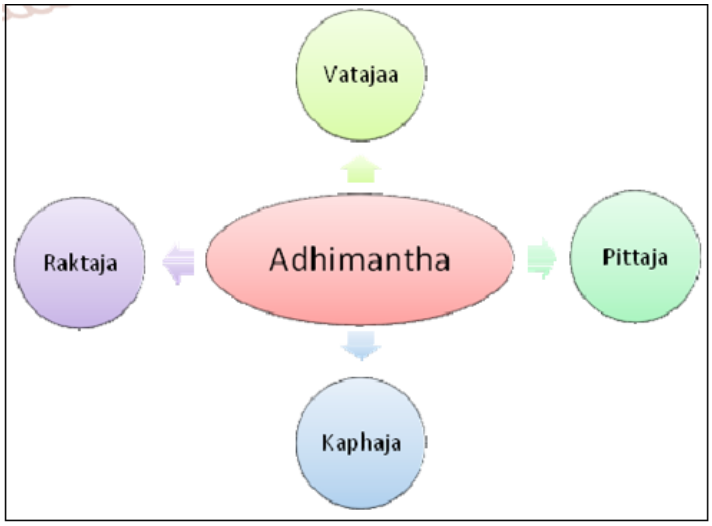

Figure 1: Types of Adhimantha as per Ayurvda

Kaphaja Adhimantha

If Kaphaja Abhishyanda is ignored, Kaphaja Adhimantha is produced. Grittiness i.e. foreign body sensation, headache, mild edoema i.e. inflamed but not excessively congested, cool feeling, lacrimation and slimy discharge, itching, heaviness, horripilation, difficulty in visualising object due to avilata i.e. cornel haziness, nasadhmana, depressed black portion and elevated white portion i.e.

Raktaja Adhimantha

If Raktaja abhishyanda is ignored, Raktaja Adhimantha is produced. Severe pain of many types, such as plueked out or pricking agony, soreness owing to increased IOP, and coppery discoloration similar to a Japapushpa.

The clinical features of raktaja adhimantha vyadhi include that the krushna section looks like arishta fruit soaked in blood, the eye is inflamed, there is a burning sensation, blood colour discharge, and blackness before the eye[8].

Nidana:

Entering water reservoirs shortly after being heated by exposure to sunshine, fire, etc.

Seeing object present very far, avoiding sleep, indulging in bouts of weeping, anger, sorrow and exertion, injury in eye, excess of copulation, consuming sukta arnala and such other sours foods prepared from kulattha, masa, suppressing the urges, excess sweating, inhaling smoke, controlling bouts of vomiting or excess of vomiting, controlling of tears, observing minute objects. Dosas are worsened and illnesses are produced as a result of these causes[9].

Samprapti:

Because of Nidana's sevana Aggravated dosas go upward, through the siras (blood vessels), and become localised in the eye, causing severe disorders in various parts of the eye[10].

Sadhya-Ashadhyata:

All four types of adhimantha are controllable, according to ancient Acharyas, if attended to on time.

If ignored or patient does not follow diet and seasonal regime. Visual loss occurs as follow:

Table1: Showing sadhaya-ashadhyata of Adhimantha

Si. No.	Types	*Sushrutha[11]*	*Astanga[12]*
1	*Vataja Adhimantha*	Loss of visionin 6 days	Loss of visionin 5 day
2	*Pittaja Adhimantha*	Loss of vision immediately	Loss of vision immediately
3	*Kaphaja Adhimantha*	Loss of visionin 7 days	Loss of visionin 7 days
4	*Raktaja Adhimantha*	Loss of visionin 5 days	Loss of visionin 3 days

Samanya Chikitsha[13]: Samanya chikitsa sutra i.e. basic principle of management of netraroga/adhimantha, they are under-

- **Rest of eye-** Activities that cause eye strain include lengthy reading, writing, scrutinising minute things for extended periods of time, working in poor light, and so on. This should be avoided.

- **Nidana parivarjana**- Looking at very minute objects, day sleep, exposure to dust-smoke, causative factor for dosa prakopa, not observing rutucharya i.e. seasonal regime and many more.

- **Management of purvarupa-** Susharuta advises to go in for immediate action when purvarupa of the netraroga are observed. The condition is very likely to turn serious depending the pathology of disease. Some remedies used in ophthalmological condition. It is as follows-

1. Tikshna shirovirechana
2. Tikshna kwalgraha
3. Dhumapana
4. Upavasa
5. Lepa
6. 6Avagunthana
7. Sechana

Note- Vata vitiation occure due to tikshana shirovirechana, kwalagarah, dhumapana and upavasa. Hence these are avaided to vataja netraroga.

1. **Tikshna shirovirechana-** Tikshna sirovirechana should be contraindicated in vataja adhimantha.

2. **Tikshna kwalgraha-** Tikshna kwalgraha should be contraindicated in vataja adhimantha.

3. **Dhumapana-** Dhumapana should be contraindicated in vataja adhimantha.

4. **Upavasa-** Upavasa should be contraindicated in vataja adhimantha.

5. **Lepa-** If adhimantha presenting symptoms like burning sensation, sliminess, redness, lacrimation and edema, lepa or bidalaka is used with ingredients ground in water. This ingredients is chandana, maricha, patra, ela, suvarnagairika, tagar, rasanjana, saindhava and yashtimadhu. In the initial stages of ophthalmic disease i.e. in Amavastha anjana is contraindicated and hence lepa is advised. This is responsible for Amapachana as well.

6. **Avagunthana-** 1 part of shigru beeja, 4 part of manovaha and 16 part of lodhra powder should be bagged in cotton cloth and avachurnana i.e. sprinkling should be performed.

7. **Sechana-** Kwatha is prepared by adding 40gm daruharidara in 640 ml of water and boiling it till 1/8th portion remains. Sechana is executed after mixing honey in it. It is beneficial in eye diseases aggravated by all doshas.

Sequence of management of recently developed ophthalmic disease by charak[14]:

In newly developed netraroga bidalaka application relieves burning, upadeha, lacrimation, edema and redness.

Anjana-

1. Rasakriya of shunthi, saindhava and ghrutamanda.
2. Fine powders of saindhava, swarnagairik and honey.

- Chikitsa of samavastha: The ancient Acharyas had mentioned to adopt 6 different events for Amapachana in samavastha as under-
    1. Langhana for 4 days.
    2. Seka
    3. Bashpasweda
    4. Intake of madhura and tikta food item.
    5. Lepa or pralepa
    6. Dhumapana

Generally samavastha lasts for 4 days and hance some management should be continued for a period of 4 days.

- **Chikitsa of niramavastha:** As soon as niramavastha is acquired after treating the purvarupavastha and samavastha, general and local dosha shodhana and shaman is performed.

A. **General management-** after clinically assessing bala, indications, contraindications in a patients; snehana, swedana, vaman, virechana ect. should be followed for general dosha shodhana so that local doshavruddhi in eye can be prevented. If sodhana is contraindicated, dosha samana is preferred. Rakta being main dushya, it must be eliminated from the body. Hence much stress is given on raktamokshana in all the 4 type of adhimantha.

B. Location of raktamokshana are sira of upanasika or lalata or apanga.

C. Local dosha sodhana or shaman is achieved by various kriyakalpa like tarapan, putapaka, ashchotana ect.

Apathaya: In order to avoid further accumulation of ama anjana, ghrutapana, kasaya or kwathapana, heavy food items and bathing should be avoided.

MODERN PERSPECTIVE

Glaucoma is a collection of illnesses defined by progressive optic neuropathy in a characteristic look of the optic disc and a distinctive pattern of irreversible visual field abnormalities that are commonly but not always accompanied with rising intraocular pressure (IOP). Thus, IOP is the most prevalent risk factor for glaucoma development, but it is not the sole risk factor. Glaucoma is a disorder that causes damage to the optic nerve. It worsens with time. It is frequently associated with an increase in intraocular pressure. Glaucoma often runs in families[15].

Glaucoma affects between 6 and 67 million individuals worldwide. In the United States, around 2 million people are affected by the condition. It is more frequent in elderly folks. Women are more likely to develop closed-angle glaucoma. Glaucoma has been dubbed the "silent thief of sight" because visual loss normally comes gradually over time.

Glaucoma is the second greatest cause of blindness in the world, after cataracts. In 2010, cataracts caused 51% of blindness, glaucoma 8%, and India 12.8%. Glaucoma is derived from the Greek word glaukos, which meaning blue, green, or grey. The term was first mentioned in English in 1587, although it did not become widely used until until 1850, when the introduction of the ophthalmoscope allowed people to see the optic nerve damage [16].

CLASSIFICATION [17]

There are 3 main kinds-

1. Congenital and development glaucoma.
2. Primary glaucoma.

a. Primary open angle glaucoma.

b. Primary angle closure glaucoma.

3. Secondary glaucoma.

Congenital and development glaucoma:

Congenital Glaucoma is a group of disorders associated with abnormal intraocular pressure due to development abnormalities of the angle of anterior chamber causing obstruction to the drainage of aqueous humour.

Primary open angle glaucoma:

It is the type of glaucoma in which there is no obvious systemic or ocular cause of rise in the intraocular pressure. Angle of anterior chamber is open. It is characterised by slowly progressive raised IOP along with cupping of optic disc and visual field defects.

Primary angle closure glaucoma:

Primary angle closure glaucoma occurs when the drainage angle of the eye becomes blocked. Intraocular pressure usually goes up very fast. The pressure rises because the iris partially or completely blocks off the angle of anterior chamber.

Secondary Glaucoma

Secondary glaucoma is not a disease entity, but group of disorders in which rise of intraocular pressure is associated with some primary ocular or systemic disease. Therefore, clinical features comprise that of primary disease and that due to effects of raised intraocular pressure.

CAUSES

Aqueous humour, or fluid inside the eye, generally drains through a mesh-like tube. The liquid gathers if this route becomes obstructed. Experts aren't always sure what's producing the stumbling block. However, it may be inherited, which implies that it is passed along from parents to children.

Less common causes of glaucoma include physical or chemical injury to the eye, significant eye infection, congested blood vessels inside the eye, and inflammatory illnesses. Although it is unusual, eye surgery to cure another disease may occasionally cause it. It frequently affects both eyes, however one may be more afflicted than the other[18].

SYMPTOMS

The majority of persons with Primary open angle glaucoma have no symptoms. When symptoms do appear, it is frequently late

in the illness. This is why glaucoma is known as the "sneak thief of eyesight." The major symptom is generally a loss of side vision, often known as peripheral vision. Primary angle closure glaucoma symptoms generally appear sooner and are more noticeable. Damage might occur fast. Glaucoma symptoms include-

- Seeing halos around lights
- Vision loss
- Redness in eye
- Eye that looks hazy (particularly in infants)
- Upset stomach or vomiting
- Eye pain

DIAGNOSIS

Glaucoma examinations are non-invasive and quick. The doctor will examine your vision. Use drops to dilate (widen) the pupils and inspect the eyes. The doctor will check the optic nerve and take photos to look for evidence of glaucoma. To check intraocular pressure, the doctor will do a tonometry test. A visual field test may also be performed by a physician to detect loss of peripheral vision[20].

TREATMENT

To reduce eye pressure, a doctor may employ prescription eye drops, oral medicines, laser surgery, or microsurgery.

Eye drops: These either lower the creation of fluid in the eye or increase its flow out, lowering eye pressure. Side effects include allergies, redness, stinging, blurred vision, and irritated eyes. Some glaucoma drugs may affect on heart and lungs.

Oral medication: The oral medication drugs such as a beta- blocker or a carbonic anhydrase inhibitor. These drugs can improve drainage or slow the creation of fluid in the eye.

Laser surgery: This procedure can slightly raise the flow of fluid from eye if have open-angle glaucoma. It can stop fluid blockage if have angle-closure glaucoma. Procedures include:

- Trabeculoplasty. This opens the drainage area.
- Iridotomy. This makes a tiny hole in your iris to let fluid flow more freely.
- Cyclophotocoagulation. This treats areas of the middle layer of eye to lower fluid production.

Microsurgery: A trabeculectomy is a treatment in which a physician builds a new channel to drain fluid and relieve eye strain. This type of surgery may need to be repeated. A tube may be implanted by the doctor to help drain fluid. This procedure has the potential to result in temporary or

permanent eyesight loss, as well as bleeding or infection.

The most common treatment for open-angle glaucoma is a combination of eye drops, laser trabeculoplasty, and microsurgery. Doctors often begin with drugs, however early laser surgery or microsurgery may be more effective for some patients.

Because the cause is an issue with the drainage system, infant or congenital glaucoma is generally treated surgically.

RISK FACTORS

Glaucoma mostly affects adults over 40, but young adults, children, and even infants can have it. The risk factors of glaucoma are-

- Over 40 year of age
- Have a family history of glaucoma
- Poor vision
- Diabetes
- Take certain steroid medications such as prednisone
- Injury to eyes
- Corneas that are thinner than usual
- High blood pressure, heart disease, diabetes, or sickle cell anemia
- Have high eye pressure

PREVENTION

Glaucoma can't be prevent. But if find it early, it can be lower risk of eye damage. These steps may help protect the vision:

- Have regular eye exams
- Learn family history
- Follow Physician instructions
- Protect the eyes

CONCLUSION

Finally, it may be argued that Adhimantha occurs when the right chikitsa of Abhishayanda are not delivered or are ignored. The acute pain of a pulled out eye ball from orbit is one of the major symptoms of adhimantha, which is classified into four types based on its presenting symptoms: Vataja, Pittaja, Kaphaja, and Raktaja. The therapy should be administered in the same manner as Abhishyanda. Adhimantha is a sarvagata netrarogas and samprapi illness characterised by extreme pain and visual disruption. The bulk of illness occurrences might occur in people above the age of 80 across the world. By schiotz tonometer, the solid and semisolid contents that are responsible for IOP maintenance are 15 to 20 mm of Hg. Glaucoma causes 8% of blindness worldwide and 12.8% in India. The therapy methods include reducing eye pain, improving vision, and maintaining IOP levels. Ayurveda also recommended

traditional remedies such as Navnetrasatri varti, Gairikadi lepa, Nimbaptradi gutika, Bilvaanjana, and others. This formulation slows the progression of illness, improves vision, relieves discomfort, and maintains IOP levels.

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