

IMPORTANCE OF GLAUCOMA AWARENESS, IT'S PREVENTION AND MANAGEMENT IN AYURVEDA

Supriya S Muddalwar¹, Nilakshi S Pradhan²

¹PG Scholar, M.S, ²Principal, H.O.D, Guide (Shalakyatantra),
Sumatibhai Shah Ayurved Mahavidyalaya, Hadapsar, Pune, Maharashtra, India

Email: smuddalwar@gmail.com

ABSTRACT

Blindness currently ranks third as people's biggest health fear. Glaucoma is a leading cause of blindness not just in India but in the world. The two main forms of glaucoma are open angle and angle closure. Glaucoma typically exhibits no symptoms or warning signs until vision is lost. Everyone is at risk for glaucoma, however, some of the stronger risk factors include being age 40 or older, a family history of glaucoma, systemic conditions such as diabetes and high blood pressure, thin cornea, recent eye surgery or injury and having a very high glasses prescription. Yearly eye health exams are an important part of early detection and the prevention of sight loss. Several tests are used to diagnose glaucoma including visual field tests, tonometry, gonioscopy, Pachymetry etc. There is currently no cure for glaucoma, however, the disease can usually be controlled before it progresses to the point of vision loss as long as it is detected and treated early. *Ayurveda* is the ancient Indian system of natural and holistic medicine. Basic principle of *Ayurveda* is to protect health and prolong life. Management of preventable and curable blindness according to ancient science is important. According to *Ayurveda* to maintain a healthy and disease free life should follow a *dinacharya*. Healthy diet, eye exercises play major role in giving strength to the eyes. *Kriyakalpa* is the main therapeutic process for *netra roga*. It gives nourishment to the eyes and cures diseases. *Ayurveda* recommends *kriyakalpa* for preventive and curative benefits. *Shodhan Chikitsa* is a body purification therapy which eradicates toxins and balances *Tridosha*. *Ayurveda* enlighten prevention of glaucoma and explain Ayurvedic management.

Keywords: *Dinacharya*, Glaucoma, *Kriyakalpa*, *Netra Roga*, *Shodhan Chikitsa*, *Tridosha*

INTRODUCTION

Eye is the most precious organ in the body. Vision is the greatest gift to human. Visual impairment can limit people's ability to perform everyday tasks and can affect their ability of life and ability to interact with world. Glaucoma is called "The Sneak Thief of Sight" since there no symptoms and once vision is

lost, it's permanent. As much as 40% vision can be lost without a person noticing. Glaucoma is not a single disease process but a group of disorders characterized by a progressive optic neuropathy¹. It gradually steals sight without warning. Vision loss is caused by damage to the optic nerve. This nerve acts

like an electric cable with over a million wires. It is responsible for carrying images from the eye to the brain.

Two main types of Glaucoma²:

1. Primary open angle Glaucoma (POAG): Drainage angles are wide open i.e.45 degrees.
2. Angle closure Glaucoma: Most common form. Drainage angles are narrows i.e. 25 degrees or less.

The glaucoma usually affects both eyes but the disease can progress more rapidly in one eye than in the other. Involvement of just one eye occurs only when the glaucoma is brought on by factors such as a prior injury, inflammation or the use of steroids only in that eye. The elevated pressure in the eye is the main factor leading to glaucomatous damage to optic nerve. Glaucoma is usually, but not always associated with elevated intraocular pressure. Generally, this elevated pressure that leads to damage of the optic nerve. Glaucoma first affects your peripheral or side vision. The front of the eye is filled with a clear fluid called the aqueous humor, which provides nourishment to the structures in the front of the eye and maintains optical transparency. This fluid is constantly provided by the ciliary body. The aqueous humor then flows through the pupil and leaves the eye through tiny drainage channels called the trabecular meshwork. These channels are located at what is called the drainage angle of the eye. This process of producing and removing the fluid from the eye is similar to that of a sink with the faucet always turned on, producing and draining the water. If the sink's drain becomes clogged, the water may overflow. If this sink were a closed system, as is the eye, and unable to overflow, the pressure within the sink would rise. Likewise, if the eye's trabecular meshwork becomes clogged or blocked, the intraocular pressure may become elevated. Also, if the sink's faucet is on too high, the water may overflow. Again, if this sink were a closed system, the pressure within the sink would increase. Likewise, if too much fluid is being produced within the eye, the in-

traocular pressure may become too high. In either event, since the eye is a closed system, if it cannot adequately remove the increased fluid, the pressure builds up and optic-nerve damage may result.

AIM: To increase awareness of glaucoma and provide information about glaucoma to people at higher risk for the disease.

OBJECTIVE:

Develop and implement initiatives for populations at higher risk for glaucoma.

MATERIALS AND METHODOLOGY:

Study of literature was done with the help of books, Samhitas and internet websites.

RISK FACTORS OF GLAUCOMA:

- Age over 40 years
- Family history of glaucoma
- Diabetes, Hypertension, Migraines
- History of elevated intraocular pressure
- Decrease in corneal thickness and rigidity
- Nearsightedness (High degree of Myopia)
- Farsightedness
- High fluid pressure in the eye
- Eye injuries/surgeries:- Blunt trauma, multiple eye surgeries and medical treatments such as long term steroid medication may lead to glaucoma.

Understanding and identifying your risk factors can help you get timely screening and treatment which is a key to your vision.

GLAUCOMA SYMPTOMS AND SIGNS OF GLAUCOMA:

Symptoms

- Haziness of vision
- See halos around lights
- Rapid onset of severe eye pain
- Headache
- Nausea
- Vomiting
- Visual blurring

Signs

➤ Primary Open Angle Glaucoma / Chornic Angle Closure Glaucoma:

- Elevated IOP(>21mm Hg)
- Optic disc cupping
- Visual field defects

➤ Acute Angle Closure Glaucoma:

- Red eyes, pupil may be large and non reactive to light
- Decreased visual acuity
- Corneal swelling
- Highly elevated IOP
- Closed drainage angle

IMPORTANCE OF GLAUCOMA AWARENESS:

Glaucoma currently ranks as a leading cause of irreversible blindness worldwide. Glaucoma is estimated to affect 60.5 million persons worldwide by the year 2010³. The estimated prevalence of glaucoma for India is 11.9 million⁴. Half of these individuals with glaucoma may not know that they have the disease. The reason they are unaware of the presence of the disease is that glaucoma initially causes no pain, no discomfort and the subsequent loss of side vision (Peripheral vision) is usually not recognized. Early detection of glaucoma is absolutely essential in preventing blindness and vision loss. Spreading awareness of the disease plays an important role in preventive methods against sight loss.

GLAUCOMA SCREENING:

January is National Glaucoma Awareness Month, an important time to spread the word about this sight-stealing disease. Thus, in order to preserve vision, glaucoma must be diagnosed early and followed regularly. Patients with glaucoma need to be aware that it is a lifelong disease.

- Establish a glaucoma information center in your clinic, community center.
- Arrange for glaucoma awareness speak at society, cultural events.

- Display brochures in your office, at a community event and anywhere people at higher risk for glaucoma will view them. Use these materials as inserts in prescription bags or shopping bags.
- Arrange eye camps in society
- Rally on glaucoma awareness.
- Have a yearly eye exam and encourage those around you to do the same.
- Educate friends and family about glaucoma.
- Get involved in your community through fundraisers and group discussions.
- Talk to your family and friends about their vision health to help protect their eyes by maintaining a healthy weight, controlling BP, being physically active, avoiding smoking will help you avoid vision loss from glaucoma.

EYE EXAMINATION IN GLAUCOMA⁵

- Visual acuity test
- Visual field test- it measures your peripheral vision
- Tonometry- to measure IOP
- Pachymetry- measures the thickness of cornea
- Gonioscopy- to examine the drainage angle and drainage area of the eye
- Ophthalmoscopy- to examine the optic nerve damage. Damage to the optic nerve called cupping of the disc.
- Optical Coherence Tomography- to evaluate the degree of cupping and the thickness of the Retinal nerve fibre layer and ganglion cell layers.

Ayurveda means “the science of life”. The aim of this system is to protect health and prolong life, to prevent illness and to eliminate diseases. Ayurveda provides guidance on lifestyle like eating habits, daily routine, exercises and yogas. It will play major role in giving strength to eyes. Cataract remains the leading cause of blindness⁶. Other main causes of visual impairment are uncorrected refractive errors and Glaucoma⁶. Clinical features of Adhimanth can be correlating to Glaucoma, Kriyakalpa is a bahirparimarjana chikitsa and has several advantages over oral administration. It is the specialized treat-

ment for prevention of blindness. It acts as a both preventive and curative therapy for maintaining health of eyes. Panchkarma procedures are used to eliminate the vitiated doshas from the body. Prevention of glaucoma and management is important in ancient Ayurveda. It will be a big challenge for Ophthalmologists to be aware and make conscious effort in preventing and treating glaucoma.

Avoidable blindness⁷- 85% of total blindness. This includes both Preventable and Curable blindness.

Preventable blindness- The blindness which can be easily prevented by attacking the causative factors at an appropriate time. e.g. corneal blindness due to Vitamin A Deficiency, Trachoma, Industrial blindness, Diabetic retinopathy etc.

Curable blindness- The blindness in which vision can be restored by timely intervention. e.g. cataract, glaucoma, inflammation of ocular tissues etc.

PREVENTION:

- Anjana karma- Eyes mainly having *Teja* property, they can easily get affected by *Kapha dosha*⁸. *Rasanjana* should be done once in week⁸. *Anjana* scrapes and expel *dosha* from *netra*, *vartma*, *sira*, *netra kosha* and *ashruvaha srotas* through mouth, nose and eye⁹.
- *Padabhyanga*
- *Chakshushya* Medicines- *Triphala*¹⁰, *Shigru*, *Shatavari*, *Triphala ghrita*
- *Hitakara Aahar*- Ghee, Honey, *Mudga*, Raisins, Pomegranate
- Eye exercises- Palming, Distant and near focusing, Rotational movements of eye will help to improve blood circulations to eyes. So oxygen supply, nutritional supply to the eyes is increased. These exercises will strengthen the muscles of eyes and maintain vision level.
- *Yogic kriya*- *Trataka* (concentrating on specific object/candle light), *Bhramari*, *Soorya Namaskara* useful to improve strength of eye.
- *Kriyakalpas*¹¹- *Kriyakalpas* are specific procedures for eyes. They lubricate and rejuvenate the

eyes. Impurities are expelled out. It helps to bring back brightness and clarity to the eyes.

- *Tarpana*- *Tarpana* is very effective *kriyakalpa*. It is used to treat early formation of glaucoma
- *Putapaka*
- *Seka*
- *Aschyotana*
- *Pindi*
- *Bidalaka*
- *Nasya karma* – *Vaisheshika nasya* is useful to improve eye sight. It is indicated in visual disturbances like *Timira*¹².
- *Vamana*- It is contraindicated in *Drishtigata rogas*¹³. If done it will increase *Timira*.

MANAGEMENT IN AYURVEDA:

For Glaucoma regular check up of Intra ocular tension is important. Clinical features of Adhimanth can be correlating to Glaucoma. So management is:

- In early stage- *Tikshn shirovirechan*, *Tikshn kawaldharan/gandush*, *dhumpan*, *lep/vidalak*.
- In *samawastha*- For *aampachan-Langhan*, *Seka*, *Bashpsweda*, *Lepa*, *Madhur*, *tikta* things intake. Avoid *anjana*, *ghritpan*, *puran*, *kashaypan*, heavy food intake. It causes new *aama* formation.
- In *niramawastha*- *Snehana*, *swedana* then *sirawedh* at forehead or at *apang*. Then *vaman*, *virechan*, *basti*, *shirobasti*, *nasya*, *dhumpan*.
- After this *shodhan chikista* internal *dosh shamak chikista* will helpful.
- Locally- *Kriyakalpa*, *Pindika*, *Agnikarma*¹⁴, *Raktamokshana*.

DISCUSSION

This study investigated awareness, knowledge and perception of risk of glaucoma in people. Glaucoma is the world's leading cause of irreversible blindness. Glaucoma is one of the neglected diseases and the second highest cause of blindness after cataract. Glaucoma is thus a global public health problem. Glaucoma is estimated to affect 60.5 million persons worldwide by the year 2010. The estimated prevalence of glaucoma for India is 11.9 million. Low awareness levels and knowledge of glaucoma in population could be due to the little or nonexistent publicity about glaucoma in the community or the country as a whole. Age was statistically significant with glaucoma awareness in this study, respondent between the ages of 40 and 49 years were significantly more aware of glaucoma than the other age brackets. The low level of glaucoma awareness in the younger generation could be because younger people receive eye diseases to be a problem of the older generation. They therefore do not pay much attention to eye diseases, much more a disease like glaucoma which is asymptomatic. So that early diagnosis and treatment of individuals with this condition may be possible. *Ayurveda* prefers prevention is better than cure. Basic principle of *Ayurveda* is helpful for management. *Ayurveda* management is avoiding ageing effects in eye, rejuvenates the eyes and improves function of eye. Topical administration of drugs achieves higher bio-availability than oral drugs. *Ayurvedic* therapies and drugs control the disease and prevent blindness.

CONCLUSION

Awareness of Glaucoma in this population is very low. An efficient information, education and communication strategy needs to be designed to increase knowledge of the community about glaucoma. Glaucoma awareness and knowledge bring to light the need to intensify efforts to create awareness and reduce morbidity from this disease.

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