

REVIEW ARTICLE: AYURVEDIC APPROACH TO AGE RELATED CHANGES IN
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ABSTRACT

Ageing also known as 'Jara' is a *swabhavbal- pravrutta* process. Ageing occurs in all parts of body including all parts of eyes. It is divided into *kalajjara* and *akalajjara* hence we need to differentiate ageing as natural phenomenon or disease process. Ageing effects eye, causing changes in cornea, sclera, retina, vision, leading to various eye conditions like thinning of sclera, orbital muscle weakness, vitreous opacity, vascular changes in Retina, less defined optic disc, decreased contractability of crystalline lens, macular degenerative changes, etc.

KEYWORDS: *Jara*, *chikitsa*, degeneration, *netraroga*.

INTRODUCTION

Changes according to age occur in every part of the eye. Ayurveda has dedicated separate branch for aging changes and its management. Rate of aging is determined by one's biological, social, lifestyle, and psychological conditions and adversity. Changing structure of *Dosha's* and *Dhatu's* with age leads to degenerative (*Apakrantijanit*) *netraroga's*. Here attempt is made to understand the natural changes that occur in eye as well as disease process along with their *chikitsa*.

Effect of *Dosha's* & *Dhatu* on *Jara*

Jara / *vardhakyavastha* results in *vata* and *svapna* and *dhatukshayavastha*. Leading to *dhatwangimandya*, disturbing *rasadi-dhatu*s causing *ojovikruti*. This results in *vyadhikshamatva* & person becomes prone to *bahurogsambhava*. Increased *Vyanvayu*, *dushitalochak* pitta and decreases *tarpakkapha* altogether contributes to age related *netrarogs*.

Age related changes in *netra*

Periorbital fat – Facial aging is associated with loss of soft tissue fullness in certain regions such as periorbital, forehead, malar, etc. This laxity of skin causes fat accumulation around periorbital area, being a natural phenomenon of ageing.

Changes in eyelids - With age, due to loss of tone of orbicularis muscle, muscle power of lid also decreases causing-

- Senile Entropion**- Decreased muscle power causes inward rolling and rotation of lid towards globe. Usually affect lower lid in elderly patients due to horizontal laxity and median canthion tendon laxity.
- Ectropion**- Decreased muscle power causing outward rolling or outward turning of lid margin. This causes continuous watering of eyes making elderly patients irritated.

Treatment- 1. *Sarvadehikchikitsa*– *Snehan*, *swedana*, *vaman*, *virechan*.2. *Sthanikchikitsa*-*Snehanasya*, *snehaanjan*, *Rasakriya*, *shastra*, *kshar*, *agni*.

Changes in eyelashes

- Trichiasis**- Inward misdirection of cilia, which keep rubbing against eyeball causes constant foreign body sensation in eyes and watering.

Treatment- *Pakshmaunmoolan*, *paschat vedanaharnarth Yashtimadhughritasechan*.

- Madarosis**- Increased *doshadushti* leads to obstruction at opening of eyelashes causing *pittaprapkop*

leading to partial or complete loss of eyelashes.
Treatment-*Sarvadehikchikitsa* – Vaman (*vaman* with *dugdha / ikshu rasa vaman*) *Sthanikchikitsa* – *Nasya-Madhur/sheet dravyasiddhaghrit*.

- c) **Poliosis**- AS number we age of melanocytes in hair. resulting • melanocytes decreases to less melanin mean is produced. lack of pigment in silvery-gray hair including eyelashes
- d) **Epiphora** – Overflow of tears from conjunctival sac. Watering of eyes is main symptoms in patient with senile (involuntionalentropion) and ectropion of lower lid. Further it may lead to – chronic conjunctivitisdiscomfort and mild photophobia.

Changes in conjunctiva

- a) **Dryness** – Dryness in elderly patient is main symptom for various eye condition cause may vary
- 1) Decrease in secretion of lacrimal glands and decrease tear film stability.
 - 2) Ectropion causing dryness of conjunctiva.

Treatment

Sarvadehik – *Snehapan(jesthamadhsiddhaghrit + shatavarichurna)*

Basti – *Dudghasiddhaghritbasti*

Sthanik – 1) *Tarpan* – *Jeevaniyaghrittar*

2) *Sechan* – *Saindhavyukt sheet dugdhasechan-*

3) *Anjan* – *shunthi + ghrit*

4) *Aashchotana* – *snigdhaaashchotana*

Changes in cornea – under the influence of age corneal cells undergoes degeneration

- a) **Arcus Senilis** – arcus / cornea senilis are lipid deposits that appear as ring on outer region of cornea in elderly patients. Ring is usually grey or white in colour and opaque. It is one mm wide. Bilaterally 60% upto 40 yrs to 60 Yrs and 100% above 80 Yrs of age.

Treatment – Arcussenilis is an Irreversible condition seen in cornea. With Ayurvedic *chikitsa* it can be eased by *rasayanchikitsa*, *Sneha aaschotan*, *Snehaanjan*.

- b) **Xerophthalmia/keratomalacia**- It is a condition caused by nutritional deficiency in adults (Vit-A. deficiency) Generalized atrophy and keratinisation of epithelial tissue of body, mainly conjunctival and corneal epithelium. It leads to dry and lusterlessconjunctiva and cornea with diminished corneal sensations.

Treatment – *Rasayanchikitsya* – *Snehapan with Triphalaghrit*.

Anjan – *Vaidhuryadhyhanjan*, *Swarnvasant* – 3 to 6 *gunja + dudh*.

- c) **Vogt's white limbal girdle** - Age related change seen frequently in elderly people. Bilateral chalky white opacities in interpalpebral area both nasally and temporally. Opacity is at the level of Bowman's membrane.

- d) **Hassall – Henle Bodies** – commonest senile change seen in cornea. Hassall heule bodies are drop like excrescences of hyaline material projecting into anterior chamber around corneal periphery.

Changes in Lacrimal apparatus – With increasing age these appears alteration of neural activation of calluralsignaling pathway leading to loss of L.G.secretion of Protein, electrolytes and water. L. A. also undergoes structural alteration resulting into –

- a) **Dacrocystitis** – Most common age 40 Yrs – 60 Yrs.
- 1) Ductal obstruction – Leads to continuous Epiphora.
 - 2) Acinar atrophy
 - 3) Fibrosis of Sac.

Treatment – According to ayurvedadacystis / puyalasa can be treated as *Aamavastha / Pakwavastha*.

Aamavastha – *UpanahaSweda*, *Raktamokshan*, *Parishek*, *Aashchotan*, *Anjan*.

Pakwavastha – *Churnanjan*, *Dhahankarma*, *Shirovirechan*, *Nasya*, *Dhoompan*.

Presbyopia - Presbyopia is Dwitiya Patalgat Netragrog. Also known as – Eyesight of Old age.

- It is not an error of refraction but a physiological condition / insufficiency of accommodation, leading to failing vision for near.
- -Decrease in accommodative power of lens with increasing age causes due to –
- 1) Decrease in elasticity and plasticity of crystalline lens.
- 2) Age related decrease in power of ciliary muscle.

Presbyopia can cause
Blurred distant vision
Difficulty in near vision

Asthenopic symptoms due to fatigue of ciliary muscles, specially after reading or doing any near work.

Treatment – *Sthanik* – *Netratarpan with triphaladrith*.

Ashchotan-Traphala ghrita

Mruduanjan

Madhursnidhagdha dravya nasya.

Patient can be advised to use corrective refractive power glasses.

Diplopia – Diplopia can be correlated with *TritiyapatalgodNetrarog*. Increased *dosha-dushti* in *netra*. Cover eyesight at middle leading diplopia.

Image formation is on dissimilar points of the two retina. Patient may experience vertigo, nausea and confusion.

Cataract – Cataract is one of drushtigatrog's Age related cataract also called senile cataracts is most common acquired cataract affecting above age of 50 Yrs.

Cataract develops

- 1) 60% by the age of 60 Yrs.
- 2) 70% by the age of 70 Yrs.
- 3) 80% by the age of 80 Yrs.
- 4) 90% by the age of 90 Yrs.

Causes – Heredity, Diabetes Mellites, Myotonic atrophy atrophic dermatitis.

Alteration in hydration of lens fibres and denaturation of lens protein leads to senility causing senile cataract. Decreased active pump mechanism and reversal of Na⁺ / K⁺ ratio leads to dehydration of lens.

- Types 1) Cortical senile cataract.
2) Nuclear senile cataract.

Stages of senile cataract

- 1) Lamellar separation
- 2) Incipient cataract
- 3) Immature senile cataract
- 4) Mature senile cataract
- 5) Hyper mature senile cataract.

Treatment – Stage 1 ie. Stage of lamellar separation is reservable as this is early phenomenon. If cataract has been proceeded beyond stage 1 it is irresolvable and can only be cured by surgery.

Glaucoma – Glaucoma can occur in any age but is more common in older adults.

- Leading cause of blindness for people over age of 60 Yrs.
- Glaucoma is group of eye conditions that damages the optic nerve and changes are irreversible.
- Often symptoms of glaucoma remain unnoticed by elderly patients leading to more damage hence proper awareness has to be created.

Treatments – *Dharaswed, siramokshan, Snigdhavirechan, Triphalagrit shamansnehapan.*

- Antiglaucoma drugs
- Laser
- Surgery

Vitreous liquification- Age related degeneration of vitreous humour cause it's liquification leading to synchysis (chronic vitreous haemorrhage, vitreous opacities)

Treatment- *Rasayanchikitsa, Dincharya and Rutucharyapalan.*

Retina

1. **AMD** – Age related macular degeneration is commonest condition seen in most elderly patient. Macular scarring, sclerosis of arteries, tessellated fundus, deprived oxygen and nutrient supply causes functional thrive leading to AMD.

2. **Drusens** – Dry and wet drusens.

Wet drusens are large and hard to treat than dry drusens which are relatively n small in size.

Treatment- *Rasayanchikitsa, Tarpan- Triphalaghritatarpan Murdhatail, nasya, anjana.*

3. **Optic narve changes**- Aging causes extracellular matrix of optic nerve remodelling, retinal ganglion loss and decreased regenerative ability of axons.

Treatment- *Rasayanchikitsa Use of mastishkachatushka Dincharya and rutucharyapalan.*

6th nerve palsy- Most common ocular motor paralysis in adults. Abducen nerve palsy results into loss of control over lateral rectus muscle which abducts the eye, ischemic mononeuropathy being most common cause of 6th nerve palsy.

Treatment

Rasayanchikitsa- 1) *Medhyarasayan – Shankhapushpi, mandukparni, yashtimadhu, Guduchi.*
2) *Use of mastishkachatushka Snehana using Balataila Swedan- Mruduswed- Hastaswed or tapswed.*

CONCLUSION

To improve the quality of jara, one should have to understand age related changes in eyes to treat them with ayurveda accordingly. Adoption of modern lifestyle affected ocular health and create miseries to human society. With healthy lifestyle and proper dietary habits and avoiding exposure to causitive factors, would be helpful towards better eye health. Preventive measures in age of 30's and 40' can surely decrease the probable chances of further netra rogas.

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