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A CONCEPTUAL STUDY OF AYURVEDIC MANAGEMENT OF OPTIC ATROPHY

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ABSTRACT

Optic nerve is not a true nerve but is a continuation of central nervous system. Optic atrophy is a disease which remains incurable in modern medicine. Many patients reported to *Ayurvedic* hospitals seeking *ayurvedic* treatment for the same. It is caused by various neurological, toxic, inflammatory and systemic disorders. While treating this disease on *Ayurvedic* principals, it is observed that primary optic atrophy requires treatment of *Vatadosha*. Various measures of *Vatashaman*, locally or systemically, are useful. On the contrary secondary optic atrophy requires not only treatment of causative diseases but *Pittashaman* and *Jwaraghna* treatment before doing *Vatashaman*. If measures of *Vatashaman* are applied in secondary atrophy, the condition worsens. Hence differentiating primary and secondary optic atrophy is necessary and principals of treatment of primary and secondary optic atrophy are discussed and presented.

Key words: Optic Atrophy, *Vatadosha, Vatashaman, Pittashaman, Jwaraghna.*

INTRODUCTION

Optic atrophy refers to the degeneration of optic nerve which occurs as an end result of any pathologic process that damages axons in the anterior visual system i.e. along the path from retinal ganglion cells to the lateral geniculate body[1]. In Ayurveda, the disease can be correlated with the *Vataj Timira*. In which objects are seen blurred, irregular and flickering described by *Acharya Sushruta* in *Sushruta Samhita*[2,3].

Etiological features, pathology and signs and symptoms of primary optic atrophy are purely suggestive of *Vata Dosha* predominance. It responds to a variable degree to *vataghna Chikitsa* described for *Vataj Timira*. But secondary optic atrophy is caused by other diseases and conditions. Hence involvement of *Khaph-Pitta Doshas, Shotha, Margavrodha, Paaka and Saamata* like conditions is to be considered in *Samprapti* of this disease. If treatment on line of *Vataj Timira* is given in secondary optic atrophy, the condition worsens. Hence *Kapha-Pittaghna, Shothaghna, Pachan, and Jwaraghna* treatment is required to be given as first line of treatment. Then only *Vataghna* treatment of *Vataj Timira* is beneficial.

Hence differentiating between these two types is at most important to treat optic atrophy on Ayurvedic principles.

EPIDEMIOLOGY & PREVALENCE[4]:

In united state, according to Tielsch et al prevalence of blindness attributable to optic atrophy was 0.8% and according to Munoz et al, the prevalence of visual impairment and blindness attributable to optic atrophy was 0.04% and 0.12% respectively. Optic atrophy is more prevalent in African Americans (0.3%) than in whites (0.05%). Optic atrophy

is seen in any age group. There is no sexual predisposition noted.

TYPES:

There are two types of optic atrophy,

1. ***Primary Optic Atrophy:*** It is simple, non-inflammatory, degenerative and progressive. When atrophy due to disease of second visual neurone proximal to disk with no evidence of previous local inflammation, it is called Primary Atrophy.
2. ***Secondary Optic Atrophy:*** Occurs following any pathologic process which produces optic neuritis or Papilloedema. It is secondary, inflammatory, and post neuritic atrophy.

ETIOLOGY:

Primary Optic Atrophy [1, 5, 6]:

- Cerebrospinal diseases,
- Locomotor Ataxia,
- Disseminated Sclerosis,
- General paralysis of Insane (rare),
- Tumors of Optic Nerve, Pituitary, Intracranial other tumors,
- Syphilis (now rare),
- Malaria, Diabetes,
- Toxic, Tobacco, Alcohol exogenous,
- Acromegaly, Nutritional deficiency (Vit-B1), Hereditary- Lebers disease, Idiopathic.

Secondary Optic Atrophy [1,5,6]:

- Papillitis, Papilloedema,
- Retrobulbar Neuritis,
- Choroiditis,
- RP (Retinitis Pigmentosa),
- CRAO (Central Retinal Artery Occlusion),
- Glaucoma,
- Traumatic- Penetrating wounds of optic nerve, fracture of orbital canal and haemorrhage of optic nerve sheath.

AETIOPATHOGENESIS[1,5,6]:

The optic nerve can be affected by-

a) Disorder that produce swelling/oedema in and around the nerve,
b) Ischemia, by affecting blood supply,
c) Inflammation within or around the nerve,
d) Degeneration or atrophy of axons by direct compression or toxic effect,
e) Injury and
f) Congenital anomalies.

SYMPTOMS [1,5,6]:

- Reduction in acuteness of vision,
- Concentric/irregular contraction of vision field, first for colour then for form,
- Diminishment in light sense,
- Sometimes scotomata,
- Decrease in colour sesitivity (green –› red –› blue), finally complete blindness.

SIGNS [1,5,6]:

- RAPD (Relative Afferent pupillary Defect).
- Pupils very sluggishly reacting / fixed, dilated.

FUNDOSCOPIC PICTURE:

Primary Optic Atrophy [1, 5, 6]:

- Disc is white/greyish/bluish white in colours, edges are sharply defined and regular, size is somewhat diminished with saucer shaped excavation,
- Vessels on disc disappeared,
- Lamina cribrosa seen plainly,
- Retinal vessels may be normal /attenuated arteries.

Secondary Optic Atrophy [1,5,6]:

- Post neuritic atrophy- Disc covered by connective tissue due to previous neuritis, dense white, greyish in colour, slightly enlarged in size, irregular shape, margins are obscured, Disc vessels are disappeared, Lamina cribrosa hidden by organised exudation, Retinal vessels are narrow, retinal arteries enclosed in white lines, veins are narrow and tortuous.
- Secondary optic atrophy due to retino-choroidal causes- Disc dirty, greyish red, yellow, waxy look, marked attenuation of vessels.

After some period of above changes disappear and features of primary atrophy remain.

TREATMENT:

Treatment of optic atrophy can be tailored from following measures keeping consideration of aetiology, chronicity, clinical features and severity of disease. Suitable drug and *Upkrama* and their combinations are useful in optic atrophy.

Treatment of primary optic atrophy (*Vataj Timira*)[3]:

- ***Ghritpana-*** *1) Triphaladi Ghrit, 2) Mahatriphala Ghrita, 3) Jivantyadi Ghrita, 4) Drakshadi Ghrita, 5)Dashmul Sidhha Ghrit.*
- ***Virechana-*** *Castor oil with milk.*
- ***Nasya-*** *1) Madhuradi gana sidhha Tail, 2) Anu Tail Nasya.*
- ***Tarpan-*** *Jivantyadi Ghrita Tarpana.*
- ***Basti-*** *1) Niruha Basti, 2) Anuwasana Basti.*
- ***Anjana****-Dhatryadi Anjana (Amalaki + Rasanjana + Ghrita + Madhu Rasakriya).*
- ***Systemic-***

1. *Swarna Bhasma 100mg + Ashwagandha Churna 200gm (5gm BD),*
2. *Yashad Bhasma,*
3. *Dashmul Kwatha,*
4. *Ashwagandharishtha,*
5. *Saptamrit Loha 250 mg + Ghrita 10 ml (before evening meals i.e. vyan kala),*
6. *Triphala Churna + Swarna Bhasma + Ghrita.*

- õ ***Ahar-*** *Ghrita, Mudga, Amalaki, Shatavari, Yava, Patol, Sharkara, Dugdh, Mansahar, Mans Rasa.*
- õ ***Vihar-*** *Murdha taila, paadabyanga, Sukhshayya, Sukhasana. Pratimarsha nasya.*

These measures are curative measures for *Vata Dosha*. They can help to nourish much debilitated nervous tissues. They can improve axoplasmic transport and hence nervous impulse transfer function of the neurons is expected. *Tarpan* helps to improve vitality of ophthalmic component. *Nasya* is an *Ayurvedic* measure to normalise/improve function of *Indriyas*, hence intracranial component of optic pathway nourishment is expected. Systemic medicines can take care of whole anatomical structures of visual pathway.

Treatment of Secondary Optic Atrophy (*Kaph-Pitta Timira*)[3]:

Jwaraghna treatment is first. Then it should be treated on line of *Vataj Timira* for primary optic atrophy.

- õ ***Ghritpana-*** *Amritadi Ghritpana*
- õ ***Raktmokshan-*** *Siravedha*
- õ ***Virechana-*** *Avipattikar churna*
- õ ***Nasya-*** *Ushir + Lodhra + Triphala + Priyangu siddha Til Tail.*
- õ ***Tarpan-*** *Kshiri-wriksha + Haridra + Ushir siddha Tail,*
- õ ***Anjana-*** *Rasanjana + Madhu + Sharkara + Manhshila + Jeshthamadh Raskriya.*
- õ ***Systemic–***

1. *Punarnavadi Kwatha,*
2. *Pathyadi Kwatha,*
3. *Sanshmani Vati,*
4. *Guduchi Satwa,*
5. *Punarnava Guggul.*

As the pathology of secondary optic atrophy indicates involvement of *Kapha-Pitta Doshas*, treatment of secondary optic atrophy on *Ayurvedic* principles needs *Nidana Parivarjana* i.e. treatment of causative factors first. Then *Kapha-Pitta Doshghna, Kledahara* treatment and *Shodhana* e.g. *Virechana, Raktamokshna Karma* should be done. When evidence of inflammatory response subsides and clinical features of primary optic atrophy appear, then treatment on principles of primary optic atrophy is beneficial.

CONCLUSION

Primary optic atrophy can be treated on line of treatment for *Vataj Timira*. Secondary optic atrophy needs of *Kaph-Pitta Doshghna*, *Shothghna*, *Pachan* and then it should be treated on line of *Vataj Timira* for primary optic atrophy.

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