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AN EVIDENCED BASED CLINICAL STUDY OF VATAJ TIMIR WITH SPECIAL REFERENCE TO PRIMARY OPTIC ATROPHY

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ABSTRACT

Optic Atrophy is associated with vision loss. Various vascular, neurological, toxic, nutritional, metabolic, inflammatory, infectious, neoplastic, genetic, traumatic and systemic disorder are causes of this disease.[1] Anything that can compromise function of ganglion cell can cause optic atrophy.[1] Damage in mild form might not affect acuity but may lead to loss of contrast or color vision. Damage in severe form may lead to blindness to no light perception. Increased intraocular pressure (glaucoma), ischemia, compression (tumors), inflammation are related to risk factors of his disease.[12] Among two types; Primary and secondary optic atrophy; this clinical based study is of primary optic atrophy, which is simple, non-inflammatory, degenerative and progressive. Primary atrophy said to be when atrophy due to disease of second visual neurone proximal to disk with no evidence of previous local inflammation.[13] The pathology, signs and symtoms an etiological features purely suggest that primary optic atrophy is correlated with *Vataj Timir*.[9,10]

Aim: To study the efficacy of *ayurvedic* medication on the *Vataj Timir* with special reference to primary optic atrophy.

Objectives:

Primary

1) To provide better visual acuity.
2) To assess the efficacy of *Virechan, baladi yapan basti Jeevantyadi ghrut tarpan, nasya* on optic atrophy.

Secondary

1) To review the etiopathogenesis of *Vataj Timir* with Special reference to Optic Atrophy.
2) To evolve standard *ayurvedic* therapy for management of optic atrophy.

Materials and Methods: Patient was treated with *Virechan Karma*, 4 sittings of *Kala Basti karma* (15 days) with Baladi Yapan Basti, 5 Sittings of *Tarpan*, 5 sittings of *nasya*.
Patient had given internal medications.

KEYWORDS: Optic Atrophy, *Vataj Timir, Baladi Yapan Basti, Tarpan, Nasya,* Visual Acuity, Optic Chiasma, Retinal Detachment, Lebers congenital Anamoly, Optic Neuropathy.

INTRODUCTION

According to Tielsch et al; in United States, the prevalence rate of Blindness attributed to Optic Atrophy was 0.8% and according to Munoz et al, the prevalence of visual impairment and blindness attributed to Optic Atrophy was 0.04% and 0.12% respectively. It is more prevalent in African Americans (0.3%) than in whites (0.05%). Optic Atrophy is seen in any age group. In this no sexual predisposition noted.[4]

Optic Atrophy refers to the death of the retinal ganglion cell axons that comprise the optic nerve with the resulting picture of pale optic nerve on fundoscopy.[11] Optic atrophy is an end stage that arises from various causes of optic nerve damage anywhere along the path from retina to the lateral geniculate.[5,6]

Optic nerve transmit retinal inflammation to the brain, Optic Atrophy is associated with vision loss.[1] Optic Atrophy is somewhat of implies disuse and optic nerve damage; it is better termed as Optic Neuropathy.[1,3,6] In optic nerve atrophy there is loss of axons and shrinkage of myelin leading to gliosis and widening of the optic cup.[7]

Optic Nerve is not a true nerve but it is a continuation of central nervous system. Optic Atrophy is a disease which remains incurable in modern medicine. It is caused by various neurological, toxic, inflammatory and systemic disorder.[10] Many patients consult to *ayurvedic* hospitals; and seek *ayurvedic* treatment.

While giving treatment for this disease on Ayurvedic principles; it is observed that Optic Atrophy can be correlated with *Vataj Timir*.

Acharya Sushrut, in *Sushrut Samhita Uttartantra 7-18* and *Acharya Vagbhat* had mentioned in the *shlok (va.utt. 12-8,9/Su.utt.7-18 /Ashtang sangraha 15-6,9)*; that patient suffering from *vataj timir* visualize objects as blurred, irregular, distorted and flickering.

The pathology, signs and symtoms an etiological features purely suggest that primary optic atrophy is correlated with *vataj dosha* that is *Vataj Timir*.

- *Samprapti-*[10]

Vaat Prakopak Aahar-Vihar

↓

Sarvadehik Dosh Vikruti

↓

Siranusaari Urdhvajatrugat

(Netragat Vaat Vigunata)

↓

Netragat Patal Doshdushti

↓

Kshayjanya Drushti Naadi Shirsh Shosh

↓

Vaataj Timir

In *samhitas; Samanya* and *vishesh chikitsa* has been mentioned.

Acharyas has mentioned *vishesh chikitsa* for *Vataj Timir* that is *Sthanik* and *Sarvadehik Shodhan* and *Shaman*.

CASE STUDY

Patient name –XYZ

Age/Sex -47 years /FEMALE

Patient came in opd of our institute, having following complaints :-

1) Diminish of vision for both eyes since 2 years back
2) Headache since 2 years

Surgical history-Tubectomy done 16 years earlier

- **Past history illness and investigations done**

K/c/o –Primary Optic Atrophy

Investigations

Had done MRI scan on (08/11/13)

Results mentioned were:-

Bilateral optic nerves optic chiasma and tracts exhibit diffuse thinning and intraneural signal alteration with no extrinsic compressive pathology.

Bilateral chronic optic nerve atrophy. Retinal Detachment in both eyes.

MRI Brain +Optics on 22/10/14

Impression –chronic lacunar infracts

Fundus photograph taken on 10/02/16

Result both eye optic atrophy

Fundoscopy reveals optic nerve head palor ++

Patient diagnosed with Lebers congenital anamoly on 16/02/16

BOTH EYES Perimetry test done-

Not following any specific pattern of Glaucoma

Patient come to *shalakya tantra* opd for further treatment

- On examination:-

General condition-Fair, Afebrile

Pulse-82/min

BP-110/74 mmHg

- Systemic examination:-

Respiratory system-AEBE, clear

CVS –S1S2 normal

CNS –Consious and oriented

Local Examination-
(22/10/16)

Local examination	**Right eye**	**Left eye**
Eyelid	Normal	Normal
Conjunctiva	Normal	Normal
Sclera	Normal	Normal
Cornea	Transparent	Transparent
Iris	Normal	Normal
Pupil	Mild Sluggish reactive to Light	Mild Sluggish reactive to Light
Anterior chamber	Shallow	Shallow
Lens	Lens changes	Lens changes

Date	**22/10/16**	**13/12/16**	**10/01/17**	**30/05/17**
Vision without spectaculars	Right Eye-6/36 Left Eye-6/24	Right Eye-6/24 Left Eye-6/18	Right Eye-6/60 Left Eye-6/36	Right Eye-6/36 Left Eye-6/18(p)
Vision with spectaculars	Right Eye-6/36 Left Eye-6/24	Right Eye-6/24 Left Eye-6/18	Right Eye-6/24(p) Left Eye-6/24	Right Eye-6/36 Left Eye-6/18
Pin Hole	Right Eye-6/24 Left Eye-6/18(p)	Right Eye-6/24 Left Eye-6/18	Right Eye-6/24 Left Eye-6/12(p)	Right Eye-6/36 Left Eye-6/12
Near Vision without spectaculars	Right Eye-24 Left Eye-18(p)	Right Eye-12 Left Eye-10	Right Eye-18(p) Left Eye-12	Right Eye-18(p) Left Eye-18(p)
Near Vision With Spectaculars	Right Eye -24 Left Eye -10(p)	Right Eye-10 Left Eye-10	Right Eye-10 Left Eye-8	Right Eye-10 Left Eye-8
Colour Blindness	Right Eye- All colour Blindness Left Eye –All colour Blindness	Right Eye-All colour Blindness Left Eye-All Colour Blindness	Right Eye-All Colour Blindness Left Eye-All colour Blindness	Right Eye-All Colour Blindness Lefteye-All Colour Blindness

Date	**06/10/2017**	**10/02/2018**	**24/06/2018**	**15/12/2018**
Vision without spectaculars	Right eye-6/36 Left eye-6/36	Right eye-6/36 Left eye-6/24	Right eye-6/36 Left eye-6/24	Right eye-6/24 Left eye-6/18(p)
Vision with spectaculars	Right eye-6/36 Left eye-6/36	Right eye-6/36 Left eye-6/24	Right eye-6/36 Left eye-6/24	Right eye-6/24 Left eye-6/18
Pin Hole	Right eye-6/36 Left eye-6/24	Right eye-6/36 Left eye-6/18(p)	Right eye-6/36 Left eye-6/24	Right eye-6/24 Left eye-6/18
Near Vision without spectaculars	Right eye-24(p) Left Eye-12	Right eye-36 Left Eye-24	Right eye-24(p) Left Eye-12	Right eye-12 Left Eye-10
Near Vision	Right eye-18	Right eye-24	Right eye-18	Right eye-10

With Spectaculars	Left Eye-12	Left Eye-18	Left Eye-12	Left Eye-8
Colour Vision-	Right eye-All colour Blindness Left Eye-All colour Blindness	Right eye-All colour Blindness Left Eye-All colour Blindness	Right eye- All colour Blindness Left Eye- All colour Blindness	Right eye- All colour Blindness Left Eye- All colour Blindness

Intra Occular pressure	Right eye	Left eye
22/10/16	14.6mmHg	12.2mmHg
13/12/16	13.4mmHg	11.2mmHg
10/01/17	14.6mmHg	14.6mmHg
O9/04/2017	14.6mmhg	14.6mmhg
30/05/2017	17.3mmHg	17.3mmHg
06/10/2017	12.2mmHg	13.4mmHg
10/02/2018	14.6mmHg	14.6mmHg
24/06/2018	17.3mmHg	17.3mmHg
15/12/2018	13.4mmHg	13.4mmHg

Pre and Post Funduscopy Under Mydriasis

Result	Right eye	Left eye
Pupil	Fundus dilated	Fundus dilated
Fundal glow	Seen	Seen
Lens	Lens changes	Lens change
Vitreous	Normal	Normal
Optic disc	Disc pale with crescents	Disc pale with crescents
Cup disc ratio	0.3mm	0.3mm
Foveal reflex	Normal	normal
Macula	Normal	normal
Rbv	Normal	normal

Result	Right eye	Left eye
Pupil	Fundus dilated	Fundus dilated
Fundal glow	Seen	Seen
Lens	Lens changes	Lens change
Vitreous	Normal	Normal
Optic disc	Disc pale with crescents	Disc pale with crescents
Cup disc ratio	0.3mm	0.3mm
Foveal reflex	Normal	normal
Macula	Normal	normal
Rbv	Normal	normal

INVESTIGATIONS

HB-11.5(g/dl)

RBC-4.06 (10*6/uL)

WBC-7.49(10*3/uL)

NEUT-3.70(10*3/uL)

LYMPHOCYTES –2.81(10*3/uL)

MONOCYTES-0.48 (10*3/uL)

PLATELETS-257 (10*3/uL)

ESR-10 mm/hr

BLOOD SUGAR-

FASTING-90 MG/DL

POSTPRANDIAL-144 MG/

Signs and Symtoms

PRIMARY OPTIC ATROPHY	***VATAJ TIMIR*** **(**signs and symtoms seen in patient)
1) Reduction in acuteness of vision	*Drushtimandya*
2) concentric /irregular contraction of vision	*Vastu Chal,aavil,Tutak drushyaman*
3) Diminishment in light sense	*Aavil darshan*
4) Decrease in colour sensitivity	All colour blindness in patient.
RAPD (Relative Afferent Pupillary Defect	-
Pupils very sluggishly reacting /fixed,Dilated	Sluggish ,reacting to light

AETIOPATHOGENESIS[11,13]

Causes like Injury, multiple sclerosis, retrobulbar neuritis(idiopathic), Leber's, intracranial tumours, Toxic amblyopias and congenital anomalies.

↓

Degeneration or atrophy of axons by direct compression or toxic effect.

↓

Inflammation within or around the nerve.

↓

Ischemia by affecting blood supply.

↓

Disorder that produce swelling /oedema in and around the nerve.

↓

The optic nerve is affected.

TREATMENT

- *Sarvadehik- SHODHAN*
  SHAMAN
- *Sthanik - TARPAN*
  NASYA

1) Shodhan chikitsa

After *Aam Paachan* done with Oral medication we conduct,

- *Virechan karma* with *Ichchabhedi rasa* by *snehapan Mahatiktaka ghrut*.
- 4 sittings of

1) *Baladi Yapan Basti (Va.ka.4)*

2) *Nasya* with *JIVANTYADI GHRUT(Asht.hrud.uttar 1 / 2-3)* for 7 days.

3) *Tarpan* with *JIVANTYADI GHRUT (Asht.hrud.uttar 1 / 2-3)* for 7 days.

All treatment done *vidhivat* as per guidelines with 14 days of intervals.

DISCUSSION

As discussed earlier the pathogenesis (*samprapti)* occurred in patient was *sarvadehik* followed by *sathanik*. So firstly we decided for *shodhan karma*. As mentioned in ayurvedic text that *sarvadehika doshprakopa* is definitely responsible for *netragat vyadhi*.

Keeping above in mind, patient posted for *virechan karma*. For this *snehapan* with *Mahatikta ghrut* having *tikta rasatmak dravyas* was given. The *rakt viguntva* was corrected by *titkta rasa*.

We decided to do *snehapan* with *Mahatikta Ghrut* (which contains –
Saptaparna, ativisha, shampaka, Tiktarohini, Patha, Musta, Ushira, Triphala, Patola, Neem, Parpataka, Dhanvayasa, Chandan, Pippali, Gajapippali, Padmaka, Haridra, Daruharidra, Ugragandha, Vishaka, Shatavari, Sariva, Vatsakabija, Vasa, Murva, Amruta, Kiratatikta, Yashtimadhu, Trayamana, Amalaki phala, Ghrita)(Bhaishajya Ratnavali Kushta Adhikara 118-124) and *Virechan karma* with *icchabhedi rasa*.

After *virechan karma, sansarjan krama* strictly followed then further *sthanik kriyakalpas* are done –

1. *NASYA*- with *JIVANTYADI GHRUT* (contains *Jivanti, Gau dugdh, Gau ghrut, prapondrik, kaakoli, kshir kakoli, pippali, lodhra, saindhav, shatavha, madhuk, draksha, sita, daruharidra, triphala (asht. hrud. uttar 1 / 2-3) sahastra yoga ghrut yoga prakaran), Jivantyadi ghrut* conquers *tridosha* and appears as
jeevavaniya and *rakt prasadak*, as it has *madhur tikta rasa dravyas*, also doing *shaman karma* of *stanik doshas.*

(As mentioned in *shushrut* and *vagbhat Samhita 'NASA HI SHIRSO DWARAM'*, that is nose is way to reach the medicine towards *urdhwajatrugat pratyanga*. Hence patient was given treatment of *Nasya* with *Jivantyadi ghrut* for *sthanik shaman* of *netragat doshas.*

So we use *Jivantyadi ghrut* for both *Nasya* and *Tarpan.*

4. *BASTI*- with *Baladi Yapan Basti* for 16 days. *Baladi yapan Basti* contains drugs like *Bala, Atibala, Rasna, Erand, Ashwagandha, ksheer, mansarasa, Ghrita, Taila, Guda and Madhu* which has properties such as *Madhur vipak, rasatmak* and *vaatshamak;*

Madanphala, Bilwa, Guduchi, Punarnava, Sahchar, Palaash, Devdara, Vacha, Kushtha, Shatapushpa-
Katu-Tikta Rasatmak, Ushna veerya and *Anulomak.*
Shushka moolak –Katu Pachan, Vatanuloman and *Tridoshahara;*
Yava- Katu Kashaya Ushna, Snehan, Pachan, Vata Kapha Nashak;
Amla Kanji, Kola, Kulatha –Amla Sara, Anulomak;

Saindhav –Lavana, Vatahara. In such type of condition, firstly it is necessary to treat vitiated *Vata* at its own territory. Here we can see tha all six rasa are present in this combination along with *Mansrasa, Ghrita, Taila, Guda* and *Madhu* to show a cumulative effect of whole formulation of *Yapan Karma* is related with *Dharan, Poshan* and *Rogshaman.* The *Sanga* or Obstruction is removed because of *Katu Tikta Rasa*, but excessive use of these *Rasa* would cause *Vata prakop* and hence *madhur, amla, lavan yukt dravyas* will controls *vikrut Vata* and will give effect as *vaat shaman*, gives *bal* to *netrapatalas*, and *netranadi shirsha*.

ORAL MEDICATION

1. *Saptamrut loha vati* 2 tabs BD with *triphala ghrut* (5ml) and *madhu*(2.5 ml)
2. *Gandharva Haritaki choorna* 1 tsp with lukewarm water HS.

Triphala contain in *triphala ghrut* has *Nitya Virechan karma,* as *Netra* is *pittaj avayav*; hence *nitya virechan* is *Pathya* for *Netra*.

But *Triphala* as *ruksha gunn*, so with *Jeshthamadh sinagdhata gunn*, it gets balanced; hence *ruksh gunn* doesn't get raised.

Loha Bhasma controls and increase and stabilize *rakt dhatu* and combination of *Ghrut* and *Madhu* as *anupaan* of *Saptamrut loha* acts as *Rasayan karma* and also create *shukshma gamitva*. Hence decrease the *Netrapatalgat Doshdushti*.

CONCLUSION

As discussed above about Primary Optic Atrophy and its treatment; as per *ayurvedic* and modern view; the disease can be treated with *ayurvedic* medication. We can disrupt the pathophysiology *(samprapti bhang)* of disease.

We can save the visual acuity of patient.

Hence preventing from worsen condition that is Blindness.

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