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Case Study

AYURVEDIC MANAGEMENT OF SUPEROTEMPORAL BRANCH RETINAL VEIN OCCLUSION- A SINGLE CASE STUDY

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ABSTRACT

Branch Retinal Vein Occlusion (BRVO) is the second most frequent retinal vascular disorder. Hypertension and diabetes mellitus are common predisposing factors, which typically lead to atherosclerosis. Superotemporal Branch Retinal Vein Occlusion (STBRVO) is a major type of BRVO. In which retinal oedema and haemorrhages are limited to the area drained by the affected vein. Anti-VEGF injection is the treatment currently provided for the above said condition but it has high recurrent rate and expensive, thus Ayurvedic treatment will help in preventing further visual loss and improvement in visual acuity. **Materials and methods:** A patient of age 48 approached our OPD complaining of decreased and blurred vision especially at the lower part of visual field of right eye. He had developed the symptoms before 2 month and visited an ophthalmologist; he was diagnosed of STBRVO and took inj. Avastin, but didn't have any satisfaction, thus he approached our OPD. He was under Ayurvedic treatment for 3 months. **Results**: There was improvement in visual field and acuity, reduction of macular oedema was found in OCT. **Discussion**: Here the condition occurred due to the *Sanga* (obstruction) in *Raktha vaha srothas* due to *Kapha* and leads to *Vimarga gamana* (reversed flow) of *Vata*, thus *Srotho sanga hara* treatment by reducing *Kapha* and making the flow of *Vata* in correct direction was adopted.

KEYWORDS: Superotemporal Branch Retinal Vein Occlusion, *Kaphaja Vataraktha, Vasa guluchyadi Kashayam, Nasya, Kriya kalpa*.

INTRODUCTION

Retinal Vein occlusions are more common than the artery occlusions. These typically affect elderly patients in sixth or seventh decade of life. BRVO is caused by venous thrombosis at an arteriovenous crossing, due to vein share the same vascular sheath of artery. Hypertension and diabetes mellitus are common predisposing factors. BRVO may occur as:

- Hemispheric occlusion due to occlusion in the main branch at the disc
- Quadrantic occlusion due to occlusion at the level of AV crossing and
- Small branch occlusion either as macular branch occlusion of peripheral branch occlusion[1]. BRVO is classified according to anatomical location as Major or macular. Major BRVO refers to occlusion of a retinal vein that drains one of the quadrants. Macular BRVO refers to occlusion of a venule within the macula. The increased incidence in supero temporal quadrant is thought to be due to increased arteriovenous crossings in that quadrant.

Pathogenesis is multifactorial in origin; it includes a combination of mechanical compression, degenerative changes in vessels and hypercoagulable factors. The arteriosclerotic changes are believed to result in venule occlusion through thrombosis and damage to endothelial cell damage.

Common features associated with it are painless uniocular vision loss along with macular oedema, if not treated properly it will lead to secondary glaucoma and neovascularisation. So as early as diagnosis and treatment is suggested. In current scenario administration of Avastin injection and PRP is given[2], which has high recurrent rate and expensive, thus there is a need for an Ayurvedic treatment protocol to halt the progression of the disease and improve the vision.

MATERIALS AND METHODS

A patient of age 48 is having a known history of Diabetes Mellitus since 4 years and Hypertension since 6 years approached our OPD complaining of decreased and blurred vision especially at the lower part of visual field of left eye.

History of Present Illness

He had developed the symptoms before 2 month and visited an ophthalmologist; he was diagnosed of STBRVO and took Inj. Razumab. But didn't have any satisfaction, thus he approached our OPD. He was under Ayurvedic treatment for 3 months.

Past History

- Known case of Diabetes mellitus since 4 years.
- Known case of Hypertension since 6 years.

Ocular History

- He had developed the symptoms before 2 month and visited an ophthalmologist. He was diagnosed of STBRVO and took Inj.Razumab in right eye.

Ashta sthana Pareeksha

- *Nadi*- 74/min
- *Mutra*- 6-7 times a day
- *Mala* – once a day
- *Jihwa*- Coated
- *Shabda- Prakrita*
- *Sparsha- Snigdha*
- *Drik - Vikrutha*
- *Akruthi- Sthoola*

General Examination

- B.P: 140/80 mm/hg
- Cardio vascular system: No murmurs on auscultation
- Respiratory system: No wheezing on auscultation
- CNS:- within normal limits

Investigations

- HbA1C: 8.1%
- Lipid Profile
- Cholesterol: 210 mg /dl
- Triglyceride: 250 mg/dl
- LDL: 185 mg/dl
- HDL: 53.87mg/dl

Table 1: ocular examinations

Occular Examinations	**R.E**	**L.E**
Distant Vision	6/60	6/9
Pin Hole	NI	NI
Near Vision	N36	N6
Lids and adnexa	Normal	Normal
Conjunctiva	Normal	Normal
Cornea	Clear	Clear
Sclera	Clear	Clear
Anterior Chamber	Normal depth	Normal depth
Iris	No muddy iris	No muddy iris
Pupil	Normal reaction to light	Normal reaction to light
Lens	SIMC	SIMC
IOP	17mm/hg	15.9mm/hg
	RE	**LE**
Visual field test (Confrontation test)	Reduced visual field	Normal
DDO (distant direct opthalmoscope)		
CDR (cup disc ratio)	0.4	0.3
Vessels	• Narrowed vessels • Attenuated & tortuous veins • Cotton wool spots	Normal
FR (fundal reflex)	• Not seen	Seen

Fundal Photography

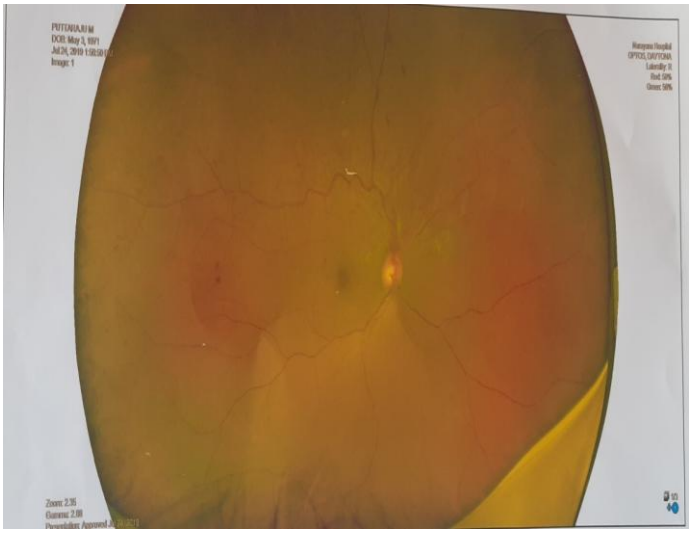

Fig.1. fundal photography of right eye shows superotemporal branch retinal vein occlusion with cotton wool spots

Oct angiography

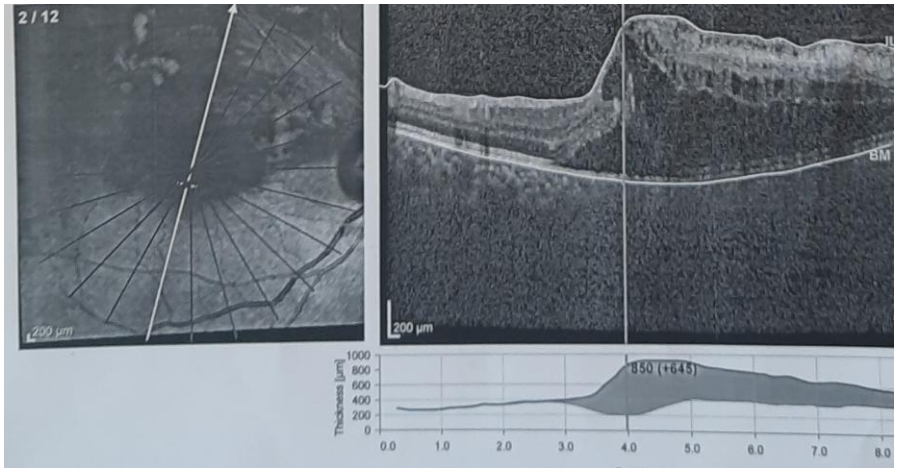

Fig.2. Macular oedema of right eye with macular thickness of 850µm

Treatment

Total treatment period was of 3 months.

Table 2: Treatment plan

S.no.	Treatment	Drug & Dosage	Duration
1	*Deepana & Pachana*	*Chitrakadi vati-1* tid (b/f)	3 days
2	*Snehapana*	*Triphala Ghritha*	7 days
3	*Snehana & Swedana*	*Ksheera bala taila*	1 day
4	*Virechana*	*Trivruth lehya* 30 gm	1 day
5	*Seka*	*Triphala, Yashti, Punarnava*	7 days
6	*Bidalaka*	*Triphaladi, Manjishta*	7 days
7	*Nasya*	*Anutaila* 8 drops for 7 days of 2 sittings with a one month gap	14 days
8	*Anjana*	*Elaneer Kuzambhu* 2 drops	Once in 7 days
9	*Kathakaphala drops*	1 drops thrice a day	90 days
10	Orally	1) *Vasa gulluchyadi* ks-20ml (b/f) morning 2) *Punarnavadi* ks-20 ml(b/f) in evening	During the treatment time the following

		3) *Chandra prabha vati* 1 tid (a/f) 4) *Triphala churna*-3gm at night (a/f) 5) *Sarivadi vati* 1 tid (a/f)	drugs were administered at appropriate times.

RESULT

Much improvement was found in subjective as well as objective factors as shown in the below table 3.

Table 3: Observations after the treatment

Visual Acuity	**R.E**	**L.E**
After one month	D.V:-6/36. N.V:-N36	D.V:-6/9. N.V:-N6
After 2 months	D.V:-6/24. N.V:-N18	D.V:-6/9. N.V:-N6
After 3 months	D.V:-6/18. N.V:-N10	D.V:-6/9. N.V:-N6
Visual field	Normal Visual field in lower field of right eye	
HbA1C	7.3%	
B.P	130/80mm/Hg	
Ophthalmoscopy	Attenuated and tortuous veins and cotton wool spots were reduced-RE	

OCT –After treatment

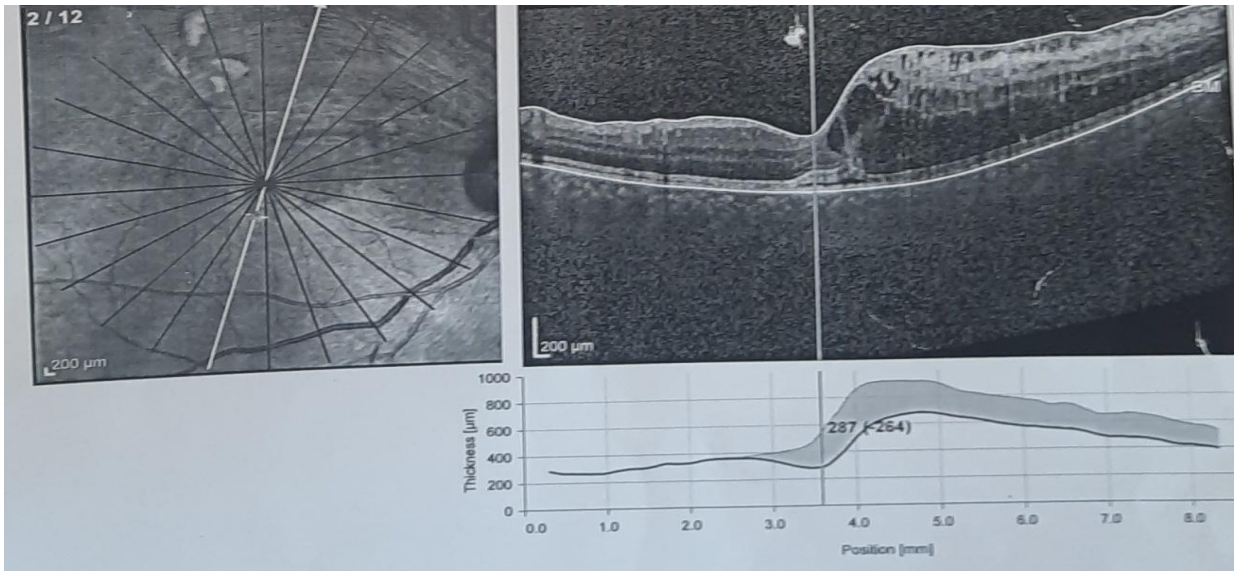

Fig.2. Reduced macular oedema, macular thickness-287µm

DISCUSSION

We can't find direct correlation of Supero temporal branch retinal vein occlusion in Ayurveda, but here we have taken it as *Kaphaja Vata rakta*. Its *Samprapti* can be explained as follow. Due to *Apthya ahara vihara* there will be increase in *Kapha* which causes *Sangatwa* in *Raktha vaha srothas* and leading to *Vimarga gamana* of *Vata* which move through *Urdhwagata siras* and gets localized in Eyes[3].

Here the main aim of the treatment was *Nidana parivarjana*. Diabetes mellitus, Hypertension and hyperlipidemia were controlled, which are the main predisposing factors.

Probable Mode of Action

a) ***Chitrakadi vati*:** Was given for *Ama pachana* and for *Vatanulomana* action.

b) ***Triphaladi ghrita*:** *Snehapana* was administered which does *Vatanulomana* and prepare body for *Shrotho shodanatwa*[4].

c) ***Virechana*:** With *Trivruth lehya* does detoxification of body by *Srotho shodanatwa* and results in *Laghutwa* of *Indriya*.

d) ***Seka* and *bidalaka*:** With *Chakshushya dravyas* and *Dravyas* like *Punarnava* and *Manjishta* reduces the oedema by mechanical pressure and increasing the bio availability of drug, as lid is one of the high vascular part thus absorption of concentrated drug through capillaries occur[5].

e) *Nasya* with *Anutaila* reaches the *Sringataka marma* it eliminates the vitiated *Doshas* and does *Indriya dridakarana* (strengthen the senses)[6].

f) *Anjana* with *Elaneer kuzhambu* does *Vrina ropana* as well as *Kapha hara* property[7].

g) *Kathakaphala* drops were administered which is *Chakshushya* (good for eyes) and *Vishada* (shininess) in property[8].

h) **Orally:** *Vasa gullychyadi kashaya*[9] which is having *Dravyas* of *Kapha meda hara* in nature and *Punarnavadi kashaya* having *Shothahara* property along with *Chandraprabha vati* was given. *Chandraprabha vati* is considered as *Sarva roga hara, Triphala churna* act as *Tridoshahara* as well as *Chakshushya rasyana*. *Sarivadi vati*[10] is *Kaphavata shamaka* as well as *Raktha prasadaka*.

CONCLUSION

STBRVO is considered as major vision threatening disease and in Ayurveda we can manage it by following proper *Pathya* and *Dinacharya* along with *Aushada sevana*. Improvement in the vision was seen here, by decrease in macular oedema and strengthening of vessels, further progression of neo vascularisation was halted and prevented from complications like secondary glaucoma and Retinal Haemorrhage.

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