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Management of Superior Branch Retinal Vein Occlusion - A Case Study

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ABSTRACT

Introduction: Branch retinal vein occlusion (BRVO) is a type of retinal vein occlusion which is the second most common vascular disorder found in retina. BRVO is a blockage of one or more branches of the central retinal vein. Its symptoms include floaters, peripheral loss of vision, retinal hemorrhages and blurred or distorted central vision due to macular edema. **Materials and Methods:** A female of 28 years old approached to *Shalaky Tantra* OPD of GAMC with symptoms of visual field defects and blurred center vision since 1 week. After thorough examination, the case was diagnosed as superior BRVO and was treated with the help of *Aurvedic* medicines. The treatment prescribed was *Nasya, Puarnavadi Kashaya, Puarnavadi Guggulu, Mahavasakadi Kashaya, Kaishora Guggulu, Kushmada Avaleha, Seka And Vidalaka*. **Result:** Significant improvement was observed both subjectively and objectively. **Discussion:** BRVO can be compared to *Kaphanubandha Urdhwaga Rakthapitha*. So in this case study, *Pitha Kaphahara* followed by *Rakthapithahara* line of treatment is adopted.

Key words: Superior Branch Retinal Vein Occlusion, BRVO, Nasya, Punaravdi Kashaya, Kaishora Guggulu, Case Study.

INTRODUCTION

Retinal vein occlusion is the second most common cause of vision loss due to retinal vascular disease after diabetic retinopathy. Population based studies report the prevalence of RVO ranges from 0.7-2%.^[1]

Retinal vein occlusions occur when there is a blockage of veins carrying blood with needed oxygen and nutrients away from the nerve cells in the retina.^[2] Retinal vein occlusions can be classified into 3 based on the site of the obstruction. CRVO (central retinal

vein occlusion) HRVO (hemi retinal vein occlusion) and BRVO (branch retinal vein occlusion). In CRVO the site of obstruction will be within optic head, in HRVO site of obstruction will be at major bifurcation and in BRVO obstruction will be in tributary.

Causes of retinal vein occlusions are pressure on the vein by an atherosclerotic retinal artery, hypertension, diabetes mellitus, hyperviscosity of blood, periphlebitis retinae, raised intra ocular pressure and local causes like orbital cellulitis, orbital tumors and cavernous sinus thrombosis. It can also occur secondary to inflammation or vasospasm. But the common cause of BRVO is venous compression by atherosclerotic artery.

The most common symptom of branch retinal vein occlusion is vision loss or blurry vision in a part or all of an eye.^[3] It can occur as sudden or become worse over several hours or days. Sometimes there will be sudden complete loss of vision or blurred and distorted central vision due to macular edema. There will be presence of floaters in front of the eye due to

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leakage of tiny clumps of blood into the vitreous from retinal vessels.

Branch retinal vein occlusion can be correlated with *Kaphanubandha Urdhwaga Rakthapitha* and here treatment is given based on the *Doshas* involvement.

CASE REPORT

Basic information of the patient

Age: 28years

Sex: Female

Religion: Hindu

Occupation: House maker

Chief complaints

Loss of vision in lower side of the left eye and blurriness in the center of vision since 1 week associated with pain in the left lower lid in the lateral aspect.

History of present illness

The patient was apparently normal before 1 week and she suddenly developed loss of vision in inferior temporal visual field in left eye. She observed this while moving her eye ball into left lateral side in the inferior aspect. She also complaints of blurriness in the center of vision and slight pain in the lower lid in the temporal aspect. Thus, she approached Shalakya OPD of GAMC Bangalore. During the examination by direct ophthalmoscope, she was diagnosed with superior branch retinal vein occlusion associated with macular edema.

History of past illness: no history of hypertension, diabetes, *Asthma*

Family history: nothing significant

Personal history

Appetite: good

Sleep: good

Bowel: regular

Micturition: 4-6times/ day

EXAMINATION

Ashtashtan Pareeksha

- *Nadi:* 74/min
- *Mutra:* 4-6 times/day
- *Mala:* regular
- *Jihwa:* Aliptha
- *Shabda:* Parkrutha
- *Sparsha:* Anushna Seetha
- *Druk:* Vikrutha
- *Akruthi:* Madhyama

Vitals

- Pulse rate: 74/min
- Respiratory rate: 24/min
- BP: 110/70mmof Hg

Systemic examination

All the systemic examinations revealed no abnormalities.

Ocular examination

Given in table number 1

Table 1: Ocular examination

Head posture	Normal posture			
Visual acuity	Distant vision	PH	Near Vision	
	RE	6/6	6/6	N6
	LE	6/9	6/12	N8(P)
Visual field examination				
	RE :- Normal visual sensation			
	LE:- Reduced visual sensation in lower field of left eye			

Slit lamp examination	
Eye brow	Normal, bilaterally symmetrical
Eyelash	Normal, bilaterally symmetrical
Eyelids	Edema in left eyelid, RE normal
Conjunctiva	Normal BE
Sclera	Normal BE
Cornea and iris	Normal BE
Pupil	Round, regular, reactive (BE)
Distant Direct Ophthalmoscopic examination	
RE	RE was within normal limits
LE	BRVO with macular edema
Fundus	<ul style="list-style-type: none"> ▪ Pale ▪ Haemorrhages in superior temporal region near optic disc
Optic disc	No demarcation in the disc margin in superior temporal region
Optic cup	Obliteration in superior temporal region
Macula	Macular edema
Fovea	No foveal reflex

Investigations: investigations given in table number 2.

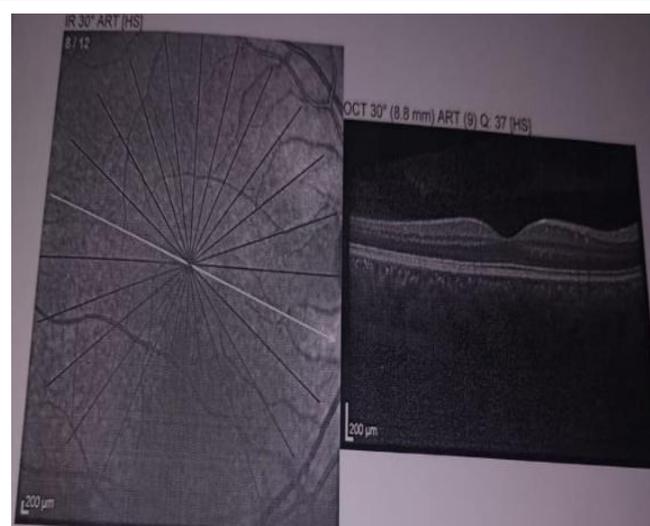
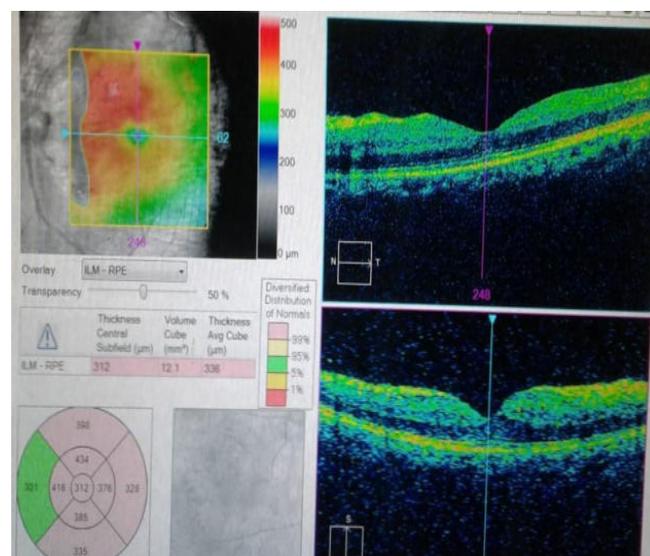
Table 2: Investigations

Hb	12.1gm/dl
FBS	100mg/dl
Lipid profile	
LDL	70mg/dl
HDL	60mg/dl
Triglycerides	110mg/dl

Total cholesterol	156mg/dl
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OCT imaging was done. Given in figure number 1.

Figure 1: OCT imaging



Diagnosis

Superior branch retinal vein occlusion with macular edema (*Kaphanubandha Urdhwaga Rakthapitha*). Diagnosis was done by distant direct ophthalmoscopy, confrontation test and OCT imaging.

Treatment given

Treatment was given for a period of 7 weeks. Patient was administered *Nasya* with *Anuthaila* 8 drops in each nostril for 7 days at early morning in empty

stomach, For next 2 weeks *Kriyakalpas* like *Seka* with *Triphala*, *Punarnava* and *Vasa Kashaya*, and along with that *Shamanoushadhis* like, *Punarnavadi Kashayam* 15ml BD with *Punarnavadi Guggulu* 1 BD was given. Next 2 weeks *Vidalaka* with *Mukkadi Yoga*,^[4] *Mahavasakadi Kashayam* 15ml BD with *Kaishora Guggulu* 1 BD was given. In next 2 weeks *Kushmanda Avaleha*^[5] as *Rasayana* 1 tsp at night after food was prescribed.

OBSERVATIONS AND RESULTS

Phase 1: first 7 days

- *Nasya* with *Anuthaila* 8 drops in each nostril was given in empty stomach at early morning for *Murdhwa Shodhana*.
- Observation: vision was improved to 6/6(P), PH 6/9(P) and N8 in left eye

Phase 2: For next 2 weeks

- *Seka* with *Triphala*, *Punarnava* and *Vasa Kashayam* was given for 7 days for *Sthanika Shothanartham* and along with this *Punarnavadi Kashayam* and *Punarnavadi Guggulu*, was given for 2 weeks.
- Observation: pain in lower lid was completely relieved and center vision was improved.

There was reduced of macular edema and hemorrhages on direct ophthalmoscopy. Foveal Reflex was present.

Phase 3: for next 2 weeks

- *Vidalaka* with *Mukkadi Yoga* was given for 7 days. Along with this *Mahavasakadi Kashaya* and *Kaishora Guggulu* was given for 2 weeks.
- Observation: 90% of the hemorrhages was reduced. Optic disc demarcation was present.

Phase 4: For next 2 weeks

- *Kooshmanda Avaleha* was given
- Observation: complete absence of hemorrhages. Optic cup was clear. And visual field examination was normal for both eyes. Visual acuity was 6/6 and N6

DISCUSSION

In this case, superior branch retinal vein occlusion can be correlated with *Kaphanubandha Urdhwaga Rakthapitha*. The treatment was given based on the *Dosha* involvement. Here the *Samprapthi* can be taken as follows - primarily there will be *Kapha Prakopa* due to *Nidana*. Further it leads to *Pitha Raktha Prakopa* and get *Ashraya* in *Netra*. The *Rakthavaha Srothas* is blocked by *Kupitha Kapha* and finally it causes the *Vimargagamana* of *Raktha* and *Pitha* in turn leads to *Kaphanubandha Urdhwaga Rakthapitha*. The treatment given includes both *Shodhana* and *Shamana*. *Murdhwa Shodhana* was given first to remove the *Sanga* caused by *Kapha*. *Nasya* is best treatment to cure the *Urdhwa Jathrugatha Vyadhis* and it is quoted that "*Nasa Hi Shiraso Dwaram*." Then second phase treatment was given to remove the fluid which collected in the macular region and to remove the *Sanga* by *Kapha*. Then third phase treatment was to do the *Shamana* of the *Pitha* and *Raktha* thereby reducing the hemorrhages. Fourth phase treatment was given for a *Rasayana* property.

Table 3: Mode of action of drugs

<i>Anuthaila</i>	<i>Tridosahara</i>
<i>Triphala</i>	<i>Tridosahara, Chakshushya</i>
<i>Punarnava</i>	<i>Pithakaphahara, Sothagna</i>
<i>Vasa</i>	<i>Pithakaphara, Rakthapithahara</i>
Internally	
<i>Punarnavadi Kashyam</i>	<i>Sothagna and Pitha Kaphahara</i>
<i>Punarnavadi Guggulu</i>	<i>Sothgna and Soolagna</i>
<i>Mukkadi Yoga</i>	Contains <i>Triphala, Chandana, Rakthachadana, Gairika, Usheera, Nisha, Daruharudra, Lodra, Sariva, Vatshruna, Durva, Nimba</i> . Action: <i>Sothagna, Dahagna, Rujahara, Raktha Pitha Shamaka</i> .

Mahavaskadi Kashayam	Rakthapithahara
Kaishora Guggulu	Pithahara.
Kooshmanda Avaleha	Rasayana action and Rakthapithahara action

CONCLUSION

BRVO is the second most frequent retinal vascular disorder. The treatment given in this case based on the *Doshas* involvement. First aim was to remove *Sanga* and next line of treatment was to reduce the *Rakthapitha*. Here *Kriyakalpa* also helped to reduce the symptoms very quickly without any side effects.

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