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Jalaukavacharana in Branch Retinal Vein Occlusion – A Case Study

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ABSTRACT
Branch Retinal Vein Occlusion (BRVO) is common retinal vascular disease. It presents as sudden onset of painless unilateral visual field defect, metamorphopsia. Its complications are Retinal haemorrhage and chronic Cystoid macular oedema (CME) leading to poor visual acuity. The patient in the study was having BRVO with retinal haemorrhage and CME. According to Ayurveda, Retinal haemorrhage can be correlated to avyadhi known as AkshigatRaktapitta (Akshi ~ Eye, gat~ situated in, Raktapitta - bleeding disorder caused by vitiation of pitta dosha in rakta dhatu,). It is a type of UrdhwagaRaktapitta (disorder with bleeding from upper orifices) in which kapha is anubandhi dosha.
According to contemporary science, the management of BRVO using various drugs, is still uncertain. Various modulators of the hemorheological factors have been tried such as anticoagulants, thrombolytics and haemodilution but none of them is proven benefit so far. In this condition ayurvedic management of Branch retinal vein occlusion by ayurvedic procedure such as Raktamokshana by Jalaukavacharana is effective to restore back the vision of the patient. In Ayurveda, BRVO is caused due to RaktavahaSrotoDushti. Hence treatment is based on Raktapittashamana. Raktamokshana (bloodletting) is one of the parasurgical, detoxification method of Panchkarma which helps to eliminate vitiated Dosha accumulated in the part/organ/body.
Jalaukavacharana i.e. Leech therapy is the form of Raktamokshana, in which vitiated Pitta and Rakta doshas get let out from the body, practiced since ancient times to treat netrarogas.Netra is pitta sthana. Jalauka is recommended by Acharya Sushruta in Pittajaand Raktajavikara. Raktamokshana is found to be very helpful in reducing the retinal haemorrhage, oedema, exudates and improving the sight by Raktapittashamana.The purpose of this study was to evaluate the efficacy of selected Ayurveda modalities in the management of BRVO.Treatment protocol consisted of local and systemic therapies. The present case study showed marked improvement in visual acuity with reduction in retinal haemorrhage and macular oedema. It proves that Ayurvedic management in retinal disorders is quite encouraging and it is an area of research in future.

Keywords: Branch retinal vein occlusion, Ischemia, hypoxia, Raktamokshana, Jalaukavacharana.

I. INTRODUCTION

- Ayurveda gives prime importance to the eye. It says Sarvendriyanamnayanampradhanam.
- Lord Dhanavantari with leech in his hand indicates the importance of leech therapy in Ayurveda. The word leech is derived from ‘laece’ which means physician. Leeches are given the name Jalauka because of their nutrition is Jala. It resides in water, hence beingsita in nature pacifies pitta dosha. It was used to treat a wide range of ophthalmic diseases. It was practiced prophylactically as well as therapeutically.
- In Ayurveda, BRVO is caused due to RaktavahaSrotoDushti. Hence treatment is based on Raktapittashamana.Raktamokshana (Bloodletting) is one of the Para surgical, detoxification method of panchkarma which helps to eliminate vitiated dosha accumulated in the part/ organ/ body.

Retina is the innermost, light sensitive layer of the eye. Retinal vein occlusion (RVO) is the most common retinal vascular occlusive disorder and is usually associated with a variable amount of loss of vision. A blockage in the Retina's main vein is referred to as a central retinal vein occlusion (CRVO), while a blockage in the smaller vein is called branch retinal vein occlusion (BRVO) in which the later is more common.BRVO may present as hemispheric occlusion; due to occlusion in the main branch at the disc or as

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quadratic occlusion; due to occlusion at the level of AV crossing and as small branch occlusion either as macular or peripheral branch occlusion. It presents with sudden, unilateral blurred vision to a moderate- severe degree.The increased intravenous pressure results in various events such as tortuosity of veins, haemorrhages, cotton wool spots, and papillitis. Congestion of normal capillary exchange can result in macular oedema, thereby causing metamorphopsia and threatening loss of visual acuity. It is more common than artery occlusions leading to painless sudden vision loss due to ischemia and hypoxia caused by vein occlusion. The main risk factor for RVO and BRVO includes hypertension along with other factors like age, hyperlipidaemia, DM, and raised IOP.

II. CASE REPORT:

- A 48yr male with known case of Hypertension since 7 yr under medication came to shalakyanetraopd with chief complains of diminished vision in left eye since 1 month.
- O/E Visual Acuity of right eye –6/9p PH- 6/9, Visual Acuity of left eye - 6/36p PH-NI.

Local Examination

- Head posture: normal.
- Forehead and facial symmetry: normal.
- Eyebrows: both normally aliened, No madarosis present.
- Eyeball: normal, no proptosis, no enophthalmos.
- Eye lashes: normal, no poliosis, no trichiasis.
- Eyelids: upper eyelids of both eye cover 1/6 of cornea, lower eyelids touch the limbus. No swelling, drooping, coloboma, lesion present.
- lid margin: normal intact. No entropion, ectropion present.
- Lacrimal apparatus: normal. Regurgitation test negative, punctum visible no stenosis present.
- Conjunctiva: normal. No congestion in bulbar and palpebral conjunctiva.
- Sclera: normal, no congestion or staphyloma.
- Cornea: clear, no signs of degeneration, opacity, precipitates present.
- Anterior chamber: normal depth, regular.
- Iris: Colour pattern normal, brown in colour.
- Pupil: bilateral pupil one-one in number, Right and left pupil normal size reacting to light.
- Lens: bilateral early cataract changes present, bilateral immature senile cataract present.
- Intraocular pressure: 17.3 mm of Hg in Right eye, 14.6 mm of Hg in left eye.

Fundoscopy

- Distant Direct Ophthalmoscopy: bilateral red reflex seen with early cataract changes seen.
- Direct ophthalmoscopy under mydriasis:

Right eye-fundoscopy was within normal limits.

Left eye-

- media: Mild hazy.
- optic disc: Normal.
- macula: Flame and dot blot haemorrhages with cotton wool spot and macular oedema present.
- foveal reflex: Not seen.
- blood vessels: attenuated and tortuous, superficial flame shape haemorrhage in Superior and inferior lateral quadrant including macula with dot & blot haemorrhages.

Plan of treatment

- Adv. Jalaukavacharana at Left eyeUpnasika, Lalat&Apangasite on 1st day then 7 days gap then on 8th day.
- Abhyantarchikitsa:
- Saptaamritloha2 BD.
- Triphalachurna5 gm with lukewarm water BD.
- Pathyapathya:

a)Aahara- He was advised to avoid Abhishandhi and Guru Aahara and increase LaghuAahara like Peya, MudgaYusha, StaliPishta, Tikta Rasa Pradhan Ahara.

b) Vihara-Patient was advised to take intermittent ocular rest (2mins rest after 20mins work), correction and modification in his sleeping habits and moderate walking.

Plan of Treatment- Jalaukavacharana

- Poorvakarma: leeches immerse inharidra+ Sarshapkalkamishritjalaor kanji or takra.
- Pradhankarma: If leeches not pricking then apply dugdha orghritaor Navneet or blood drop over the desired part of body.
- Paschatkarma: Apply oil+ lavanon mouth of jalauka& apply rice powder all over the body of jalauka.
- At the place of dansha, if Tod vedana&kandu occurs then remove leeches from that place. (Indication of sucking pure blood).
- Apply Honey or Lavanchurnaonjalauka so they will detach from the body part.

Sites of raktamokshana in netraroga:

- Upnasika: Near nasal bridge.
- Lalat: Forehead of affected side.
- Apanga: Near lateral canthus.

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These areas are mainly supplied by branches of superficial temporal artery, branch of the external carotid artery and superficial temporal vein, branch of external jugular vein. These superficial temporal artery and vein anastomose with supraorbital artery and supraorbital vein branch of ophthalmic artery and vein. The ophthalmic artery and vein supply various parts of eyeball and orbit. On application of leech in these areas, the biological active substances of leech saliva easily reach in vicinity parts of eyes and perform their action in addition to benefits of Raktamokshana.

III. RESULT-

- After final setting of the treatment his visual acuity of left eye increased from 6/36p to 6/18p.

IV. DISCUSSION

- In this case, superior branch retinal vein occlusion can be correlated with KaphanubandhaUrdhwagaRakthapitha. The treatment was given based on the Dosha involvement. Branch retinal vein occlusion, basically a dristipatalagatarogais mainly attributed to sirasrotasabhisyandamand raktavahasrotodushtidue to variety of achakshyushyaaharaand viharakaranas.
- In order to understand thesampraptiof Branch retinal vein occlusion in Ayurveda, general samprapti of eye disease must be considered.
- Nidanaof endogenic eye diseases are mainlyachakshyushyafactors which vitiates pitta.
- The vitiated Pitta in turn vitiates the pitta vahasrothas. Due to interconnection of pitta and rakta, which shares common ashryaashrayee bhava, the raktavahasrotasalso gets vitiated due to pitta vitiation.
- As thenidanafactors are achakshyushya, the vitiated pitta and rakta have an affinity towards penetrating the eyes. Hence the vitiated dosha move towards the eye through jatroordhwasrotasand finally gets confined to the eyes, there is a stage when the Sirasrothasare deeply involved which is known as Sira abhisyanda.
- the whole pathology of BRVO which starts with srotodushti of raktavahasrotasmanifested in the form of Sanga as haemorrhages. Here the Samprapthican be taken as follows primarily there will be Kapha - Prakopa due to Nidana. Further it leads to Pitta RakthaPrakopa and get Ashraya in Netra. The RakthavahaSrothas is blocked by KupithaKapha and finally it causes the Vimargagamana of Rakta and Pitta in turn leads to KaphanubandhaUrdhwagaRakthapitha.
- When leeches are applied over the desired site they inject biologically active substance through saliva which has the properties like anti-inflammatory that helps in arresting the inflammation, vasodilators increases the blood flow at the affected area that reduce the stagnation of inflammatory substances, anesthetic substance reduce pain during

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sucking of blood and hyaluronidase facilitates the penetration and diffusion of pharmacological active substances into deeper tissue and enhance supply of immune substances into affected tissue.

- Jalaukavacharana is having an important role in treating raktajavyadhis by doing raktashodhana. Among all the raktamokshana procedures, the commonest is being jalaukavacharana due to its easy applicability, painlessness and devoid of complications. Our acharyas were very clear about those facts regarding jalaukavacharana, where they have advocated judiciously the usage of it in such a delicate organ eye.

BRVO is the retinal disorder presenting with sudden painless vision loss. It causes a major visual handicap when macula is involved. Consequent retinal haemorrhage and CME together can lead to complete or partial blindness. Hence these complications become a matter of concern.

V. CONCLUSION

BRVO is the second most frequent retinal vascular disorder. The treatment given in this case based on theDoshas involvement. First aim was to remove Sanga and next line of treatment was to reduce the Rakthapitha.According to basic principles of Ayurveda, if we know the aetiologies and the clinical features of the diseases, we can formulate treatment in AnuktaVyadhis and treat patients.

BRVO can be compared with a disease of raktavahasrotas as it involves blood vessels. The pathogenesis of retinal hemorrhage can be correlated to UrdhwagRaktapitta according to Ayurved. The medicines indicated for UrdhwagRaktapitta proved to be significant for treating retinal hemorrhage. Jalaukavacharana has the great potential to manage ischemic, inflammatory and infective disease by removing the impure blood from deep-seated regions. When a leech is applied to biologically active areas of the human body, the bite itself gives a positive effect. According to modern science, leech's saliva contains Hirudin, Hyaluronidase enzyme which acts as vasodilator, Antithrombotic and analgesic effect. The patient had symptomatic relief with significant improvement in visual acuity. In addition, marked improvement in macular oedema was also seen in OCT. One can conclude from this study that ophthalmic disorders need not be treated only with local medications but also, use of systemic medicines can also be beneficial in eye diseases. This study proves that when the diagnosis of the disease and the treatment of the disease, both are done on the basis of Ayurvedic principles, the results ought to be positive and certainly confirms that Ayurveda definitely can be labelled as evidence-based science. Hence more efforts should be taken to encourage utilization of this effective mode of treatment.

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