



**CLINICAL APPROACH TO DIABETIC VITREOUS HAEMMORHAGE – AN
OBSERVATIONAL CASE STUDY**

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Article Received on 24/07/2018

Article Revised on 14/08/2018

Article Accepted on 04/09/2018

ABSTRACT

Purpose: To report the visual acuity response after ayurvedic treatment protocol in patients with proliferative diabetic retinopathy complicated by vitreous hemorrhage. **Methods:** THREE patients with vitreous hemorrhage due to proliferative diabetic retinopathy were treated with a tailored ayurvedic approach, The patients underwent Snellen visual acuity testing, ophthalmoscopic examination, at baseline and follow-up visits. **Results:** All the three patients had proliferative diabetic retinopathy with vitreous hemorrhage extensive enough to preclude pan retinal photocoagulation. And all were started on cap celin (vitamin C 500MG OD) and was on observational period of 6 weeks; during this period ayurvedic management was structured following which patients experienced improvement in visual acuity starting within the second week. After 1 month of treatment including Virechana, Takradhara, & Madhutailika Basti two patients had 2 lines of improvement in visual acuity and the other 4 lines. Each patient had regression of retinal neo vascularization at 1 month of follow-up. The vitreous hemorrhage in each patient showed partial resolution at 1 week and nearly complete regression at 1 month. No adverse events were observed in either of the patient. **Conclusions:** After the treatment approach considering the pradhanika dosha samprapti apparent clearing of vitreous hemorrhage was documented, Initial treatment results of patients with vitreous hemorrhage and proliferative diabetic retinopathy are- resolution of vitreous hemorrhage with no further evidences of neovascularisations which are favorable short-term results observed and is suggestive of further study in a larger group of patients.

KEYWORDS: vitreous hemorrhage, Virechana, pradhanika dosha samprapti Takradhara, & Madhutailika Basti.

INTRODUCTION

Diabetic vitreous hemorrhage secondary to proliferative diabetic retinopathy is a condition that alone accounts for about 63% of patients with bilateral vitreous haemorrhage.^[1] resulting in severe vision loss in diabetic patients. Laser photocoagulation remains the primary treatment when the view allows. Intravitreal anti-VEGF injections do not appear to have a role as primary treatment but may have an invaluable role as adjuvant to surgery. The Diabetic Retinopathy Vitrectomy Study (DRVS) showed that once there is visually disabling vitreous haemorrhage early vitrectomy was clearly advantageous only in type 1 diabetics^[2] Pars plana vitrectomy with endolaser panretinal photocoagulation remains the procedure of choice for non-clearing vitreous hemorrhage.; which has also reported with complications such as recurrent vitreous haemorrhage. The vast majority of patients with vision of 5/200 or less due to diabetic vitreous hemorrhage do not clear spontaneously even after 1 year. With proper assessment of the pradhanika dosha samprapti and earlier

intervention through ayurvedic protocols could bring about steadfast improvements in vision leading to better outcomes, fewer complications, less discomfort and a faster recovery time it is reasonable to subject such patients to ayurvedic management sooner than the 3–4 months that had been generally accepted in the past, if there has been no significant spontaneous improvement.

Pathophysiology and fate of vitreous haemorrhage

Retinal ischemia results in hypoxia which results in the production of hypoxia induced factor (HIF). HIF enhances the expression of angiogenic factors including insulin-like growth factor 1, basic fibroblast growth factor, erythropoietin, and vascular endothelial growth factor (VEGF) amongst others.^[3-8] Such angiogenic factors are present in the vitreous,^[3] fibrovascular membranes^[4], and whole retinas^[15] of patients with proliferative diabetic retinopathy and lead to the development of neovascular buds from retinal blood vessels.^[16] This neovascular tissue proliferates and invades the potential space between the retina and the

posterior hyaloid face and later the posterior lamellae of the cortical vitreous, producing a firm adhesion.^[17-18] The vessels continue to proliferate and subsequently develop an increasingly fibrous component. Localized traction from the posterior hyaloid face or contraction of the fibrous element of this fibrovascular complex leads to traction on the friable neovascular tissue and retina, leading to a vitreous hemorrhage. This may stimulate further fibrosis and vitreous contraction, and ultimately lead to a traction retinal detachment.^[18] the majority (80%) of patients with type 2 diabetes and severe vitreous hemorrhage still require a vitrectomy to resolve the vitreous hemorrhage after 1 year. While there was no benefit in long-term outcome in this study by operating sooner than a year, it did mean that patients had to suffer with poor vision.

AIMS AND OBJECTIVES

1. To study the pradhanika doshaja samprapti involved in diabetic vitreous haemorrhage

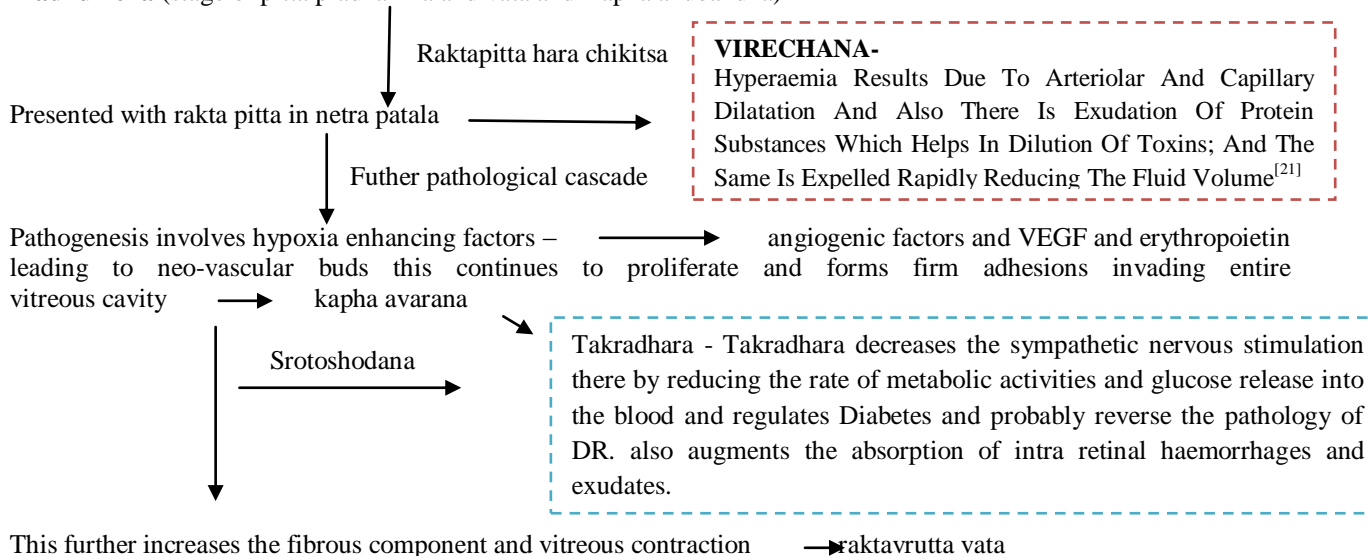
2. To evaluate the efficacy of the chikitsa administered in reducing the vitreous haemorrhage and its complications.

Pradhanika dosha samprapti in diabetic vitreous haemorrhage

Diabetic vitreous haemorrhage virtually a dristipatalagata vikara could be mainly attributed to sira srotas abhisandam and raktavaha srotodusti which is a upadrava of madhumeha understood as indriya upataapa, etiological factors of madhumeha, raktajavyadhi^[19] are almost similar to achakshyushya karma which eventually vitiates pitta and rakta. Which could be understood as urdhwaga rakta pitta due to its microvascular complications, after understanding its pathophysiological involvement of leucocytes adhesions, inflammatory cytokinins, platelet and erythrocyte aggregation it could understood as raktayuta shotha mandala and raktavrutta vata chikitsa needs to be employed. And hence considering this condition, rakta pitta pradhana vata rakta chikitsa is been adopted.

Roga Prakruti	Pradhanika dosha samprapti	Samprapti Vigatana
Dosha	Pitta - kaphanubandha Vata pratilomata in sookshma srotas	Virechana
Dushya	Rakta, meda	Rakta Prasadana- takradhara
Agni	Mandya	Improved By Deepana, Pachana
Srotas	Raktavaha- In Netra Bhaga	virechana
Sroto Dusti	atipravritti – vimarga gamana neo-vascularisations leading to vitreous haemorrhage	Virechana
Udbhava Stana	Pakvashaya(Vata Vyadhi)	Basti
Vyaktastana Netra patala	rakta srava in Netra 3 rd – medoashrita patala	madhutailika basti
Roga	Parimlayi timira(pitta + rakta ²⁰) Ratavrutta vata	Virechana, takradhara, Basti,
Upadrava	Rakta yukta shotha mandala	Pushpa Bhandana
Sadhya-Asadhyata	Yapya	Vatasya Upakrama- Virechana, Basti, Treatment protocol : 1month Follow up – after 1month

Madhumeha (stage of pitta pradhanika and vata and Kapha anubandha)



Pramehagna And Chakshusya

Basti- The drugs with their antioxidant property prevents from oxidative stress damage to the endothelium of retinal vasculature, by helping in proper nourishment of retina prevents further leakage.

MATERIALS AND METHODS

Study design: observational clinical study with pre and post study design

Case	Patient 1	Patient 2	Patient 3
Age/sex	47yrs/M	42Yrs/M	36Yrs/M
Presenting Complaints	Sudden painless loss of vision in RE	Sudden painless loss of vision in LE	Sudden loss of vision in LE
Duration	2months Back	3months Back	1 Month Back
Associated complaints	Floaters In RE DOV In LE	Floaters In LE DOV In RE	Flashes In RE DOV In LE
History Of Dm	15years	10years	Recently Diagnosed 1month
Ocular Surgical History	Re- 3 Laser Sitzings, 1intravitreal Bevacizumab Le- 3 Laser Sitting	Re- 3 Laser Sitting, 6intravitreal Bevacizumab Le- 2 Laser Sitting Adv- Vitrectomy	Re- 1 Intravitreal Accentrix Le- 2 Sitzings Laser
Treatment History	On Insulin And Ohas	On Insulin And Ohas	On Ohas
Diagnosis	RE- SUBHYALOID HAEMMORHAGE	LE- VITREOUS HAEMMORHAGE	LE- VITREOUS HAEMMORHAGE
On Treatment	Ascorbic Acid 500mg For 6weeks	Ascorbic Acid 500mg For 6weeks	Ascorbic Acid 500mg For 6weeks

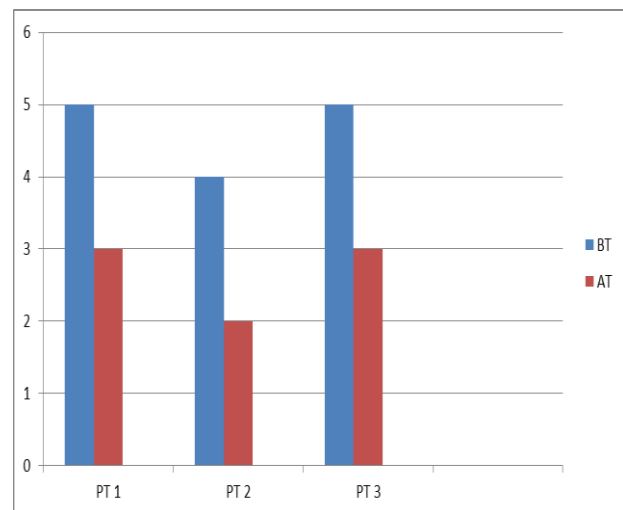
Treatment Protocol

Agni deepana and pachana	Vaishwanara churna 6gms tds 3 days
Snehapana	Durva ghritha – 3DAYS
Virechana	Trivruth avalehya 60gm – draksha triphala kashaya anupana 100ml-
Basti	Madhutaailika basti- 600ml KALA basti
Pratimarsha nasya	Durva gritha 2drops BD for 1month

RESULTS

Assessment criteria

Subjective parameters	Objective parameters
Blurred vision	Visual acuity
Floaters	Ophthalmoscopic examination
Flashes	



DISCUSSION

1. The treatment of diabetic retinopathy revolves around treating the causes of madhumeha, management of Urdwaga Raktapitta, treatment of Avarana, prevention of dhatu kshaya including oja kshaya and prevention of Agnimandya in general.
2. Proper understanding of the pathology gives the proper approach to the disease Charaka samhita 29/44 – virechanaihi grutha ksheera panaihi sekaihi sa bastibihi Sheetha nirvapanashchapi raktapittodaram jayet.
3. Management of urdwaga raktapitta: Rakta pitta is considered to be agnivat sheegrakaari and it is said

to be mahagada due to its mahavega hence a timely approach needs to be done as it could steal ones vision for life time. "Pratimarga cha haranam Raktapitte vidheyathe".

Effect of virechana

Local action: Locally mild inflammation occurs transient due to *Ushna* and *Tikshna* properties of drugs which irritate the intestinal mucosa. Hence hyperaemia results due to arteriolar and capillary dilatation and also exudation of protein substances which helps in dilution of toxins.

Effect of takradhara

Takradhara decreases the sympathetic nervous stimulation there by reducing the rate of metabolic activities and glucose release into the blood and regulates Diabetes and probably reverse the pathology of DR. also augments the absorption of intra retinal haemorrhages and exudates. thereby exhibiting srotoshodana and targeting kapha avarana. The ingredients in Takradhara such as amalaki help in increasing the microcirculation, preventing the cell death with the antioxidant effect there by helps to regain the vision.

Effect of basti

The drugs with their antioxidant property prevents from oxidative stress damage to the endothelium of retinal vasculature, by helping in proper nourishment of retina prevents further leakage. by its drug permeation capacity it could be effective in targeting or healing the fibrotic changes that occur post haemorrhage.

CONCLUSION

Diabetic vitreous haemorrhage is a complication of long standing uncontrolled diabetes due to defective metabolism and endocrine dysfunction. All the three doshas are affected with rakta (as both dosha and dushya), mainly pitta, rakta vata and kapha anubandha. All the dhatus are affected with rakta, meda and mamsa predominantly targeted, sira srotas of raktavahasrotas and Ojavaha dhamani gets affected in successive stages. If the DR pathology is analyzed properly, it possesses all the four features of srotovaigunya i.e., Atipravritti (neovascularisation) leads to Vimargagamana (vitreous haemorrhage) which is sight threatening with minimal signs of visual improvement even after PRP, and vitrectomy and there are many cases reported even with further deterioration of vision owing to unavoidable complications of surgery, addressing the same need answering it with pradhanika dosha chikitsa through ayurvedic management will help in restoring the vision with better visual acuity response and active regression of the haemorrhage proving it to be right answer in tackling this clinical condition in a better way the favorable short-term results observed which is suggestive of further study in a larger group of patients.

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