

CLINICAL INTERVENTION IN MANAGING MADHUMEHAJA TIMIRA W.S.R TO DIABETIC RETINOPATHY

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Article Received on
27 December 2021,

Revised on 17 Jan. 2022,
Accepted on 06 Feb. 2022

DOI: 10.20959/wjpr20223-23180

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ABSTRACT

As per Ayurveda, Upadrava roga is the consequence of untreated Pradhana roga. Simultaneously we get to see that Diabetes if it is not properly managed it leads to various complications and one among them is Diabetic retinopathy. The long standing Prameha becomes madhumeha as a result it leads to Madhumehaja timira. The contemporary sciences also opine that the most common and serious eye complication of long term and uncontrolled diabetes is diabetic retinopathy, which may result in poor vision or even it may cause blindness. Diabetes affects all parts of the eye, ocular adnexae, neurosensory pathway and ocular motility system. In Prameha major samprapthi gataka is kleda which vitiates Raktha and Rakthavaha

srothas which can be correlated to microvascular abnormalities in the Retina. Most of the Diabetic mellitus related vision loss is from Diabetic retinopathy. Managing Diabetes and Diabetic retinopathy through various Clinical Intervention is the need for the study.

KEYWORDS: Blindness, Madhumehaja Timira, Samprapthi gataka, Diabetic retinopathy (DR).

INTRODUCTION

Retinopathy is the term for damage of capillaries of the retina. Diabetic retinopathy (DR) refers to retinal changes seen in patients with diabetes mellitus.^[1] With increase in the life expectancy of Diabetic Patients, the incidence of diabetic retinopathy has increased. DR is a chronic progressive, potentially sight threatening disease of the retinal microvasculature associated with the prolonged hyperglycemia and other conditions linked to diabetes. It is a

complication of Type I and Type II Diabetes Mellitus which may be of the background type, progressively characterized by Microaneurysms, Intraretinal haemorrhages, Exudates, Cotton-wool spots and Macular oedema. In the Proliferative stage, characterized by Neovascularization, this may project into vitreous hemorrhage and retinal detachment.^[2]

The striking similarities between Madhumehaja timira and Diabetic retinopathy can be well established with understanding of Pathogenesis. Most importantly we find direct reference in Netra Prakashika which is written by Poojyapada Mahamuni^[3] clearly mentioning that Netra rogas are due to Prameha. Even in Sushruta samhitha Tuvarakadi anjana is explained at the end of Madhumeha chikitsa to treat Timira, Kacha, Nakthandyatha, Pilla rogas^[4] etc. which indirectly indicates that Madhumeha in later stage will effects eyes inferring that netraroga is a upadrava of madhumeha. Acharya Charaka in Sutrasthana says Prameha is also hereditary in nature, indicating the risk of occurrence for DR is highest in patients having the family history of Prameha. Acharya Vagbhata while explaining Prameha poorva roopa mentioned —Hrinnetrajihashravanopadeha^[5] which gives direct clue regarding the involvement of vital organs like eyes in Prameha samprapti.

Acharya Sushruta in Prameha pidaka chikitsa^[6] mentioned rasayani (Rasa, Pitha, Kapha, and raktha damani) dourbalya is present which is Sarvashareragatha and specially in Adha bhaga uthpathi of pidakas takes place rather than urdwa bhaga of shareera. In case due to Rasayani dourbalya if there is rupture in urdwa dhamanis then it is treated as Nija-vrana, because this is the stage where actually dhamanis starts to burst which interferes that it is already in Pakwa stage due to which there is Microaneurysms, Dot and Blot hemorrhages are observed.

Nidanas^[7]

Some of the *nidana* of *Prameha* are similar with *netra roga nidana* and most importantly the *Prameha Nidana* has many *achakshusya* factors. These are discussed below.

1. **Madhur rasa**—if taken in excess amount causes both *prameha* as well as *netra rogas*.^[7]
2. **Amla rasa**--- *kleda vriddi, drava vriddi, adya dhatu shaitilya*—*Prameha*.^[8]
kapha-pitta prakopaka, rakta vidaha- Netra roga^[9]
3. **Shuktaaranala** are sandana dravyas produced by fermentation

They have properties opposite to ojas with toxicating action.

Present era: - Many are addicted to alcohol

Probable: *drava-kleda vriddi*-- *Prameha*

amla vipaka, k-p prakopa—Netraroga

4. Masha^[10]: Opposite to kulatha like *guru-snigda, madhura rasa/vipaka - Prameha*

Present era: Taking excessive *masha* preparations like Idli, Dosa, Vada etc.

Propable: increase of *Abhisyandi guna* leads to *kleda guna vruddi* causing *Netra roga*

5. Kulattha: *Ghnanti dristim(AH. Su)*

Laghu, Vidahi, kashaya rasa, katu paaka and ushna veerya causes *dhatukshaya janya Prameha. Tridosha prakopa – Netraroga*

6. Swapna viparyaya: Abnormal sleeping habits(*diva swapna / nishi jagarana*)

Divya swapna – Kapha prakopa- Prameha

Ratri jagarana – Vatapitha prakopa.

Present era: Night shifts, sleeping late night.

7. Vega vinigraha: *mootra vega Apana vayu dushti—Prameha*

nidra-ashru vega— Netra roga.^[11]

8. Psychological factors^[11]: Some psychological factors also effects Netra like.

Shoka, Kopa, Klesha, which initiates the vitiation of Doshas.

Rupa / Characteristic features

Comparison between *Timira lakshana^[12]* and Diabetic retinopathy

S.N	TIMIRA LAKSHANA	D R SYMPTOMS
1.	Vyaviddaniva pashyathi	Hazy, Spotty, Distorted vision
2.	Aditya khadyotha pashyathi	Flashes of light
3.	Jalani keshanmashakan Rashmi cha upekshithaha	Spider web appearance caused due to Floaters
4.	Pashyed shookshmapi atharthaha	Difficulty in seeing nearer objects
5.	Haritha shyava krishnani Dhooma dhoomarani cha ikshathe	Blackish and smoky vision
6.	Rakthani thamamsi vividhani cha ikshate	Erythroptosis / Scotoma

SAMPRAPTI (PATHOGENESIS)

Kapha is main *dosha* involved in *samprapti* of *Prameha*. When *kapha* gets vitiated due to *nidana sevana* further it does *medho dushti* and *srothopradushaka* which spreads throughout the body and affects many *dushyas* in the body like *meda, rakta, shukra, ambu, vasa, lasika, majja, rasa, oja* and *mamsa* which all are *drava dhatus*. After *dosha dushya sammurchhana*

enters into *basthi* because of which there is *prabootha avila mutratha* so if it remains untreated it can lead to *Madhumeha*.

So the pathogenesis of *Timira* can be understood as follows by doing Samprapthi vigatana according to **Doshik predominance in Diabetic Retinopathy Stages.**

Kapha: The bahuta and abadhata of Kapha dosha produces sroto-dushti in Siras, two things can be analysed, first there will be reduced oxygen level to tissue due to accumulation of abadhata kapha in tissue which leads to rakta and Mamsa dhatwagni mandya because of which there is abadhata in medas that weakens blood vessels and thus there will be loss of pericytes and bulging of siras takes place called as microaneurysms further accumulation of kapha which is deposited are visualised in the form of exudates in the retina on fundoscopic examination.

Pitta: The drava guna of pitha creates pressure in the arterioles, venules, and capillaries as Pitta and Rakta have ashrayashrayi bhavas results in Rakta Dushti in the eyes and also causes srothorodha and vimargagamana which leads to destruction of the micro vessels and Consequent dilation and haemorrhage. These can be visualized in retina as dot and blot hemorrhages.

Vata: Vruddhi of vatha may takes place either due to Dhathu kshaya or by Avarana, so again two things need to be analyzed, first due to dhathu kshaya there will be dhatwagni mandya specially raktha, mamsa,medha may result in loss of pericytes leading to bulging of siras called as microaneurysms, hemorrhages and advanced diabetic retinopathy stage are quite Asaadya to treat. If it is Avarodha by kapha, kleda and meda to Vatha then it results in sthanika sira kupitha vatha which mimics like microaneurysms, certainly accumulation of Kapha and pitha in siras leads to kaphaPithavrutha vatha which may clinically observed as exudates, dot and blot haemorrhages.

Clinically we get a case of diabetic retinopathy after prolonged duration of diabetes, so duration and Uncontrolled diabetes is most important risk factor for development of Madhumehaja timira, which further leads to *daurbalya of rasayanis* (lymphatic channels, blood vessels and microcapillaries) in the whole body affecting various organs. Simultaneously if we analyze DR pathology properly in Ayurvedic perspectives it possesses

all the four features of *srotho vaigunya* i.e., **Atipravritti, Sanga, Siragranthi and Vimarga gamana.**^[13]

1. Sanga can be taken as microvascular occlusion.
2. Siragranthi can be nothing other than development of Microaneurysms.
3. Vimarga gamana is the retinal haemorrhages & Exudates.
4. Atipravritti can be correlated to the IRMA where shunt vessels are formed.

INTERVENTIONS IN MANAGING *MADHUMEHAJA TIMIRA*

I. Based on *Nidanas*- *Nidana Parivarjana* should be the first line of treatment.

II. Based on *Samprapti*- DR can be managed by exploring the following treatment Principles.

- | | |
|--|----------------------------------|
| 1. <i>Pramehahara</i> | 2. <i>Kledahara</i> |
| 3. <i>Raktavahasrothodusti harana</i> | 4. <i>Rakta-Pittahara</i> |
| 5. <i>Vatanulomana</i> | 6. <i>Sophahara.</i> |
| 7. <i>Rasayana chikitsa.</i> | 8. <i>Vrana ropana chikitsa.</i> |
| 9. <i>Yogic kriyas like Asanas, Pranayama, Meditation.</i> | |

III. Therapeutics.

A. Eliminative therapies like.

- | | | |
|---------------------|------------------|--------------------------|
| 1. <i>Virechana</i> | 2. <i>Basthi</i> | 3. <i>Shirovirechana</i> |
|---------------------|------------------|--------------------------|

B. Topical therapies like

- | | |
|----------------------|-----------------------|
| 1. <i>Tarpana</i> | 5. <i>Seka</i> |
| 2. <i>Anjana</i> | 6. <i>Bidalaka</i> |
| 3. <i>Aschyotana</i> | 7. <i>Takra Dhara</i> |
| 4. <i>Shirolepa</i> | |

By above therapeutics we can Plan the appropriate treatment protocol according to the stages of Diabetic retinopathy.

Protocol – NPDR stage

Shodana Chikitsa

1. ***Virechana (classical)*** - According to *Doshanusara Snehapana dravyas* are selected like *Guduchyadi ghrutha, Mahatiktaka ghrutha, Patoladi ghrutha, Maha triphaladi ghrutha.*
 - ***Virechana Dravya*** – *Nimbaamrutha eranda taila.*

If patient is not fit for classical *virechana* then *Anulomana* with *Avipathikara churna* is advisable.

2. *Nasya*:- Before applying Topical therapies it's better to prefer *Nasya* as *Purvakarma*. According to type of *Avarana* condition *Nasya* is preferred like *Ksheera bala taila 101*, *Shadbindu Ghrutha etc.*

Samshamana Chikitsa

- *Vasakadi kwatha*
- *Mahavasakadi kwatha*
- *Mahamanjistadi kwatha*
- *Nisha amalaki churna*
- *Chandrapraba vati.*

As Rasayana: Vasantha kusumakara Rasa

Tuvaraka taila nasya^[14] - 2 drops each nostril upto 50 days.

KRIYAKALPAS

1. *Tarpana with Doorvadi ghrutha.*
2. *Seka with Triphala+ Daruharida*
3. *Anjana: Tuvarakdi anjana.*
4. *Pindi or Bidalaka – Amalaki + Mustha+ Shigru*
5. *Aschotana with Doorvadi / Maha triphala / Patolaadi ghrutha*
6. *Shirolepa with Mustha, Amalaki, Kachora,*

Protocol - PDR stage

In this stage the Procedure and medicine should as follows

- *Raktha - stambaka, Shodaka and Prasaadaka.*
- *Vathanulomana*
- *Rakthapithahara.:* Drugs that could normalise blood flow and strengthens microvasculature

Shodana Chikitsa

1. ***Virechana (classical)*** – as same as above.
2. ***Basthi:*** *Chakshusha Basthi* can also be preferred as Madhumeha is Vatha pradhana and *Timira* which is caused due to meha needs *chakshushya* and *vatha shamaka* which might

helpful in neovascularization stage and even the current research studies showing Basthi also giving good results in managing Diabetic retinopathy.

3. *Nasya*: with *shirovirechaniya ganas*.

Samshamana Chikitsa: as above discussed.

Kriyakalpa.

Bidalaka: *Yashtimadhu + Amalaki*.

Seka: *Yashti ksheera kashaya*

Takra dhara. – *Takra, Mustha, Amalaki*

Other interventions like assigning patients to do regular mild to moderate Vyayama, Pranayama and mediation which keeps their mind in cool and calm state and also help in regulating Blood glucose level.

DISCUSSION

Important aspect of managing diabetic retinopathy is controlling blood glucose level and reversing the NPDR stage into normalcy this can be achieved by above observational interventions. As Retinopathy is microvascular abnormality the eliminative therapies like *Virechana*, *Basthi*, *Nasya* does *srothoshodana* of minute channels and further *netra kriyakalpas* conjoins effectively to relieve the sign and symptoms of DR. The other interventions like proper Pathyaapathya, lifestyle changes through Vyayama, Yogic kriyas especially Pranayama because in *Ashtanga hrudaya Sadyovrana chikitsa*^[15] mentioned the term Pranayama for Anthargata Akshi vrana which is not yet clear crystal to interpret the meaning. If diabetic retinal changes are considered as *Anthargatha nija vrana*, then Pranayam also can contribute major role in Managing diabetic retinopathy.

CONCLUSION

Mainly Nidana parivarjana, Pathyaapathaya, and change in life style, every six month eye checkups can play an important role in preventing as well as managing Diabetic retinopathy.

According to *Yukthi of Vaidya* the treatment modalities are planned in different clinical stages of Diabetic retinopathy. All these Interventions are based on clinical observation, Anyhow the analysis of the Symptoms and a differential diagnosis is absolutely necessary. Managing Diabetic retinopathy is not an easy job, for the sake *Ayurvedic* physicians have formulated single as well as compound drugs for the cure and prevention of various ailments.

It is often the total effect of all the ingredients in the compound rather than the action of individual drugs that's play a vital role in therapeutics.

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