

CASE STUDY – USE OF CHARAKOKTA SANDHANEeya MAHAKASHAY IN THE DIABETIC RETINOPATHY

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ABSTRACT

Diabetic Retinopathy is a major complication of Diabetes Mellitus in which retinal blood vessels are damaged due to raised blood sugar level for prolonged time leading to diminution of vision and lastly blindness. According to *Ayurveda*, it can be considered as *Raktapradoshaj Vikara* (Blood associated disorder) correlation to *Urdhwag Raktapitta* (Haemorrhagic disorder). *Charakokta Sandhaneeya Mahakashay* (Medicinal formulation) contains *Kashay Rasa Pradhan* (astringent taste) drugs which plays an important role in the breaking pathogenesis of Diabetic Retinopathy. A known case of Diabetes mellitus with complaint of diminished vision was diagnosed to be due to Diabetic Retinopathy. This case was studied and treated by *Ayurvedic* (Indian System of Medicine) method with use of *Sandhaneeya Mahakashay* (Medicinal formulation) for *Abhyantarpaan* (Oral administration) and *Parishek* (pouring medicated liquid locally) for 7 days. Remarkable improvement in haemorrhage through retinal vessels was seen along with elimination of exudates within the posterior chamber was seen. This resulted as improved patient's vision. This case is unique approach of using *Sandhaneeya Mahakashay* (Medicinal formulation) proved to be effective in Diabetic Retinopathy.

Keywords: Diabetic Retinopathy, Diabetes Mellitus, *Sandhaneeya Mahakashay* (Medicinal formulation)

INTRODUCTION

Diabetic Retinopathy (DR) is one of the major complications of Diabetes Mellitus (DM). Diabetic Retinopathy is also known as diabetic eye disease in which retinal blood vessels are damaged due to raised blood sugar level for prolonged time leading to diminution of vision (DOV) and lastly blindness¹. It affects up to 80% of those who have had Diabetes Mellitus for 10 years or more. The longer a

person has diabetes, the higher the chances of Diabetic Retinopathy. In patients diagnosed with diabetes, the incidence of DR after ten years is 50% and after 30 years, it is 90%. DR is predominantly microangiopathy; in which small blood vessels are particularly vulnerable to damage due to hyperglycaemia². *UrdhwagRaktapitta* (Haemorrhagic disorder) is disease in which *dooshita rakta* (impure

blood) comes out of the different orifices of the body³. Considering haemorrhage in retina, this case was correlated & diagnosed as *Urdhwag Raktipitta* (Haemorrhagic disorder). *Kashay Rasa Pradhan* (astringent taste drugs) like *Charakokta Sandhaneeya Mahakashay* (Medicinal formulation) is indicated for *Rakta Stambhan* (Blood clotting) & *Vrana Ropana*⁴ (Wound healing). Considering above references diagnosis & treatment protocol was planned. A case of Diabetic Retinopathy well treated with *Sandhaneeya Mahakashay* (Medicinal formulation) is mentioned here.

Case Study

A 54 years male doing the clerical job came to Out Patient Department of MES Parshuram Hospital with chief complaint of blurred vision since 15 days. The patient was having Diabetes Mellitus for 12 years. This case was clinically diagnosed as Diabetic Retinopathy. The diabetes was uncontrolled due to faulty lifestyle and diet. Before 15 days, patient suddenly developed diminution of vision in both eyes

markedly in right eye. Patient was not having any other ophthalmic complaint. Patient was facing difficulty in day to day life activities. Hence, he approached to *Shalakya* (Ophthalmology) Out Patient Department. Family History was insignificant except siblings Sister was k/c/o DM for 2 years.

Ashtavidha Parikshan (General Examination):

Nadi (Pulse): *Pitta-Vataj Samyak Gati* (Different types of radial pulsation), *Shabda* (Voice): *Spashta*. (Prominent), *Mala* (Stool): *Srushta* (Normal bowel), *Sparsha* (Touch): *Samasheetoshna* (warm), *Mutra* (Urination): *Bahoo Aavil Mootrata*. (Turbid excessive urination),

Druka (Vision): *Drushtimandya* (Diminished vision), *Jivha* (Tongue): *Saam*.(coated), *Aakruti* (Built): *Sama*(Moderate)

Systemic examination:

RS- Air Entry Bilaterally Equal., CVS- No abnormality detected, CNS- Conscious, oriented PA-Soft, No abnormality detected

Local Examination:

Table 1: Ophthalmic Assessment

Vision		
Examination	Right Eye	Left Eye
Vision (unaided)	6/18	6/12
Vision (Pinhole)	6/12	6/9p
Vision (aided Near)	N8	N6
Color Vision	Normal	Normal
Schiotz Tonometry	12.2 mm of Hg	12.2 mm of Hg
Anterior Segment		
Structure	Right Eye	Left Eye
Eyelashes	No abnormality detected	No abnormality detected
Eyelids	No abnormality detected	No abnormality detected
Conjunctiva	No abnormality detected	No abnormality detected
Anterior chamber	Deep and quite	Deep and quite
Pupil	Round Regular Reacting	Round Regular reacting
Iris	Normal	Normal
Lens	Transparent	Transparent
Rest	Within normal limits	Within normal limits
Extra ocular Muscles Movements	Normal and Painless	Normal and Painless
Indirect Fundoscopy		
Structures	Right Eye	Left Eye
Cup disc ratio	0.3:1	0.3:1

Vitreous	Normal	Normal
Blood Vessels	Micro aneurysms around macula with hemorrhage	Micro aneurysms nasal side of optic disc with mild hemorrhage
Macula	Normal	Normal
Exudates	++	+

Final Diagnosis – Non-proliferative Diabetic Retinopathy (NPDR)
Investigation Advised- Optical Coherence Tomography (OCT) scan of both eyes
Ayurvedic Pathogenesis
Hetu (Causes) – After recording detail history, *Hetu* (Causes) along with its effect on body were found as follows

Table 2: *Hetu – Dosha* relation

<i>Hetu</i> (Causes)	Duration of <i>Hetu Sewan</i>	Effect of <i>Hetu</i> on <i>Dosha</i>
Tea	4-5 cups daily	<i>Kapha Pitta Prakop</i> (Vitiation of Kapha & Pitta dosha)
<i>Dadhee Sewan</i> (Curd)	Twice a week	<i>Pitta -Kapha Prakop</i> (Vitiation of Pitta &Kapha dosha)
Salty Pickles	Thrice a week	<i>Pitta -Kapha Prakop</i> (Vitiation of Pitta &Kapha dosha)
Spicy food	Almost daily	<i>Pitta Prakop</i> (Vitiation of Pitta dosha)

Srotas parikshan- *Amboovaha* (Lymphatic system) – *Prabhoot Aavil Mootrata* (excessive turbid urination), *Raktavaha* (Circulatory system)- Hemorrhage in retina., *Annavaaha* (Gastro-Intestinal system)- Frequent heartburn, occasional abdominal heaviness after food intake

Indriya parikshan(Local examination)- *Chakshurendriya* (Eye) – *Drushtimandya* (Diminished vision)

Dosha- dushya vivechan (Ayurvedic analysis) - *Dosha pradhanya* (Main dosha)- *Pitta Pradhaan Kapha.*,

Dushya (Location of dosha)- *Chakshoorendriya* (Eye), *Mootra* (Urine)

Vyadhi Vyavachhed (Differential Diagnosis) - *Urdhwag Raktapitta* (Haemorrhagic disorder), *Upadrava of Prameha/ Madhumeha* (Complication of Diabetes), *Sirashaithilya/Dhamanishaithilya* (Vascular Disorder) *Vyadhi Vinishchay* (Final Diagnosis)- *Urdhvag Raktapitta* (Haemorrhagic disorder) [*Chakshoo Pradeshi* (At Retina)]

Treatment *Nidan parivarjan* (prevention of causes/factors) – All *Pitta -Kapha Prakopak* (*Pitta Kapha* vitiating factors) & *Rakta Pradoshaj Hetu* (Blood contaminating) were stopped at beginning of treatment. *Chikitsa* (Medicinal treatment) - (Patient was advised to continue existing anti-diabetic allopathic treatment regularly)

Table 3: Treatment plan⁵

<i>Chikitsa</i> (Treatment)	<i>Dravya</i> (Medicine)	<i>Matra</i> (Quantity)	<i>Kala</i> (Duration of treatment)
<i>Abhyantar</i> (Internal)	<i>Sandhaneeya mahakashay</i> (Medicinal formulation)	20 ml after food, 3 times/day	7 days
<i>Sthanik</i> (Local)	<i>Sandhaneeya mahakashay</i> (Medicinal formulation)	<i>Netra Parishek</i> (pouring warm medicated liquid locally on eye) once a day (Preferably morning)	days

RESULT – Patient was asked to follow up after 7 days. Improvement in vision & other findings were as, Patients vision was improved, Retinal hemorrhages

reduced in size, No new hemorrhages were seen, Exudate reduced

Follow Up

Table 4: Follow up ophthalmic assessment

Vision		
Examination	Right Eye	Left Eye
Vision (unaided)	6/9 partial	6/9
Vision (Pinhole)	6/9	6/9
Vision (aided Near)	N6 with strain	N6
Indirect funduscopy		
Structures	Right Eye	Left Eye
Cup disc ratio	0.3:1	0.3:1
Vitreous	Normal	Normal
Blood Vessels	Micro aneurysms around macula with no fresh hemorrhage	Micro aneurysms nasal side of Optic Disc
Macula	Normal	Normal
Exudates	+	Minimal exudates
Other	No any signs of neo vascularization	No any signs of neo vascularization

DISCUSSION

Uncontrolled Diabetes leads to multi-systemic complications⁶ like retinopathy, neuropathy, nephropathy, etc. Persistent hyperglycemia leads to thickening of capillary basement membrane & capillary endothelial damage. It leads to micro vascular occlusions due to increase in stickiness of platelets & RBC deformation. Capillary leakage, micro aneurysms along with retinal ischemia leads to neovascularization. This pathogenesis results in diminution of patient’s vision. This may get critical if it progresses to vision loss. Modern treatment protocol⁸ like LASER, intraocular injections can prevent progressive vision loss but is unable to regain lost vision. Retinal hemorrhages, exudates & venous beading are the change seen in Diabetic Retinopathy. After correlation with *Ayurveda* (Indian System of Medicine), these changes can be considered to *Seerashaithilya* as thickening of capillary basement

membrane, *Vranotpatti* as capillary endothelial damage, *Seeragranthi* (Clotting within the vessel) as micro vascular occlusions. Stickiness of platelets & RBC deformation can be correlated with *Raktadusti* & Capillary leakage can be correlated with *Kledavridhi*. Considering all above factors, clinical findings & *Pitta-Rakta Pradoshak Hetu* (*Pitta* vitiating & Blood contaminating factors) we diagnosed this case as *Urdhwag Raktapitta*⁹ {*Chakshoorendriya- Aashrit*}. To treat this case we require medicines having *Pitta Prashman*, *Rakta Prasadana*(Purification of blood) properties. Also these medicines should act as *Vranaropan* (wound healing) & *Kledaghna* (having properties to reduce capillary leakage) *Sandhaniya Mahakashaya* (Medicinal formulation) contains drugs which are having following properties *Madhuka Madhu Prushniparni Ambashthaki Samanga Mochrasa Dhataki Lodhra Priyangu Katphalani Iti Dashemani Sandhaniyani Bhavanti I Cha. Su. 4/5*

Table 5: *Sandhaneeya Mahakashay* (Medicinal formulation) properties¹⁰

No.	Name	Botanical Name	Guna (Property)	Rasa (Taste)	Veerya (Power)	Vipak (Ripeness Taste)
1	<i>Madhuk</i>	<i>Glycyrrhiza glabra</i> Linn.	<i>Guru Snigdha</i> (Heavy, Moist)	<i>Madhur</i> (Sweet)	<i>Sheet</i> (Cold)	<i>Madhur</i> (sweet)
2	<i>Madhuparni</i>	<i>Tinospora cordifolia</i> Miers.	<i>Snigdha</i> (moist)	<i>Tikta Kashay</i> (Bitter, Astringent)	<i>Ushna</i> (Hot)	<i>Madhur</i> (sweet)
3	<i>Prushniparni</i>	<i>Urvaria picta</i> Desv.	<i>Laghu Snigdha</i>	<i>Madhur Tikta</i>	<i>Ushna</i>	<i>Madhur</i>

			(Light, Moist)	(Sweet, Bitter)	(Hot)	(sweet)
4	Ambasthaki	<i>Cissampeloc pareira</i> Linn.	<i>Laghu Tikshna</i> (Light, Penetrating)	<i>Tikta</i> (Bitter)	<i>Ushna</i> (Hot)	<i>Katu</i> (Pungent)
5	Samanga	<i>Mimosa pudica</i> Linn.	<i>Laghu Ruksha</i> (Light , Dry)	<i>Tikta Kashay</i> (Bitter)	<i>Sheet</i> (Cold)	<i>Madhur</i> (sweet)
6	Mochras	<i>Bombax malabarica</i> DC.	<i>Snigdha Picchil</i> (Moist, Slimy)	<i>Madhur Kashay</i> (Sweet, Astringent))	<i>Sheet</i> (Cold)	<i>Madhur</i> (sweet)
7	Dhatki	<i>Woodfordia fructiosa</i> Kurz.	<i>Laghu Ruksha</i> (Light , Dry)	<i>Kashay Katu</i> (Astringent, Pungent)	<i>Sheet</i> (Cold)	<i>Katu</i> (Pungent)
8	Lodhra	<i>Symplocos racemosa</i> Roxb.	<i>Laghu Ruksha</i> (Light , Dry)	<i>Kashay</i> (Astringent)	<i>Sheet</i> (Cold)	<i>Katu</i> (Pungent)
9	Priyangu	<i>Callicarpa</i> <i>macrophylla</i> Vahl.	<i>Guru Ruksha</i> (Heavy , Dry)	<i>Kashay Tikta</i> (Astringent, Bitter)	<i>Sheet</i> (Cold)	<i>Katu</i> (Pungent)
10	Katphal	<i>Myrica nagi</i> Thunb.	<i>Tikshna</i> (Penetrating)	<i>Kashay Tikta</i> (Astringent, Bitter)	<i>Ushna</i> (Hot)	<i>Katu</i> (Pungent)

Analysis of these 10 drugs

Guna – Laghoo & snigdha (Light & Moist)

Veerya (Power) – *Sheeta* (Cold)

Rasa (Taste)– *Kashaaya pradhaan* (Mainly of Astringent taste), *Madhoor* (Sweet), *tikta uparas* (Bitter)

Kashayorasah Sanshamanah Sangrahisandhankarah peedano Ropana Shashanah Stambhanah Shleshmaraktipittapradhanah Shareerkledsya

Upyoktarukshaah sheetoguruuh cha I Cha. Su. 26/43

This *shloka* makes it clear that *Kashay Ras Pradhanta* will help in *pitta prashman* (Normalisation of *Pitta*), *rakta prasadan* (Purification of blood), *Vranaropan* (wound healing), & *kledashoshan* (Absorption of lymphatic secretion) which were required to treat this case.

Here *Sandhaniya Mahakashaya* (Medicinal formulation) is *Kashaaya Pradhana* (Mainly of Astringent taste), *Madhoor* (Sweet) *Ras & Sheet* (Cold) *Veerya* (Power) which act as *pitta prashman* (Normalization of *Pitta*) & *rakta prasadan* (Purification of blood) and also helps in *vranaropan* as well as *kledashoshan* (Reabsorption of capillary leakage).

So we used *Sandhaniya Mahakashaya* (Medicinal formulation) for *abhyantar paan* (Oral Administration) as well as for *netra parisheka* (pouring Medicated liquid lowly locally on eye). As a result of this treatment associated micro-angiopathy of blood vessels was reduced. Hemorrhages through micro blood vessels were stopped and the exudates were minimized. Cumulatively above treatment resulted in improvement in patient's vision.

CONCLUSION

Some diseases are not clearly mentioned in *Ayurveda* (Indian system of Medicine), but their pathogenesis is well defined in Modern medical sciences. These diseases can be considered as *Anukta Vyadhi* (Unexplained diseases) just like Diabetic Retinopathy. *Ayurvedic* (Indian system of Medicine) scholars if correlate modern pathogenesis with *Ayurvedic Siddhant* (Principles of Indian system of Medicine) can find solutions to these *Anukta Vyadhi* (Unexplained diseases).

In this case study it can be concluded that *Sandhaniya Mahakashaya* (Medicinal formulation) *Abhyantar paan* (Oral Administration of Medicinal formulation) & *netra parisheka* (pouring Medicated liquid lowly

locally on eye) found to be effective in treatment of Diabetic Retinopathy.

Further Scope of Study

- Case Series can be studied with large sample size.
- *Kashaya Ghanavati* (Medicinal liquid formation conversion into Tablet) can be prepared.
- Efficacy can be studied for different stages of this disease.
- *Kashaya* can be converted into eye drop form for increasing shelf life.

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