

A REVIEW STUDY ON “EFFECT OF RASAYANA CHIKITSA IN MICRO VASCULAR
COMPLICATIONS OF MADHUMEHA”Dr. Kalpana Verma^{*1} and Dr. Ashish Pareek²¹Assistant Professor Department of Shalya Tantra, Institute of AYUSH Medical Science Lucknow.²Assistant Professor Department of Shalya Tantra, S.S.S.B. Ayurveda College & Hospital, Renwal, Jaipur.***Corresponding Author: Dr. Kalpana Verma**

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ABSTRACT

Background & objective: Diabetes Mellitus is one of the major metabolic disorders, characterized by hyperglycemia resulting from defects in insulin secretion, insulin action or both. Diabetes associated with long term potential effect on almost all systems of body. It leads to various complications. These complications can be managed by *Rasayana Chikitsa* (Rejuvenation therapy) according to Ayurveda which nourishes, develops & corrects the vitiated *Saptadhatu*. **Objective:** To study the Micro vascular complications in *Madhumeha*. To study *Rasayana dravya* from *samhitas*. To evaluate the *Karmukatva* (Activity) of *Rasayana dravya* on Micro vascular complications. **Material and Methodology:** Literary study of *Rakta-Medodushti* in complications of *Madhumeha* thoroughly was done. Literary study of micro vascular complication of Diabetes was done, *Karmukatva* of *Rasayana dravya* on micro vascular complications was studied. **Result:** Diabetic Neuropathy, Nephropathy & Retinopathy are the micro vascular complications of *Madhumeha*. These complications are mainly due to *Rakta-Medo dushti*. The *Suvarna & Raupya bhasma* are *sheet veerya & rasayana* which acts specifically as *balya* & give strength to nerves in Diabetic neuropathy. *Medovaha & Mootravaha srotosdushti* in Diabetic nephropathy cause structural changes in glomeruli. This structural change is corrected by *Haridra & Triphala* by their *rasayana* effect. *Triphala* act as *Mehaghna* (antidiabetic), *Haridra* act as *Medoghna* (lipolytic). There is *Rakta dushti* in Retinopathy which is marked by retino vascular micro aneurysm & blot hemorrhages. *Manjishtha* acts as *rakataprasadana* (blood purifier), *vranaropana* (wound healing). *Suvarnamakshika bhasma* is *raktaprasadaka*, acts on hemorrhagic disorders such as Retinal hemorrhages. **Conclusion:** On the basis of above study, *Rasayana dravyas* improve quality of life by alleviating micro vascular complications.

KEYWORDS: Micro vascular complications, *Rasayana dravya*, *Madhumeha*, *Rakta dushti*.

INTRODUCTION

Prakarshen prabhut prachuram varmvav mehati mootratyagam karoti yasminroge sa prameha]” Madhav nidan/Prameha 33/Uttarardh/satik pg no: 1

When a person passes turbid, large quantity of urine with frequent micturition, the disease called as Prameha.^[1]

Prameha is clinical entity in which Patient passes frequent and turbid urine. According to Charakacharya all 20 types of prameha are due to vitiation of tridosha. But kaphadosha is with the prime importance, which plays an important role in manifestation of disease. Here dravaguna of kapha get raised due to apathyakar aahar, vihar and causes like aasyasukha (comfortable sitting habits), swapnasukha (excessive/ faulty sleeping habits). Vitiated doshas get combined with vitiated dhatus (dushya i.e. rasa, rakta, mamsa, meda, majja, shukra, kleda, vasa, lasika, ojas); this condition causes dhatwagnimandya which in turn leads to development of

unnourished and abundant dhatus; The mainly vitiated dhatu is meda which is abaddha and asanhata meda. This meda and dhatwagnimandya causes kledotapatti. If person continues to have nidana (causes) mentioned earlier, there will be further vitiation of kleda (i.e. waste product of metabolism possessing wetness / liquid property) which in turn gets converted into mootra. The vitiated meda and kleda along with other vitiated doshas and dushyas reaches to mootravaha srotas for excretion leading to one of the major signs i.e. prabhut aavil mootrata in prameha.^[2] Madhumeha is one of the type of prameha mainly due to ojedushti.

Madhumeha can be correlated with diabetes mellitus. Present era is full of stress and strain due to lifestyle modification. Changes in dietary habits lead to upsurge of diabetes. Diabetes has long term potential effect on all systems of body, hence it leads to complications. The complications are categorized as Macro vascular e.g. CAD, CVD. & Micro vascular e.g. Neuropathy,

Nephropathy, Retinopathy. Skin infections, Tuberculosis. Micro vascular complications are one of the complications in Madhumeha in which Rakta- Meda dushti are seen.

“Rasayanam tu tad kneyam yad jaravyadhivinasanam |” Sharangdhara samhita.^[3]

The therapy that builds up immunity of body against the disease and also stops the process of ageing is called “Rasayanam” (Rejuvenation therapy).

The word Rasayana (Rejuvenation therapy)^[4] is formed with two words Rasa+Ayana. Rasa is rasadi saptadhatu & aayana means vardhana. Rasayana is the chikitsa used for nourishment of Rasaadi saptadhatu. Rasayana dravya nourishes dhatus, Increases dhatwagni; gives strength to srotasa, Because of these properties Rasayana Chikitsa is helpful in micro vascular complications of Madhumeha. So it is important to study Karmuktva of Rasayana dravya on Micro vascular complications.

Aim: To study the role of Rasayana Chikitsa on Micro vascular complications.

Objectives: 1. To study Rakta - Medodushti in micro vascular complications of Madhumeha.
2. To study Karmuktva (Activity) of Rasayana dravya on Micro vascular complications.

Material and Methodology: This is a literary type of study. Literary study of Rakta & Medo dushti in Madhumeha thoroughly including Charka samhita, Sushrut samhita & Vagbhat samhita was done. Detailed study of micro vascular complications in Diabetes Mellitus was done. Study of Karmuktva of Rasayana Dravya on micro vascular complications was done. Following data mentioned is the short review of literature included in study:

Prameha Samprapti: Hetu (Etiological Factors)

- Vitiating of Tridosha with predominance of kapha dosha
- Vitiating kapha dosha get mix with medadi dhatu vitiating of kapha with dravaguna (liquid form)
- Formation of bahu (abundant) and abaddha (malformed) dhatu Agnimandya (diminished metabolism)
- Aggravation of dhatu dushti + dhatu shaithilya (laxity) Dhatwagnimandya
- Meda- mamsjanya Dushti vikar Poor metabolism of dhatu
- e.g. pidika (boils) vidradhi (abscess) Excessive production of viguna /vitiating
- kleda (waste product of metabolism possessing wetness)
- Mootrasya kleda vahanm
- Increase in urine quantity to excrete excessive kleda
- Sthansanshraya of vitiating dosha in mootravaha strotas

- Prakruta swarupa (normal appearance) of mootra
- (Urine) gets affected due to presence of abnormal constituents as dhatwansh, kleda.
- Prabhat aavil mootrata

Prameha: Continuation of hetu sevan (Causative factor) Aggravation of mootravaha strotodushti lakshana **Madhumeha**^[5]

Importance Rasa-Rakta Dhatu

Ta ete sharirdharnat dhatu etiuchnate|

Sushrut sutrasthan 14 Dhatus are those entities which actually sustain living body.

Rasatraktam tato mamsam mamsan meda prajayate | Medsoasthi tato majja majjna shukram tu jayate|| Sushrut sutrasthan 14 Rasa (Constitutional fluid) is bio-converted into Rakta (Blood). Rakta is bio-converted into Mamsa (Muscle), in such fashion previous dhatu generates next dhatu due to bio-conversion.^[6] Among these seven entities Rasa & Rakta Dhatu are Aadya (Main) dhatu which nourishes & develops further dhatu Mamsa (Muscle), Meda (Adipose tissue), Asthi (Bone), Majja (Bone marrow) & Shukra (Semen).

Tatresham sarvadhaturam annapanrasa prinyati |

Sushrut sutrasthan 14 Rasa is first dhatu develops from Aahar rasa. It causes Prinan (saturates) of all dhatus.^[7]

Tesham kshayvruddhi shonitnitmitte| Sushrut sutrasthan 14 The Kshaya (waning) & Vruddhi (Excess Accumulation) of all dhatus depend upon Rakta dhatu; so vitiation of Rasa-Rakta Dhatu causes impairment of further dhatus.

Raktadushti: Dehasya rudhiram mulam rudhirenaiv dharyate| Tasmay yaten samrakshya raktam jeev iti sthiti || Sushrut sutrasthan 14. The root (originating factor) of body is blood. Body is sustained verily by blood. In other words blood is life so protect the healthy blood carefully.

Rakta is one of the saptadhatu. Charakacharya has mentioned Rakta dhatu as Pranayatana.^[8] Jeevana is the main function of Rakta so Raktadushti leads to various complications which are life threatening.

Hetu of Raktadushti: Vidahini annapanani snigdghoushnani dravani cha| Raktvahini dushanti bhajtam cha atap analau.

Charak vimansthana 5 Raktavahasrotas get vitiated due to the intake of irritant food and drinks, & with unctuous hot and liquid properties, exposure to sun and fire.

Lakshana of Raktadushti: Tata shonitajaroga prajayante pruthgvidha| Mukhpakoakshiragsh cha putighran-asyaghandhita|| Gulmopkusha visarpa raktapitta pramilak|vidradhi raktamehashcha pradaro vatashonitam || Charak sutrasthana 24 The following diseases occur due to vitiation of rakta (blood)

Mukhapaka (stomatitis), Akshirag (conjunctivitis), Putighran-asyaghandhita (foul odour of nose & mouth), Gulma (abdominal tumor), Upakusha (Pyorrhea), Visarpa (can be correlated with eripsals), Raktapitta (Bleeding disorders), Pramilaka (drowsiness), Vidhradhi (abscess), Raktameha (diabetes with haematuria), Pradara (menorrhagia), Vatarakta (gout).^[9]

Shonitkshaye twakparushya amlasheetprarthana sirashaithilyam cha || Sushrut sutrasthan.^[15]

Due to waning of Rakta dhatu (blood) - roughness in skin, craving for sour & cold, looseness of vessels occurs.

Medodushti: Avyayamad diwaswapnat medyanam cha atibhakshanat | Medovahini dushanti varunyashcha atisevanat || Charak vimansthana.^[5]

Lack of exercise, day time sleeping, excessive intake of fatty food and excessive consumption of alcohol leads to dysfunction of Medovahasrotas.

Dushti Lakshana: Dantadinam maladhyatva pragruram panipadyo | Dahachikkanta dehe trut swadu asyam cha jayate || Madhav nidhan Prameha 33 Dantadinam maladhyatva (excess dirt at teeth, palate, base of tongue etc.), Panipadyo daha (burning sensation of hand and foot), Dehachikkanta (unctuousness of body), Swadu-Asyata (sweetening of mouth)

Correlation between Rasa-Raktadushti & Micro Vascular Complications: Diabetic micro vascular complications affect small blood vessels & capillaries of eye, kidney & brain.^[10] The small blood vessel & capillaries can be correlated with Raktavahi Dhamani (vessels) which are moolasthan (origin) of Raktavaha Srotasa (Channel).^[11]

Leads to complications

Sirashaithilaya (Micro aneurysm) (Vatapradhan vyas - laghuguna vitiation), Raktapitta (Hemorrhage) (Pittapradhana Ushna and dravaguna vitiation), Kathinya (Vascular sclerosis) (Kaphapradhana, sthira - guru gunavitiation), Suptata (Loss of Sensation) (Kapha - vata vitiation) Siragata vrana

Raktastrava (Retinal Hemorrhage) (Pitta- vata vitiation tikshna - rukshaguna vitiation)

Micro Vascular Complications: The micro vascular complications of Diabetes encompass long term complications of diabetes affecting small blood vessels. These classically have included Retinopathy, Nephropathy, and Neuropathy.^[12] Retinopathy mainly divided into two main categories: Non proliferative Retinopathy & Proliferative Retinopathy. Non proliferative retinopathy is recognized by micro aneurysms, venous loops, retinal haemorrhages, hard & soft exudates. Proliferative retinopathy is defined as presence of new blood vessels with or without vitreous

haemorrhage. Proliferative retinopathy represents a progression of nonproliferative retinopathy.

Diabetic nephropathy is defined as the presence of persistent proteinuria greater than 0.5g/day. Diabetic nephropathy results from increased glomeruli capillary flow leads to increased extracellular matrix production & endothelial damage. These lead to glomeruli permeability to macromolecule. Mesangial expansion & interstitial sclerosis ensues resulting in Glomeruli Sclerosis.

Neuropathy is group of conditions characterized by nerve dysfunction. The condition is classified according to nerves affected. The classification of neuropathy includes focal, diffuse, sensory, motor, autonomic neuropathy. Diabetes is associated with dyslipidemia, hyperglycaemia, low insulin & growth factor abnormalities. These abnormalities associated with glycation of blood vessels & nerves. Trauma & neuro entrapment leads to structural nerve damage including demyelination.

Rasayana: Labhopyo hi shastanam rasadinam rasayanam | Charak chikitsasthana 1

Rasayana (Rejuvenating therapy) is entity that nourishes & develops saptadhatu.^[13]

Vardhana (increase due to nourishment) of saptadhatu results into excellent potentiality of body, attain intellect & freedom from disease. It also highlights & improves the Moto of Ayurveda.

Action of Rasayana

1. Rasayana achieve appyayana of dhatu.
2. Improvement of Dhatwagni.
3. Give strength or act as Balya for srotasa from which dhatu originates.
4. Gives proper direction (Anuloma gati) to vata.

DISCUSSION

Diabetic Retinopathy: Micro aneurysm is seen due to capillary weakness. Retinopathy is a result of ischemia & release of vasoactive substance that stimulate new blood vessel formation. These vessels are friable & can lead to haemorrhage & cause retinal detachment. According to Ayurveda sirashaithilaya (micro aneurysm) & siragata vrana leads to Raktasrava (Retinal haemorrhages).^[14]

Manjishtha: Manjishtha madhura tikta kashay swar-varnakrut | Raktatisar kushtha asra visarpa vran mehanut || Bhavprakash

Manjishtha is madhura (sweet), tikta (bitter), kashya (astringent) swar-varnakrut (good for voice-complexion). Cures raktatisar (diarrhea with bleeding), kushtha (leprosy), visarpa (herpes), vrana (wound) & meha (diabetes).^[15]

Manjishtha due to its *tikta* (Bitter) *kashaya* (Astringent) & *madhura* (Sweet) *rasa* & *ruksha guna* causes *pachan* & *shaman* of *Raktagata kapha-pitta*. This leads to *Raktaprasadana* (blood purifier) & *Raktaposhana* (Nourishment of blood). It is *vataghna*. The *pachana-shamana* and *Tridoshaghanta* corrects *raktadushti* & *sira shaithilya*. *Manjishtha* due to its *vrana shodhana* and *ropana* action treats *siragatavrana* (Retinal hemorrhage). *Manjishtha* act as *Rasayana* in Diabetic Retinopathy by treating micro aneurysms & haemorrhage.

Suvarnamakshika Bhasma: Swarnamakshik swadu tiktam vrusham rasayanam| Chakshushyam bastihritkanth pandumehavishodaram ||Bhavprakash

Suvarnamakshika is sweet & bitter in taste. It is aphrodisiac, rejuvenator, good for eye, cures disease of urinary bladder, leprosy, anaemia, diabetes, poison, enlargement of abdomen.^[16]

Suvarnamakshikaismadhura (Sweet), *tikta* (Bitter), *balya*, *yogavahi rasayana*. As there is capillary weakness, friable vessels leads to retinal haemorrhage. According to *Ayurveda* there is *raktadushti* due to enhancement of *tikshna* & *dravaguna* of *pitta* causes thinning of *Raktavahini* leads to *Raktsrava*.^[17]

Suvarnamakshika have *raktasthambhana* & *prasadana* action due to *madhura*, *tikta rasa* and *sheetveerya* which stops Retinal haemorrhage.

Diabetic Nephropathy: In nephropathy pathogenesis occurs at *vrukka avayava* i.e. *Medovahasrotodushti* (as *vrukka* is *moolsthan* (origin) of *medovahasrotas*). Loss of *snigdha* of *meda* causes *kathinya* at *vrikkagata sira* (glomeruli sclerosis).

Haridra: *Haridra katuk tikta rukshoshna kaphapittanut*|*Varnyatwakdoshamehasrashoth paduvranapha*||Bhavprakash. *Haridra* is *katuk* (pungent), *tikta* (bitter), *ruksha* (causes dryness), *ushna* (hot in potency) *kaphpittanut* (mitigates *kapha* & *pitta*), *varnya* (bestows colour). Cures diseases- *twakadosha* (skin), *meha* (diabetes), *asra* (disease of blood), *vrana* (ulcers). *Harirda* act as *medoghna* (lipolytic) by *shoshana* (desiccation) of *medogata kleda* (i.e. a waste product of metabolism possessing wetness/liquid property) due to *laghu rukshaguna*.^[18]

Triphala: *Triphala kaphpittaghani mehakushtahara sara*| Chakshushya dipani ruchyavishamjwara shini|| Bhavprakash. *Triphala* acts as *mehaghna* (antidiabetic) due to *ruksha guna* which causes *pachana* of *vikrit meda* & *kaphashoshana* increases *medodhatwagni*. *Triphala* also manages the *prabhutamootrata*.^[19]

Diabetic Neuropathy: *Prakupitavata* in *Madhumeha* vitiate *sira* & causes *suptata* (Numbness), *chimchimayana* (Tingling sensation), *sirashaithilya* & *shosha*.^[20]

Suvarna Bhasma: *Suvarnam sheetalam vrusham balyam guru rasayanam*| *Pramehgrahnyatisarshcha kushtham jawarm hanti shandhyam*||Bhavprakash *Suvarna bhasma* is *sheet* (cold in potency), *vrushya* (aphrodisiac), *balya* (strengthening), *guru* (heavy for digestion), is *rasayanam* (rejuvenating). Cures diseases as follows-*prameha* (Diabetes), *atisar* (diarrhea), *grahani* (duodenal disease), *jwar* (fever). *Suvarna* is *snigdha*, *madhura*, *kashaya*, *tikta* and *sheetveerya*. This *Rasayana* mainly act as *balya* to *vatavahini*, causes *shamana* of *prakupita vata*.^[21] It corrects *raktadushti* and *siradushti*.

Raupyia Bhasma: *Rupyam sheetam kashsy amlam swadupak rasm sarm*|*Vayasa sthapanm snigdhm lekhanmvatapittajit*||*Pramehadikrogashcha nashytiachirat dhruvam*||Bhavprakash. *Raupyia bhasma* prepared well is *sheet* (cold in potency), *kashay* (astringent), *amla* (sour) in taste. *Swadupak* (Sweet at end of digestion), *vaysthapanm* (retards aging), *snigdha* (unctuous) *lekhan* (scraping) *vatapittajit* (corrects *vata* and *pitta*). Cures diseases like *prameha*. *Raupyia bhasma* acts as *shaman* on *kshobha* & *chimchimayana* as these symptoms are seen due to *siragata vataprakopa*. *Raupyia bhasma* is *balya* and *rasayana* to *vata* *vaha sira*.^[22]

Conclusion: On the basis of above study *Rasayana dravyas* are beneficial on micro vascular complications. *Rasayana dravya* advances life of diabetic patient.

Scope For Future Study: Clinical trials on *Karmuktva* (Activity) of *Rasayana dravya* in micro vascular and other complications of diabetes mellitus.

REFERENCES

1. Madhava nidana with madhukosh tika by vijayrakshit and shrikant datta. Yadunandan Upadhyaya Chaukhambha Prakashan, Varanasi Reprint edition. 2006; 1, 3, 5,7,8,10,18.
2. Charaksamhita - Agnivesh. Elaborated by Charak & Dridhbala. With Ayurveda Dipika commentary by Chakrapanidatta & edited by Yadavjee Trikamjee Acharya, Chaukabha Prakashan Varanasi, Reprint, 2011; 213-445.
3. Sharangadhar Samhita. Pandit Shastri P V. 4th ed. Varanasi: Chowkhamba Orientale, 2000; 48.
4. A Dictionary English and Sanskrit Monier M. – Williams, Motilal Banarasidas Publisher Pvt limited, Delhi, 1992.
5. Charaksamhita - Agnivesh. Elaborated by Charak & Dridhbala. With Ayurveda Dipika commentary by Chakrapanidatta & edited by Yadavjee Trikamjee Acharya, Chaukabha Prakashan Varanasi, Reprint, 2011; 213-455.
6. Sushruta Samhita with Nimbandha Sangraha by Dalhana Yadavji Trikamji Acharya Chaukhambha Surbharti Prakashan Varanasi Reprint edition, 1994; 60.
7. Sushruta Samhita with Nimbandha Sangraha by Dalhana Yadavji Trikamji Acharya Chaukhambha

- Surbharti Prakashan Varanasi Reprint edition, 1994; 60.
8. Charaksamhita - Agnivesh. Elaborated by Charak & Dridhbala. With Ayurveda Dipika commentary by Chakrapanidatta & edited by Yadavjee Trikamjee Acharya, Chaukabha Prakashan Varanasi, Reprint, 2011; 181.
 9. Charaksamhita - Agnivesh. Elaborated by Charak & Dridhbala. With Ayurveda Dipika commentary by Chakrapanidatta & edited by Yadavjee Trikamjee Acharya, Chaukabha Prakashan Varanasi, Reprint, 2011; 124.
 10. Davidson's principles and practical medicine. Davidson. 21th ed. China: Elsevier publication, 2010; 827, 828, 829, 830, 831, 832.
 11. Sushruta Samhita with Nibandha Sangraha by Dalhana Yadavji Trikamji Acharya Chaukhambha Surbharti Prakashan Varanasi Reprint edition, 1994; 386.
 12. Davidson's principles and practical medicine. Davidson. 21th ed. China: Elsevier publication, 2010; 827, 828, 829, 830, 831, 832.
 13. Charaksamhita - Agnivesh. Elaborated by Charak & Dridhbala. With Ayurveda Dipika commentary by Chakrapanidatta & edited by Yadavjee Trikamjee Acharya, Chaukabha Prakashan Varanasi, Reprint, 2011; 377.
 14. "Study of Raktadusthi in complication of Madhumeha". Kaloge S. T. A. M. V. Pune, 2010.
 15. Bhavaprakasha Bramtia Shankar Mishra Chaukhambha Sanskrit Sansthan, 8th Edition, 2003; 107.
 16. Bhavaprakasha Bramtia Shankar Mishra Chaukhambha Sanskrit Sansthan, 8th Edition, 2003; 597.
 17. Aushadhigunadharmashashtra. Gune G. Vaidhyakgranthabhandar; Pune, 2005; 102, 143, 152.
 18. Bhavaprakasha Bramtia Shankar Mishra Chaukhambha Sanskrit Sansthan, 8th Edition, 2003; 110.
 19. Bhavaprakasha Bramtia Shankar Mishra Chaukhambha Sanskrit Sansthan, 8th Edition, 2003; 12.
 20. Charaksamhita - Agnivesh. Elaborated by Charak & Dridhbala. With Ayurveda Dipika commentary by Chakrapanidatta & edited by Yadavjee Trikamjee Acharya, Chaukabha Prakashan Varanasi, Reprint, 2011; 617.
 21. Aushadhigunadharmashashtra. Gune G. Vaidhyakgranthabhandar; Pune, 2005; 102, 143, 152.
 22. Aushadhigunadharmashashtra. Gune G. Vaidhyakgranthabhandar; Pune, 2005; 102, 143, 152.
 23. The Practical Sanskrit English Dictionary Apte V.S., Motilal Banarasidas Publisher Pvt limited, Delhi, 1992.