



ORIGINAL RESEARCH PAPER

Ayurveda

EFFECTIVENESS OF NJARA NJAVALADI KASHAYA IN THE MANAGEMENT OF MICROALBUMINURIA IN TYPE-II DIABETES MELLITUS: A CASE STUDY

KEY WORDS:

Microalbuminuria, Madhumeha, Njara Njavaladi kashaya.

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ABSTRACT

Kidney diseases cause a great challenge today and the commonest cause of Chronic Kidney Disease is Diabetic Nephropathy. Early detection is very important and Microalbuminuria is a clear indicator of upcoming Diabetic Nephropathy. Diabetic Nephropathy can be considered as a complication of *Madhumeha* and proper management of *Madhumeha* will check the progression of the disease. A 65 year old female patient, who is a known case of DM since 10 years, came to our OPD with complaints of frothy urine and bilateral ankle swelling since 6 months. She also has complaints of general debility since one year. Screening for Microalbuminuria was done in a 24-hour urine sample and was found to be 82 mg/day. The patient was recommended to take *Njara Njavaladi kashaya* 50 ml twice daily for a period of 30 days. After the study period, assessed the subjective and objective criteria and showed significant results.

INTRODUCTION

Diabetic Nephropathy is a specific complication of Diabetes Mellitus and Microalbuminuria is an indicator of upcoming Diabetic nephropathy. Screening for Microalbuminuria in DM patients helps in early diagnosis of Diabetic Nephropathy. Albuminuria diagnosed within the range of 30 – 300 mg from a 24 hour urine sample is called Microalbuminuria. Patients with both Type-I and Type-II are at risk, that Microalbuminuria is likely to appear after 5-10 years after the onset of Diabetes Mellitus¹. Pathologically the initial changes seen at the time of Microalbuminuria are thickening of the glomerular basement membrane and accumulation of matrix material in the mesangium. Subsequently, nodular deposits are characteristics and glomerulosclerosis worsens until glomeruli are progressively lost and renal function deteriorates². Epidemiology of Microalbuminuria reveals a close association with systemic endothelial dysfunction and with vascular disease.

In *Ayurveda*, renal diseases can be approached in the light of *Mutravahasrotogata vyadhis*. *Prameha* is one among them where *prabhootavilamootrata*³ is a characteristic feature. The *Vimshati Pramehas* are described by various clinical presentations of *mutra* and *mutrapareeksha* is of prime importance in diagnosis, management and prevention of renal disorders. Various *nidas* like *asyasukha*, *swapnasukha* etc. of *Prameha* can be compared with the sedentary life style and change in food habits of today's world contributing to the development of Diabetes. So Diabetic Nephropathy can be considered as a *Santharpanajanya Vikara*. The study drug, *Njara Njavaladi kashaya* is mentioned under *Prameha prakarana* in *Yogamrutam* text⁴. The drugs mentioned in '*Njara Njavaladi kashaya*' are found effective by the Ayurvedic practitioners of Kerala in managing *Prameha*.

CASE REPORT:

A 65 year old female patient, retired government employee came to Kayachikitsa OPD of Sree Narayana Institute of Ayurvedic Studies and Research, Kollam on 07-09-2019 with OP number 1907037 complaining of frothiness of urine and bilateral ankle swelling since 6 months. She is also having general debility for the past one year.

History of presenting complaints:

The patient was asymptomatic before 10 years. Gradually she

developed increased thirst and frequent micturition especially during night hours and consulted an allopathic physician and was diagnosed with Type-II DM. She started to take Oral Hypoglycemic Agents since then. Before one year, she developed general debility. She noticed frothiness of urine and bilateral ankle swelling before 6 months.

History of past illness:

H/O appendicitis at the age of 20 years and underwent appendectomy.

Family History:

Mother was a known case of DM.

Treatment history:

Tab Metformin 500 mg. 1-0-1 after food since 2 years.

Personal History:

Dietary habits – Staple food- rice, uses milk and meat products daily (Protein rich diet).

Appetite – Good.

Tea/ Coffee – 3/day.

Bladder – 6 to 7 times/day, 1 to 2/night, frothy urine.

Bowel – Daily once, hard consistency.

Sleep – 3-4 hours, disturbed, day sleep one hour.

Exercise – Mild.

General Examination:

Pulse rate – 76/min.

Respiration rate – 17/min.

Blood Pressure – 130/90 mm of hg.

Height – 165 cm.

Weight – 70 kg.

BMI – 25.4 kg/m²

Systemic Examination:

Urogenital system

Inspection:

Bipedal edema – Present.

Conjunctival pallor – Absent.

Sacral edema – Absent.

Urimic complexion – Absent.

Palpation:
Kidneys - Not ballotable.
Bladder - Not palpable.

No tenderness over renal angle and supra pubic region.

Percussion:
Renal bruits – Could not elicit.

Urine voiding symptoms

Frequency – Increased.
Nocturia – Present.
Fatigue – Present.
Incontinence – Absent.
Pain during micturition – Absent.

Cardiovascular and respiratory system –

No abnormality detected.

Locomotor system:

Ankle joint

Inspection:
Swelling – Present (B/L)

Palpation:
Pitting edema – Present (B/L)

ROM :
Flexion and Extension – Possible with pain (B/L)

Ashtastana Pareeksha

Nadi – Drutham
Mootram - Bahalam, Peetam, Phenilam, Visragandham.
Malam - Baddham, Alpam.
Jihva - Aliptham
Sabda - Vyaktham
Sparsa - Anushnaseetam
Drik - No Pramehajanya timira, Eshata tamra.
Akruti - Sthoolam.

Investigations

On 08-09-2019

FBS – 147 mg/dl
PPBS – 238 mg/dl
HbA1C – 7 %
Blood Urea – 10 mg/dl
Creatinine – 0.8 mg/dl
Uric Acid – 6.7 mg/dl
24 hour Microalbumin level on 09-09-2019 – 82 mg/day.

Treatment given

The patient was recommended to take *Njara Njavaladi kashayam* 50 ml in the morning and evening, half an hour before food, for a period of 30 days.

Table 1: Ingredients of Njara Njavaladi kashayam^{5,6}.

Sanskrit Name	Malayalam Name	Botanical Name And Family Name
Hrsva jambu	Njara	Syzygium caryophyllum Myrtaceae
Jambu	Njaval	Syzygium cumini Myrtaceae
Paranti	Chethi	Ixora coccinea Rubiaceae
Saptachakra	Ekanayakam	Salacia reticulata Celastraceae
Lodra	Pachotti	Symplocos racemosa Symplocaceae
Jalashani	Airani	Melastoma malabathricum Melastomataceae

Badra	Cherula	Aerva lanata Amaranthaceae
Amalaki	Nellika	Emblica officinalis Euphorbiaceae
Hareetaki	Kadukka	Terminalia chebula Combretaceae
Vibheetaki	Thannikka	Terminalia bellerica Combretaceae
Usheera	Ramacham	Vetiveria zizanioides Poaceae
Kathaka	Kathakam	Strychnos potatorum Loganaceae
Aavartaki	Aveeram	Cassia auriculata Caesalpiniaceae
Yashti madhu	Irattimadhuram	Glycyrrhiza glabra Fabaceae
Nisha	Manjal	Curcuma longa Zingiberaceae

RESULT

Table 2: Observations

Observations	Before treatment	After treatment
Objective parameter		
24 Hr. Urine Microalbumin level	82 mg/day	24 mg/day
Subjective parameters		
Frothiness of Urine	Present	Absent
General debility	Present	Reduced
Edema of feet	Present	Absent

DISCUSSION

Prameha is a *kapha* predominant disease⁷. *Kaphapradana Ahara* and *vihara* leads to *mandagni* which in turn produce *ama*, further causing *medodhatwagni mandhya*. This causes *medodhatuvridhi*. This also impairs the normal functioning of *vata dosha* which drags the *medas, kleda* and *ojas* towards the *vasti* causing the *sthana samsraya* of *Prameha*. The *vata dosha* on further aggravation excretes this *medas, kleda* and *ojas* outside the body in the form of urine. This stage of *Prameha* is called *Madhumeha*⁸. Hence in a *Madhumeha rogi*, there is systemic *agni mandhya* and constant depletion of *ojas*.

In *Ayurveda*, Type-II DM can be correlated to *Madhumeha* which are of two types⁹; one being *avaranajanya* which is considered as *krichrasadya* which if neglected can proceed to the next stage *dhatukshayaja* and becomes *asadya*. In *Madhumeha* the three doshas- *vata, pitta* and *kapha* are involved in the pathogenesis. In the clinical manifestation of proteinuria, there is loss of albumin through urine which can be compared to the action of aggravated *vata* which expels out the *kapha, kleda, medas* and *ojas* through urine.

In addition to the proper formation, carrying and elimination of *mutra*, the *mutravaha srotas* also performs the function of *kledavahanam*. In *Prameha*, there is *bahudrava sleshma dushti* and *kledavidhi* which causes *malasanchayam* in the body. They circulate throughout the body and get accumulated in the *mutravaha srotas*. This *malasanchaya* results in the *ayana dourbalya* of *mutradharakala*. This *ayana dourbalya* leads to excessive loss of *dhatu saramsa* by affecting the ability of the *srotas* to hold the *dhatu saramsas* before separating them from the *malabhavas*. This puts enormous burden over the *mutradharakala* and can be considered as *athipravarthi* of *srotas*. This *athipravarthi* leads to *vataparakopa* and cause structural damages to the tissues. There is also the accumulation of *kleda, meda* and *kapha* leading to occlusion of *ayanamukhas* which can be considered as the Glomerular Basement thickening and accumulation of matrix material in the mesangium. If the condition is not addressed at this stage, the excessive *malasanchaya* causes *sanga* (glomerulosclerotic stage) in the *srotas* and the *mutradharakala* becomes fully impaired and makes the

disease *asadhya* (End Stage Renal Disease). This can be the *Ayurvedic* perspective of Microalbuminuria and its progression.

Diabetic Nephropathy can be considered as a complication of *Madhumeha* and proper management of *Madhumeha* can check the progression of the condition. If *Madhumeha* is overlooked after its manifestations, it can give rise to *pidakas* over the *mamsala*, *marma* and *sandi pradeshas* which are *daruna* in nature. In this context, Diabetic Kidney Disease can be compared to *Abyanthara Vidrathi pidaka*, as it can occur in the regions of *vrikka*, *vasti*, *yakrith*, etc. Hence, *Prameha pidaka chikitsa* can be adopted here. *Acharya Susrutha* has well explained stage wise treatment for *prameha pidakas*¹⁰. In Microalbuminuria, there are subtle changes in the renal microstructures and are reversible. The *chikitsa* adopted must be *Apatharpana* focusing on *kleda medo shoshana* and *tridosha shamana*.

The ingredients of *Njara Njavaladi Kashaya* are having *pramehahara*, *kaphamedohara*, *mutrala*, *vatanulomana*, *raktha pitha sodhana* and *rasayana* properties. Most of the drugs have *kashaya tikta rasa*, *laghu ruksha guna*, and *katu vipaka*. The *kashaya rasa* and *laku rooksha guna* helps in *shoshana* of *kapha*, *kleda* and *medas* which can reduce the arterial proliferation and nodular sclerosis. The *tikta rasa* and *sheeta veerya* of the drugs helps in *pitha raktha shamana* which can act on the vascular endothelium and control the renal hypertension. The *katu vipaka* helps in reducing the *kapha* and *medo dushti*. Thus the study drug, *Njara Njavaladi Kashaya* showed remarkable changes in the management of Microalbuminuria.

CONCLUSION

Microalbuminuria among DM patients can be considered as an *upadrava* of *Madhumeha*, which is a *santharpanajanya vyadhi*. By this study, it is evident that drugs having *apatharpana* and *tridosha shamana* properties will be effective in managing the condition. *Njara Njavaladi Kashaya* which is having *tridoshaharatwa* along with *Pramehahara* and *rasayana* properties can play a significant role in reducing the Microalbumin level in Diabetic Nephropathy. So it can be concluded that *Ayurveda* can provide satisfactory results in managing Microalbuminuria and hence preventing the further progression of Diabetic Nephropathy (ESRD).

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