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Research Article

TRIPHALADI NIRUHA BASTI IN THE MANAGEMENT OF CHRONIC KIDNEY DISEASE

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ABSTRACT

Kidneys are the organs that have numerous biological roles in maintaining the homeostatic balance of body fluids by removing wastes out of the body. Chronic Kidney Disease (CKD) has always remained a major area of concern since a long time as it leads to irreversible deterioration in renal function which classically develops over a period of years. CKD is considered when glomerular filtration rate (GFR) falls below 30 ml/min. The conventional approach of management includes dialysis and renal transplantation, which are not easily affordable. If still can afford it, these costs have to be borne for life time and where in the complication problems after a transplant may include post-operative complication, bleeding, infection, vascular thrombosis and transplant rejection. Therefore, exploration of a safe and alternative therapy is needed, which proves to be helpful in reducing the requirement of dialysis and in postponing the renal transplantation. Ayurveda highlights the significance of *Trimarma* viz., *Sira, Hrudaya,* and *Basti* which are to be protected, if not may lead to many trivial diseases and may turn fatal. Though *Basti Marma* is identified structurally as bladder, the entire functional aspect of renal system is to be considered among which functioning of Kidneys occupies the major place. If we consider CKD as the disease affecting *Basti Marma,* then Basti Karma can be adopted as the treatment of choice as it is told to be best for *Marma Paripalana.* In this regard, a study was designed to manage the conditions of chronic kidney disease with *Triphaladi Niruha Basti* administered in *Kala basti* pattern along with *Shamana Aushadis.* The study revealed that there is marked improvement in reducing the clinical and laboratory manifestations of CKD.

KEYWORDS: Chronic Kidney Disease, *Triphaladi Niruha Basti, Shamana Aushadi.*

INTRODUCTION

Chronic Kidney Disease (CKD) is progressive loss in renal function over a period of months or years. It is a multi factorial condition that results in destruction of normal structure and initiating abnormality in normal function of kidney. CKD is considered as one of the life threatening condition and the associated rising treatment cost leave normal life crippling. CKD lead for morbidity if the proper treatment is not extended in the right time. Initially, renal disorders involving kidney malfunction, is manifested only as a biochemical abnormality. Eventually without proper treatment & follow up loss of the excretory, metabolic and endocrine functions of the kidney leads to the development of the clinical symptoms and signs of renal failure. When death is likely without Renal Replacement Therapy (RRT), it is called End Stage Renal Failure (ESRF).[1] Chronic Kidney Disease is diagnosed by elevated serum creatinine and blood urea & nitrogen. In *Ayurveda, Vrikka-Vikara* may be considered as an end stage induced by *Prameha*, where the urine becomes turbid. It is expressed that, the turbidity of *Mutra* (urine output) is because of the infiltration of the *Prameha`s - Dushya`s* which include *Medo-Rakta-Mamsa-Majja-Shukra-Udaka, Rasa, Lasika, Oja*.[2] It means that higher destruction and involvement of these *Dushya* lead to development of turbid urine (*Avila-mutrata*). In agreement of the above statement, should we go through the contemporary

literatures, it has been noted that higher levels of creatinine indicate a lower glomerular filtration rate and as a result a decreased capability of the kidneys to excrete waste products. Creatinine levels may be normal in the early stages of CKD and the condition is discovered if urinalysis shows that the kidney allowing the loss of protein or red blood cells into the urine. The prevalence rate of CKD in India ranges from 0.79% to 1.4% and the incidence rate of end stage renal disease was estimated to be 181 per million population in 2005.[3] The treatment of Chronic Kidney Disorders consists of treatment of the underlying cause if possible, but with progressive end-stage disease, restoration of kidney function can only be possible with dialysis or a kidney transplant. So, the economic consequences of CKD are very costly and may not be easily affordable by all. Hence forth, a safe treatment approach is required to be explored for the better management of CKD. In *Ayurveda*, *Shiras, Hrudaya* and *Basti* are identified as *Trimarma*. *Basti marma* has to be understood by structural as well as functional aspect of entire renal system which is hampered in CKD So, for the treatment of *Marma, Tasmana bastisamama kinchitta karma marmaparipalanamasti*,[4] there is nothing better than *Basti Karma* also highlights the same.

Aims and Objectives

- To evaluate the efficacy of the *Triphaladi niruha basti* and *Shamana aushadi* in the management of Chronic Kidney Disease.
- To evaluate safety of the *Triphaladi niruha basti* and *Shamana aushadi* in the management of Chronic Kidney Disease.

MATERIALS AND METHODS

This study started after enrolment of patients attending the OPD of Dept of *Panchakarma* at SKAMC Hospital & Research center Bangalore by follow up the protocol, with post-acceptance of the consent from as per the protocol approved in IEC. In this study, 10 diagnosed patients of CKD were selected based on purposive sampling technique.

In this study, patients were administered with *Triphaladi Niruha Basti (Anubhuta yoga)* and *Shamana Aushadhi (Veerataradi kashayam,*[5] *Varunadi kashayam,*[6] *Bringarajasava,*[7] *Pippalayasa*[8]*).* The above mentioned formulations are purchased from different approved pharmaceutical companies. The subjective and objective parameters were assessed before the treatment and after the treatment. The data obtained were recorded, tabulated and statistically analysed by using paired 't' test.

HYPOTHESIS

H_0 - There is no significant therapeutic effect of *Triphaladi Niruha Basti* and *Shamana Aushadi* in the management of Chronic Kidney Disease.

H_1 - There is significant therapeutic effect of *Triphaladi Niruha Basti* and *Shamana Aushadi* in the management of Chronic Kidney Disease.

SOURCE OF DATA

- Ten diagnosed patients of Chronic Kidney Disease following inclusion criteria approaching the OPD and IPD of SKAMCH&RC, Bangalore were selected for the study.
- Secondary data from text book, refer journal Peer reviewed text etc.

DIAGNOSTIC CRITERIA

- Diagnosed cases of CKD were taken for the study.
- Patients presenting with the Signs and Symptoms of CKD viz.

Table no .1	
Tiredness	Nausea
Breathlessness	Vomiting
Anorexia	Pedal edema

- Patients presenting with elevated levels of serum creatinine (0.68 – 1.36mg/dl).[9]
- Patients presenting with elevated levels of blood urea (15 – 40mg/dl).[10]
- Patients presenting with stage 1, stage 2, and stage 3, grade of Chronic Kidney Disease with GFR ranging from ≥ 90 to 30-59.[11]

INCLUSION CRITERIA

- Either sex in between the age group of 16 yrs to 70 yrs.
- Diagnosed as CKD.
- Patient suitable for *Basti Karma*.

EXCLUSION CRITERIA

- Major systemic diseases that may interfere the course of treatment such as uncontrolled Diabetic mellitus and Hypertension, refractive disorder, G_6PD deficiency, Artificial pace maker or such other conditions that interferes the renal function.
- Requiring dialysis and renal transplant.
- End stage of Chronic Kidney Disease i.e., stage 4 and stage 5.

STUDY DESIGN

Open level randomized continuous linear study.

INTERVENTION

All the selected patients after proper evaluation were administered with *Triphaladi Niruha Basti* along with *Shamana aushadi* for a period of 15 consecutive days.

Post-test investigation was done on the 16th day of treatment.

Basti was administered in the pattern of *Kala Basti* where in *Anuvasana Basti* was administered in the beginning followed by three conjugative *Niruha Basti* again *Anuvasana Basti* was administered. In the similar manner Nine *Niruha Basti's* and six *Anuvasana Basti* administered considering the *Kapha dosha* dominance.

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Schedule	A	N	N	N	A	N	N	N	A	N	N	N	A	A	A

Table no 2: showing the ingredients of *Triphaladi basti*

Triphaladi niruha basti		***Triphaladi anuvasana basti***	
Madhu	30ml	*Anuvasana basti*	*Triphaladi taila 80 ml*
Saindava lavana	10gm		
Triphaladi taila	80ml		
Katuki & Madanaphala churna	20gm each		
Triphala qwatha	350ml		
Total quantity	490ml	80 ml	

Procedure

Poorva karma: *Sarvanga abhyanga* with *Triphaladi Taila* followed by *Mridu Bashpa Sweda* was done for a duration of 40 minutes.

Pradhana karma

- *Basti karma* was preformed as per the classical reference.
- *Triphaladi niruha basti* was administered in empty stomach in the early morning.
- *Anuvasana Basti* was administered using the *Triphaladi taila* in the dosage of 80ml after the intake of food.

***Pashchat Karma*:** Lift the legs, patting to the buttocks, anti-clockwise massage to abdomen.

Shamana Aushadi's

Veerataradi kashayam, *Varunadi kashayam*, *Bringarajasava*, *Pippalayasava* — 2 teaspoon each with Equal quantity of water thrice daily after food

Assessment criteria

The following subjective and objective parameters were clinically assessed before and after treatment and the results were statistically analyzed and presented in a tabular form.

Parameters

Subjective Parameters

1. Tiredness
2. Breathlessness
3. Anorexia
4. Nausea

Objective Parameters

1. Serum creatinine
2. Blood urea
3. GFR
4. Pedal edema

1. Tiredness — **Score**

No tiredness : 0
Occasional feeling of tiredness on light activity : 1
Constant feeling of tiredness on heavy activity : 2
Feeling tiredness all the time : 3

2. Breathlessness — **Score**

No breathlessness : 0
Breathlessness on upstairs /quick moving : 1
Breathlessness on light physical work : 2
Breathlessness on bed : 3

3. Anorexia — **Score**

Takes full diet and also presence of proper appetite at the next meal hour : 0
Presence of moderate appetite and proper appearance of appetite in next meal hour : 1
Presence of moderate appetite but delayed appearance of appetite in next meal hour : 2
Presence of low appetite and delayed appearance of appetite in next meal hour : 3

4. Nausea — **Score**

No nausea : 0

Less than 2 times : 1
2-5Times : 2
> 5 times : 3

1. Pedal Edema **Score**
No edema : 0
Slight pitting 2mm, disappears : 1 rapidly
Deep pitting 4mm, disappears in 10-15secs : 2
Deeper pitting 6mm, may last > 1 min : 3

Table 3: Assessment of results in Subjective parameters

Pts. Name	Tiredness		Breathlessness		Anorexia		Nausea	
	BT	AT	BT	AT	BT	AT	BT	AT
a.	3	2	3	2	3	2	1	1
b.	3	1	3	1	3	3	1	0
c.	2	1	3	1	2	1	1	0
d.	2	1	2	1	0	0	2	1
e.	2	0	1	0	2	0	2	1
f.	2	1	2	1	2	1	1	0
g.	3	2	1	0	0	0	1	0
h.	0	0	0	0	0	0	0	0
i.	0	0	0	0	1	1	0	0
j.	0	0	2	2	1	0	0	0

Table 4: Assessment of results in Objective parameters

Pts. Name	Serum creatinine		Blood urea		GFR		Pedal Edema	
	BT	AT	BT	AT	BT	AT	BT	AT
a.	1.7 mg/dl	1.3 mg/dl	55 mg/dl	37 mg/dl	32	44	2	0
b.	5.9 mg/dl	5.4 mg/dl	106 mg/dl	58 mg/dl	10	11	3	2
c.	5 mg/dl	3.2 mg/dl	66 mg/dl	60 mg/dl	12	20	2	1
d.	1.6 mg/dl	0.8 mg/dl	52.7 mg/dl	34 mg/dl	46	102	3	2
e.	7.4 mg/dl	7.6 mg/dl	120 mg/dl	133 mg/dl	7	7	2	1
f.	1.5 mg/dl	1.1 mg/dl	58 mg/dl	32 mg/dl	49	70	3	1
g.	5.6 mg/dl	5.2 mg/dl	110 mg/dl	52 mg/dl	11	12	3	2
h.	5.2 mg/dl	3.2 mg/dl	60 mg/dl	56 mg/dl	9	15	3	2
i.	7.2 mg/dl	7.4 mg/dl	118 mg/dl	130 mg/dl	8	8	2	2
j.	1.2 mg/dl	0.9 mg/dl	58 mg/dl	32 mg/dl	46	65	3	1

Table 5: Statistical values showing the effect on Subjective Parameter

Tiredness					
Group	Mean		Mean diff.	Paired 't' test	
	Before	After		't'	P
BT-AT	1.7	0.8	0	3.85	0.003
Breathlessness					
Group	Mean		Mean diff.	Paired 't' test	
	Before	After		't'	P
BT-AT	1.7	0.8	0	3.85	0.003
Anorexia					
Group	Mean		Mean diff.	Paired 't' test	
	Before	After		't'	P
BT-AT	1.4	0.8	0	2.7	0.02
Nausea					
Group	Mean		Mean diff.	Paired 't' test	
	Before	After		't'	P
BT-AT	0.9	0.3	0	3.6	0.05

Table 6: Statistical values showing the effect on Subjective Parameter

Serum creatinine					
Group	Mean		Mean diff.	Paired 't' test	
	Before	After		't'	P
BT-AT	4.23	3.61	0	2.64	0.02
Blood urea					
Group	Mean		Mean diff.	Paired 't' test	
	Before	After		't'	P
BT-AT	80.37	62.4	0	2.4	0.03
GFR					
Group	Mean		Mean diff.	Paired 't' test	
	Before	After		't'	P
BT-AT	23	35.4	0	2.28	0.04
Pedal edema					
Group	Mean		Mean diff.	Paired 't' test	
	Before	After		't'	P
BT-AT	2.6	1.4	0	6	0.01

Observations and Results

In this study, all the patients were in the age group of 32 yrs to 58yrs. However, the majority (60%) of the patients were male between 32 yrs to 58 years of age. All the patients after proper review of their health condition and after satisfactory examination pertaining to inclusion and exclusion criteria are being included in this study following the protocol approved in the institutional ethical committee. The subjective parameters have taken for assessment of the symptomatic relief which confirms the regression of the pathological condition. Patients are reported with lesser impact on tiredness as compared to pre-treatment & post-treatment, which has shown statistical significance with p-value 0.03, other features like breathlessness, anorexia and nausea have shown their impact when compared between pre & post-treatment conditions which has shown statistically significant impact with p - scores as 0.03, 0.02, 0.05, respectively. Three parameters that include serum creatinine and blood urea and GFR have shown equal response to the treatment and equally share the satisfactory statistical score i.e., the *p*–value, 0.02, 0.03, 0.04, respectively. Rest one parameter that includes pedal edema has shown response to the treatment and share the statistical score *p* - value 0.01.

DISCUSSION

Chronic Kidney Disease (CKD) is progressive loss in renal function over a period of months or years and is caused by any condition which destroys the normal structure as well as function of the kidney. CKD is considered when glomerular filtration rate (GFR) falls below 30 ml/min. A person can lead to uremia when CKD is not managed properly and represented with loss of the excretory, metabolic and endocrine functions. Higher levels of creatinine indicate a lower glomerular filtration rate and as a result a decreased capability of the kidneys to excrete waste products. Creatinine levels may be normal in the early stages of CKD and the condition is discovered if urinalysis shows that the kidney allowing the loss of protein or red blood cells into the urine. In *Ayurveda,* the etiopathogenesis of *Prameha* gives an idea regarding pathogenesis of Chronic Kidney Disease (CKD). The affliction of *Rasa, Rakta, Mamsa, Meda & Kleda* in *Prameha* can be viewed in Chronic Kidney Disease (CKD) in terms of proteinurea, elevated level of blood urea and Serum creatinine and involvement of *Vata* vitiating the bodily tissues which have the predominance of *Kapha dusti* has to be managed by adopting *Teekshana Basti* where in the procedural action of *Basti* acts on *Vata* and *Teekshanatha* of *Basti* counteracts vitiated *Kapha. Triphaladi Niruha Basti* along with various *Shamana aushadhi's* as mentioned in the methods and materials are used in this study has shown an encouraging result in minimizing the clinical symptoms of the CKD. *Triphaladi Niruha Basti* enriched with *Madhu* that contains various enzyme extend anti-inflammatory and anti bacterial activities which are helpful in reducing the symptoms of CKD. *Saindhava*, because of *Suksma* and *Visyandi*

properties, possibly help to transport the drug molecules in the systemic circulation through mucosa. It is also capable of liquefying the viscid matter and breaking it into minute particles and helping in *Dosha vilayana*. In addition to that, *Saindhava lavana* helps in removal of *Doshas* by its *Lekhana* property. *Triphala* is rich source of galic acid and tannins exhibits anti oxidant, anti inflammatory and detoxification activities. *Triphala* has antioxidant, rejuvenating (*Rasayana* property), *Tridoshahara,* and *Amapachaka* action which help in rejuvenating of damaged capillaries apart from removal of atherosclerosis, improve circulation and GFR. *Katuki* & *Madanaphala* help to bring collective benefits for its *Pitta rechaka* and *Kaphara hara* action. *Triphaladi Niruha Basti* is considered as *Teekshana basti* because, which has a counter-pharmacological action of vitiated *Kapha dosha*. *Varunadi Kashayam* with enriched source of tannin from *Varuna* (*Crateva nurvulla*) extends a lithontriptic, nephroprotective and diuretic activity, and in return is responsible for promoting the GFR and relieving from CKD. *Bhringaraja* (*Eclipta alba*) present in *Bringarajasava* with the presence of flavonioids extend anti oxidant, anti-inflammatory and anti microbial activity and thus extends chronic non specific UTI associated with CKD. *Pippali* (*Piper longum*) present in *Pippalayasava* are subjected to enhance the bio availability, and thus allowing faster penetration of the phyto-molecules because of piperine. Piperine is helpful in improving capillary permeability which can improve intra or inter cellular transportations. *Veerataradi Kashayam* containing *Pashanabheda* (*Bergenia ligulata*), *Rambha* (*Musa peridisica*), *Gokshura* (*Tribulus terrestris*) and along with *Mutrala* (diuretic) ingredients extend the beneficial activity in combating the clinical features of CKD.

CONCLUSION

Basti used in the present study is very much effective in improving the kidney functions and the *Basti* used in this study having the property of *Sroto vishuddhi*. The kidneys are made up of principally the *"Rakta" and "Meda" dhatus*. Every physician will address to maintain the imbalance between these two *Dhatus* by using proper *Basti karma* and *shamanaushadhis*. In this research study, we have used *Triphaladi Niruha Basti* along with various *Shamana aushadhi*, has resulted in the reversal of the kidney factors and recover from CKD. This action may be tribute to its various *Sothagna* (Anti-inflammatory), *Mutrala* (Diuretic), *Lekhana* (Scrapes). This treatment approach is a safe and effective in case of CKD, further studies to be conducted in a large sample to establish the facts with more statistical and scientific strength.

REFERENCES

1. Churchill livingstone Elsevier, Davidson`s Principles & Practice of medicine, 20th edition, J. Goddard, A. N. Turner, A. D. Cumming, L. H. Stewart, pp- 1381, pg – 485.
2. Sushruta, Sushruta Samhita, Nibandha Samgraha Commentary of Sri Dalhanacharya and Nyaya Chandrika Panjika on Nidanasthana Commentary of Sri Gayadasacharya, by; Vaidya Yadavji Trikramji Acharya, Choukambha Surabharati Prakashan, Varanasi, Nidanasthana chapter 6 verse- 6, reprint-2008, Pp: 824, Page no 290.
3. Europepmc.org/abstract/MED/20979955
4. Agnivesha, Charaka Samhita, Ayurveda Deepika Commentary of Chakrapani, edited by; Vaidya Yadavji Trikramji Acharya, Choukambha Surabharati Prakashan, Varanasi, reprint-2011, Siddhisthana chapter 9 verse- 7 Pp: 738, Page no- 717.
5. Vagbhata, Astanga Hrudaya, Sarvanga Sundara Commentary of Arunadatta and Ayurveda Rasayana Commentary of Hemadri, edited by; Pandit Hari Sadasiva Sastri Paradkara Bhisagacharya, Choukambha Surabharati Prakashan, Varanasi, reprint-2010, Sutrasthana chapter 15 verse 24-25 Pp: 956, Page no 236-237.
6. Vagbhata, Astanga Hrudaya, Sarvanga Sundara Commentary of Arunadatta and Ayurveda Rasayana Commentary of Hemadri, edited by; Pandit Hari Sadasiva Sastri Paradkara Bhisagacharya, Choukambha Surabharati Prakashan, Varanasi, reprint-2010, Sutrasthana chapter 15 verse 9-10 Pp: 956, Page no 234-235.
7. Sahasarayogama, written by Dr. Ramanivas Sharama and Dr.Surendra Sharama, Choukambha Samskrutha Prakashan, Delhi, reprint-2004, Asava Prakarana Pp: 318, Page no 174.
8. Sahasarayogama, written by Dr. Ramanivas Sharama and Dr.Surendra Sharama, Choukambha Samskrutha

Prakashan, Delhi, reprint-2004, Asava Prakarana Pp: 318, Page no 169.

9. Churchill livingstone Elsevier, Davidson`s Principles & Practice of medicine, 20th edition, S. W. Walker, pp- 1381, pg – 1318.
10. Churchill livingstone Elsevier, Davidson`s Principles & Practice of medicine, 20th edition, S. W. Walker, pp- 1381, pg – 1318.
11. Churchill livingstone Elsevier, Davidson`s Principles & Practice of medicine, 20th edition, J. Goddard, A. N. Turner, A. D. Cumming, L. H. Stewart, pp- 1381, pg. 486.

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