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EFFICACY OF VAJEDI BASTI ALONG WITH PUNARNAVASHTAK GHANAVATI IN CHRONIC RENAL FAILURE

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ABSTRACT

Chronic renal failure (CRF) is a global threat to health in general and for developing countries in particular because therapy is expensive and lifelong. CRF not only increases the mortality and morbidity but also leads to adverse impact on the economy of the country. It represents a progressive irreversible decline in the glomerular filtration rate (GFR). A common phenomenon in renal failure is progressive renal function loss irrespective of the underlying cause of the kidney disease.

Objective: To evaluate the efficacy of *Vajedi Basti* along with *Punarnavashtak Kwatha Ghanavati* in Chronic Renal Failure.

Methods: 30 patients of Chronic Renal Failure, irrespective of sex were randomly selected and open non comparative clinical trial was conducted. *Vajedi Basti* was given to patients along with the *Punarnavashtak Kwatha Ghanavati* which was administered for 3 months in dose 2 gm. BD with water after food. Serum Creatinine, BUN and mean GFR value were done initially and at the end of trial. Paired t test was used for statistical analysis.

Results: After completion of study with relief in symptoms of Chronic Renal Failure there was also marked improvement in Serum Creatinine, BUN and mean GFR values. Highly significant results were observed.

Conclusion: *Vajedi Basti* along with the *Punarnavashtak Kwatha Ghanavati* proved to be a promising line of treatment in Chronic Renal Failure. There was marked improvement in Serum Creatinine, BUN and mean GFR values. No side effects were seen during the study.

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INTRODUCTION

The National Kidney Foundation (NKF) has suggested the following definition of CRF: Established kidney damage with structural or functional abnormalities or a glomerular filtration rate <60 ml/min/1.73 m² for three months or more (National Kidney Foundation, 2002). The classification of stages of CRF is based on the level of kidney function measured by GFR. Stages of CKD according to National Kidney Foundation are - Stage 1 - Kidney damage with GFR normal or >90. Stage 2 - Kidney damage with mildly decreased GFR 60-89. Stage 3 - Moderate kidney disease 30-59. Stage 4 - Severe kidney disease 15-29 and Stage 5 - Kidney failure <15 ml/min/1.72 m². It would be interesting to know that the incidence of chronic Renal Failure in India, which is a densely populated country with low income, different food, cultural traditions and lifestyle habits, is

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7.85 million CRF patients of its 1 billion populations and the prevalence rate is about 0.78%. As per the December 2007 index declared by Rajya Sabha, the per capita income in India is 20,734 per annum. The total population is 113 crores of which 26% live below the poverty line (BPL) where the daily earning is 10 only. The monthly cost of hemodialysis (HD) in most private hospitals averages 12,000 and the yearly cost of dialysis is 140,000. The average cost of kidney transplant varies from 50,000 in a government set-up to 300,000 in an average private hospital. Also, the yearly maintenance cost post-transplant for the drugs amounts to 120,000 per year or 10,000 per month. So, the social and economic consequences of CRF are considerable and the conventional approach of management includes dialysis and renal transplantation which is not affordable and acceptable by Indian population. Therefore, exploration of a safe and alternative therapy is highly needed, which proves to be helpful in reducing the requirement of dialysis and in postponing the renal transplantation, (Harrison, *et al.*, 2008). Ayurveda does not individually suggest the cause and treatment of CRF, so

there is liberty to carry out research considering modern diagnosis and ayurvedic management (Ref. Udupa Committee). The Punarnavashtak Kwatha is one of the promising medication in Shotha. On the basis of similarity between etiologies, clinical features and the principles which are used in treatment of Chronic Renal Failure, it can be co-related with Kaphaja Shotha. For the convenience of patients Kwatha was further converted to tablet form. Along with this Punarnavashtak Kwatha Ghanvati, Vajedi Basti was also given which is practiced by many senior Vaidya.

MATERIALS AND METHODS

Plan of study

An open non-comparative clinical trial was conducted, where 30 patients having classical signs and symptoms of Chronic Renal Failure were chosen randomly. Patients were given treatment with specific duration with every 1 month follow up. Institutional Ethics Committee (IEC) approval was obtained and written consent was taken from the patients prior to the initiation of the study.

Selection of patients

Patients who reported to Outdoor Patient Department (OPD) and Indoor Patient Department (IPD) of YMT Ayurvedic Medical College & Hospital were carefully selected on the basis of Diagnostic, inclusion criteria, etc.

Inclusion criteria

- Diagnosed patients of chronic renal failure.
- A clinically stable patient of stage 0 to 4 was included. (Stage 0 GFR > 90ml/min per 1.73m². stage 1 GFR 90. Stage 3 GFR between 60 to 89. Stage 3 GFR between 30 to 59. Stage 4 GFR between 15 to 29 and Stage 5 GFR <15ml/min per 1.73m².)
- Patients with Serum Creatinine level above normal level. i.e. above 1.4mg/dl
- Patients falling age group of 15 to 80 years.
- Patients irrespective of sex will be included and who were willing to take drug.

Exclusion criteria

- Age below 15 yrs and above 80 yrs.
- Acute life threatening condition.
- Immuno compromised patients.

Withdrawal from study

- Discontinuation of treatment during trail.
- Development of life threatening complication.
- Development of any non-related ailments which may require other medications.
- Any premature discontinuation of the study other than above mentioned 1,2,3 will be
- considered as failure.

Criteria for Assessment

Objective Criteria

- Serum Creatinine.
- BUN.
- Mean GFR value.
- Urine routine and microscopic.
- CBC.

Selection of the drug/medicines

Punarnavashtaka Ghanavati² (Sha. Sa. Ma.Kha. Kwatha Kalpana)

Vajedi Basti:⁴

Preparation of Basti Dravya:

- 50gms of Vajedi (Intestines of Goat) is taken and cleaned carefully.
- It is boiled in 300ml of water and reduced to 1/4th of water i.e. 120 ml.
- 1-2 pinch of Saindhav is added to it.

Subjective Criteria

Table 1. Subjective criteria.

Sr. No.	Symptom	Grade 0	Grade 1	Grade 2	Grade 3
1	Nocturia.	No nocturia.	Frequency of Micturition 1time.	Frequency of Micturition 2to 3 times.	Frequency of Micturation more than 3 times.
2	Dyspnoea	Dyspnoea after heavy work but relieved soon & up to tolerance.	Dyspnoea after little work but relieved later & upto tolerance.	Dyspnoea after little work but relieved later & condition beyond tolerance.	Dyspnoea in resting condition.
3	Oedema	No Oedema.	Slight pitting oedema, disappear within 10-20 seconds.	Pitting oedema disappear within 30-60 seconds.	Pitting oedema takes more than 1 minute to disappear.
4	Nausea	No nausea	Slight nausea but can have normal diet.	Feels vomiting sensation on sight of food of patient's liking	Nausea at thought of food or smell.
5	Weakness	No weakness	Slight weakness	Feeling of weakness but can perform daily routines.	Feeling of weakness but difficult to perform daily routines.
6	Thirst	Normal thirst	Patient requires less than 250 ml of water as compared to daily intake.	Patient requires 250 to 500ml of water as compared to daily intake.	Patient requires more than 500ml of water as compared to daily intake.
7	Loss of Appetite	Patient has good Appetite with normal frequency.	Patient is able to consume food only up to 75% of his capacity with normal frequency.	Patient is able to consume food only up to 50% of his capacity with irregular frequency.	Patient is able to consume food only up to 25% of his capacity with irregular frequency.

Symptom	Absent	Present
Oliguria	Urine output more than 400ml per 24 hours	Urine output less than 400ml per 24 hours
Vomiting	Absent	Present
Hematuria	Absent	Present

Table 2. The contents of Parnaspanchak Kwath along with proportion are placed at

Sr. No.	Drugs	Latin name	Part used ^[20]	Ratio
1.	Punarnava	<i>Boerhviadiffusa Linn.</i>	<i>Panchanga</i>	1
2.	Abhaya (Haritaki)	<i>Terminaliachebula. Retz.</i>	<i>Fruit</i>	1
3.	Nimba	<i>Azadiractaindiaca. Juss</i>	<i>Bark</i>	1
4.	Daruhalad	<i>Beberisaristata DC.</i>	<i>Bark</i>	1
5.	Kutaki	<i>Picrorrhizakrura.</i>	<i>Root</i>	1
6.	Patol	<i>Tricosanthesdioica. Roxb.</i>	<i>Patra</i>	1
7.	Ghuduchi	<i>TinosporacaordifoliaWillid.</i>	<i>Kanda</i>	1
8.	Sunthi	<i>Zingiberofficinalis, Roxb.</i>	<i>Root</i>	1
9.	Gomutra			

Methodology

Ñ **Drug, dosage and duration:** Posology is mentioned at Table 2.

Observations

In the present study, a total number of 30 patients were registered, and all patients completed the treatment. It was observed that 18 patients (60 %) were male and 12 patients (40 %) were female. Maximum no of patients are found in middle decade of life i.e. in 5th, 6th and 7th decade. Out of 30 patients 29 were having mixed diet and 1 was having vegetarian diet. Out of 30 patients 10 females were housewives, 6 males were businessmen, 6 were servants, 4 were farmaers, 3 were teachers and 1 was student. 33.33% patients were diabetic, 26.66 % had Hypertension, 10% had Medico-renal disease, 10% had Obstructiveuropathy, 10% had Nephropathy and 3.33% had glomerulo-nephritis.

Table 3. Posology

Duration of therapy	3 months
Dose of Punarnavashtak Ghanvati	2 gm twice a day
Time	after food
Basti Matra	120 ml
Follow up	After every 1 month

Effect of treatment

Paired t-test was applied to collected data. It showed the significant difference in subsequent follow ups. It means that the said therapy used for Chronic Renal Failure is highly effective. (Table 4)

Sr. No.	Signs & Symptoms	% Relief
1	Nocturia.	81.19 %
2	<i>Dyspnoea</i>	87.35 %
3	<i>Oedema</i>	91.36 %
4	<i>Nausea</i>	96.11 %
5	<i>Weakness</i>	96.11 %
6	<i>Thirst</i>	96.11 %
7	<i>Loss of Appetite</i>	96.11 %
8	Oliguria	100 %

Biochemical Parameters	Mean score bt	Mean score at	% relief	Pvalue
Heamoglobin	10.48	12.84	22.51	<0.001
ESR	39.13	15.90	60.67	<0.001
SR. Creat.	2.31	0.95	96.11	<0.001
Bun	30.96	13.90	55.11	<0.001
Mean GFR	31.85	85.99	169.98	<0.001

DISCUSSION

In the process of Ahara parinaman kriya, the Chaturvidha annapana undergoes the pachana by the action of pachaka pitta, enters to the pakwashaya where it gets divided in to the Drava bhaga and the Ghana bhaga. The Ghana bhaga is the purisha and the Drava bhaga is the malakhya kleda and is carried to the Basti from the pakwashaya for excretion. Now because of Kapha prakopa and angimandya there is excessive product of mala roop kleda. According to Ayurveda Mootra is produced in Pakwashaya. In patients of CRF this Mootra Nirmiti Prakriya is hampered. Hence, in Vajedi basti where we use decoction of Pakwashaya of goat so that with the support of 'Samanya Vishsha Siddhant' we provide similar factors to patient's Pakwashaya which will help to regularize the urine production. Punarnava acts as shothaghna. Punarnava being Rasayan help to rejuvenate the nephron cells and plays reno-protective action (In experiments with Boerhviaduffusa there has been diuresis accompanied by increased excretion of sodium, 1972; MudgalPlanta, 1975 and In Nephrotic Syndrome, ?). As mentioned in Sharangdhara Samhita Haritaki is shrestha in Anulomana. Being Anulomana it acts as sroto-vishodhana also by being kashaya rasa and ruksha gun helps in kelda shoshana (Rao, ?). Nimba being ruksha and laghu, it causes wasting of snigha dhatus. Absorbs kleda being tikta and ruksha and thus purifies blood which in turns eliminates kleda (vander, ?). Daruharidra absorbs kleda, meda due to its katu-tikta and ruksha qualities. It also has liver stimulant and pittasaraka property due to its tikta rasa which helps to regulate the pitta dosha, agnideepan (Chang and But). As mentioned in Sharagdhara Samhita Kutaki is pradhana dravya in Bhedana. Being this property kutaki plays major role in srotoshodhana. It helps to expels vitiated kapha, kleda and accumulated fluid in body through purisha (Bhavprakash Vidyotini Hindi commentary, 2000).

As earlier described in drug review according to Bhavprakash Samhita; Patol also plays major role in srotoshodhana being it is sukhakar Virechana (Bhavprakash Vidyotini Hindi commentary, 2000). Guduchi causes stimulation of dhatvagnis by its tikta-rasa and nutrition of dhatus by its madhura vipaka. By its tikta-katu-kashaya and ruksha guna, it eliminates kleda associated with dhatu. It also causes stimulation of medagni by its tikta-katu-rasa and ushna veerya (Bhavprakash Vidyotini Hindi commentary, 2000). So guduchi acts as reno-protective as vrukka ismul-sthana of medovahasrotas. Shunthi is kaphaghna being katu, ushna and laghu (Bhavprakash Vidyotini Hindi commentary, 2000). As mentioned in Sharangdhara Samhita shunthi possesses Grahi property (Sarngadhara, 2002). Being grahishunthi absorbs kleda and kapha (Ajith, ?). Gomutra being katu-tikta-kashaya it causes kleda shoshana. Also according to Samanya vishesh Sidhant increase the production of mutra. This alimentally helps in kleda nirhana. Also increase the bioavailability of drug (Sushrutsamhita, 2004).

Conclusion

- Diabetic and Hypertensive subjects are prone to develop chronic renal failure.
- Chronic renal failure can be co-related with Kaphaja Shotha as there are similarities between etiological factors, clinical features and principle used in treatment.
- Punarnavashtak Ghanavati is capable of breaking the samprapti of shotha being Rasayan, Kaphaghna, Kledashoshak, mutral and srotorodha nashaka.
- Punarnavashtak Ghanavati also useful in combating chronic renal failure due to its diuretic action, Reno-protective property, anti-diabetic action and also hypotensive action.
- Punarnavashtak Ghanavati and Vajedi Basti can increase the creatinine clearances and helps in excretion of waste product and improve the uremic condition.
- This line of treatment has a significant effect on the sign and symptoms of CRF.

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