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(CASE REPORT)

A case study on management of resistant hypertension and reduction of serum creatinine in a Chronic Kidney Disease patient through Vajedi Basti

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Abstract

Kidney diseases are prevalent due to changing life style, improper eating habits, hypertension and uncontrolled diabetes. According to modern science, the treatment for chronic kidney failure is haemodialysis or kidney transplant, both are quite expensive. Ayurveda plays an important role for finding effective and safe medicines to prevent kidney failure. A 38-year-old male patient diagnosed with Chronic Kidney Disease (CKD) and uncontrolled Hypertension (HTN) on three anti-hypertensive agents attended the OPD of Sane Guruji Arogya Kendra, Malwadi, Hadapsar Pune. The patient was initially kept on oral ayurvedic treatment for ten days. Then he was subjected to *Basti Karma* along with *Sthanik Snehana-Swedana*. After this therapy which continued for 21 days, it was found that the baseline blood pressure (180/110 mmHg) came down to 140/90 mmHg in the third week and serum creatin level ratio also reduced gradually. This therapy was provided along with allopathic medication as prescribed and patient was advised to continue allopathic medicine and to monitor BP regularly. After another 180 days monitoring, the patient had normal blood pressure along with a reduction in serum creatinine levels. From the results, it is concluded that this procedure is useful in resistant hypertension (RH), reducing the creatine level and in stabilizing and maintaining the blood pressure in a long run. Further study is recommended.

Keywords: *Panchakarma*; Resistant Hypertension; Chronic Kidney Disease*; Basti; Snehana-Swedana*

1. Introduction

Resistant Hypertension (RH) is high blood pressure that does not respond well to aggressive medical treatment. Hypertension is considered as resistant when all the following are true: (a) Someone is taking three different blood pressure medications at their maximally tolerated doses; (b) One of the blood pressure medications is a diuretic (removes fluid and salt from the body; (c) Blood pressure remains above target goal; (d) If hypertension requires four or more medications to be controlled.[1][2]Resistant hypertension substantially increases the risk of heart attack, stroke, and kidney failure. The exact prevalence of RH is not known, but several observational studies suggest that RH is seen in about 10-20% of hypertensive patients.[2]

Chronic Kidney Disease (CKD) is the common cause as well as complication of uncontrolled hypertension.[3] Nearly, 18% of hypertensive patients develop CKD. Serum creatinine > 1.5 mg/dl is a strong predictor of treatment failure or resistant hypertension.[4] The low success rate of antihypertensive treatment in CKD may be due to multi factorial pathogenesis such as sodium retention and increased activities of the sympathetic nervous system. A normalization of BP is highly required to prevent RH from causing kidney damage.[5] Hypertension as a single disease is not comparable with the nomenclature of diseases mentioned in classical ayurveda texts.[6] Hypertension is a disorder of *Vata* in

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*Rasa*and *Rakta Dhatu* due to *Avarana* or *Sanga* (obstruction of channels by *Ama* or *Mala*). *Sonita dusti* is the main manifestation of hypertension by some authors. Ayurveda treatment protocol is series of approaches to control *Vata* by *Deepana*, *Pachana*, *Anulomana*, and detoxification procedures like-*Panchakarma*, *Pranayama*, *Asana*, etc. to restore the equilibrium of body and mind according to individual *Prakruti* (body constitution), *Vikruti* and other idiosyncratic factors.[7] An efficient procedure to control vitiated *Vata* is *Basti*.[8]

2. Material and methods

2.1. Case Report

A male patient aged about 38 years came to General OPD on 03-01-2022, with complaints of dizziness, heart-burn and weakness since last two years. He was diagnosed with CKD with resistant hypertension and was taking Calciguard 10 mg BD (Nifedipine -20 mg per day), Stampress XL 25 mg BD (50 mg metoprolol per day), Maxilong 0.3 mg BD (Moxonidine 0.6 mg per day), Tide OD (torsemide 10 mg) since last three months from a cardiologist. Despite these antihypertensive regimes his blood pressure was 180/110 mm Hg.

2.2. General Examination

In general examination, it was found that the pulse was 90/min., blood pressure was 180/110 mm/Hg, SPO_2 was 95 with RR of 20. It was found that Icterus was absent and pallor was +. He was moderately obese (BMI 34) with mild pitting oedema on feet, puffy face and mild pallor was observed.

2.3. Systemic Examination

In systemic examination, it was found that respiratory system was clear, heart sounds were normal and central nervous system indicated that he is conscious and oriented. Per-abdomen examination indicated that the kidney, spleen, and liver were not palpable.

2.4. Asthvidh Pariksha

The *Asthvidh Pariksha* (examination) suggested the following:

- *Nadi-Vata-Pitta*
- *Mala-Malavstambh*
- *Mutra-Frothy*
- *Jiva-Sam*
- *Shabd-Prakrut*
- *Sparsh-Ushna*
- *Druka-Pallor (++)*
- *Aakruti-Madhyam*

2.5. Investigations

Table 1 Investigations of the patient

Parameter	Observations	Normal Range
Hb%	9.4 gm%	14-18 gm%
fasting glucose	93 mg/dL	70 to 110 mg/dL
blood urea	92 mg/dL	15 to 40 mg/dL
Creatinine	4.5 mg/dL	0.6 to 1.1 mg/dL
Calcium	9.8 mg/dL	8.8 to 10 mg/dL
total cholesterol	267 mg/dL	< 200 mg/dL
Triglycerides	263 mg/dL	< 150 mg/dL
serum sodium	138 mEq/L	135 to 147 mEq/L
Potassium	3.4 mEq/L	3.5 to 5 mEq/L

Patient's USG was done which showed that both kidneys are small in size with increased cortical echogenicity, corticomedullary differentiation is lost S/O Chronic Kidney Disease. Patient's ECG revealed Left ventricular hypertrophy. His 2D echorevealed concentric hypertrophy of Left ventricle (LV) with good systolic, LV function. The patient's urine examination revealed albumin +.

2.6. Diagnosis

The patient is diagnosed with resistant hypertension with Chronic Kidney Disease.

2.7. Treatment Plan

The patient was treated with certain ayurvedic medications namely:

*Sarpagandhavati*500 mg BD along with three cycles of *Vajedi Basti* and patient was asked to continue anti-hypertensiove allopathic medicine. *Anuwasanbast*i was also given on alternate days.Patient was advised to restrict salty, fried, spicy, heavy, and oily food items.Light diet was advised during the course of procedures.The blood pressure was monitored in supine position of the left hand by the same instrument six hourly but evening 8 pm measurement was considered.The patient was advised to take all Allopathic medications along with the procedures. Before the administration of *Vajedi Basti* whole body massage was done by means of Plain *DhanwantamTaila* and whole-body*BashpaSweda* (steam bath).

3. Observation and result

All the laboratory parameter became normal except the serum creatinine. The patient was discharged and advised to continue allopathic medication and monitor BP once in a week. The patient was monitored for another 180 days and found normal blood pressure with a reduction of creatinine up to 1.5. The ultrasound report improved in terms of decrease in parenchymal echogenicity along with bringing down in the size and shape of the kidney to normalcy after six months of follow-up.

Table 2 *VajediBasti* (*Panchkarma*) treatment of the patient

Treatment Day	*Basti* Procedures	Blood pressure at 8AM (in mmHg)	Blood pressure at 8PM (in mmHg)
D0	Nil	180/100	184/110
D21	*Vajedi Basti* – 1st cycle	160/100	160/100
D42	*Vajedi Basti* – 2nd cycle	150/90	150/86
D180	*Vajedi Basti* – 3rd cycle	143/88	140/80

Table 3 Comparison of investigations for the patients during the treatment

Parameter	D0 (Baseline)	D21	D42	D180 (Follow-up)
Serum Urea	92	37	26	30
Serum creatinine	4.5	2.17	2.01	1.5
Total cholesterol	267	240	187	160
Triglyceride	263	207	167	180
Serum sodium	138	114	103	112
Serum Potassium	3.4	3.7	3.8	3.5
Serum chloride	110	74	75	75
Hb%	9.4	10.4	10.6	12.6
Blood pressure	180/100	160/100	130/80	140/80

4. Discussion

Ayurvedic detoxification procedures have immense therapeutics effects in chronic diseases. In this particularcase, resistant hypertension may be due to the coexistence of Chronic Kidney Disease (CKD) and obesity. The blood pressure of this case came down after *Abhyanga* (oil massage) and *Swedana* (steam bath) may be due to increasing vascularisation, relaxation of peripheral vessels and enhanced venous return. This process also nourishes and pacifies*Vata* and *Kapha Dosha*. *Vajedi Basti* hasbeen evaluated in other degenerative diseases also.The administration of *VajediBasti* can nullify the *Vata* of *Pakyasaya* (lower portion of the abdomen) which normalizes the function of kidney and blood pressure.

Kidney is made up of *Rakta* and *Meda*.[9]*Mootra* is produced in *Pakwashaya*.[10]*Vata* is responsible for degeneration and hypertension. *Kaphaanubadha* exists as pedal oedema present.Therefore, first *Deepana* (stomachic), *Pachana* (digestive) along with *Mutrala* (Diuretic), *Hrudya* (cardiotonic) and *Rasayana* (immunomodulators) drug administrated for eight days.

Though blood pressure dropped to 180/100 mmHg but could not be normalized. Therefore, the patient was admitted in IPD for *Vajedi Basti* treatment.In patients of CKD this *Mootra Nirmiti Prakriya* is hampered. Hence, in *VajediBasti* where we use decoction of *Pakwashaya* of goat so that with the support of '*Samanya Vishesha Siddhant*' we provide similar factors to patient's *Pakwashaya* which will help to regularize the urine production.[11][12]This will lead to reduction in serum creatinine levels.

Compliance with ethical standards

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Disclosure of conflict of interest

The authors declare that there was no conflict of interest regarding the publication of manuscript.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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