



ORIGINAL RESEARCH PAPER

Nephrology

AYURVEDIC MANAGEMENT OF HYPERTENSIVE NEPHROPATHY-A CASE REPORT

KEY WORDS: hypertensive nephropathy, polyherbo-mineral, pathya ahar

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ABSTRACT

Globally, Hypertensive nephropathy contributes second position as a leading cause of progressive renal failure after Diabetic nephropathy. The increased morbidity and mortality with unaffordable high cost associated with end stage renal disease has put a question to emerging modern science. So, an alternative and safe management should be adopted to meet the demands of the burning issue. A 50 year old male patient with uncontrolled hypertension, raised serum creatinine, blood urea and decreased eGFR for more than 6 months came to Kayachikitsa OPD, Govt. Ayurvedic college and hospital, Guwahati. Patient was treated with *Nitya virechan* with *Eranda taila* and *Haritaki churna*, poly herbo-mineral research drug with *Tandulyodak* and *Punarnava panchanga kwath* as *anupan* and with specific *pathya ahara* for 1 month period. Assessment was done before and after treatment. After 1 month of treatment, a significant decrease seen in the blood pressure and reduction in serum creatinine and blood urea with increase in eGFR was also noticed. Hypertensive nephropathy was gradually managed by treatment protocol mentioned in Ayurveda based on *hetu and vyadhi avastha*.

INTRODUCTION

Hypertension has turned up to be one of the major cause of metabolic disorder and the most common non-communicable diseases (NCDs) globally in 21st century. The complications of uncontrolled, undiagnosed and long time hypertension has put a challenge in morbidity and mortality with high health cost rates to every society. Hypertensive nephropathy or hypertension chronic kidney disease comes under ICD 10 I12.0 and N18.5.

Obesity, hypertension, diabetes mellitus and drugs are the major risk factors for renal dysfunction as on today. Hypertensive Nephropathy is one of the cause of End stage Renal disease with increased incidence of Dialysis and Renal transplantation after Diabetic nephropathy.

CASE REPORT

A 50 year old male patient visited OPD of *Kayachikitsa*, Govt. Ayurvedic College and Hospital, Guwahati with the chief complaints of pedal oedema, fatigue and on and off low urine output since 1 year. The patient was a known case of hypertension and was on anti-hypertensive drug (Telmisartan 80mg once daily). The patient was non-vegetarian, with decreased appetite and sleep. He had irregular bowel habits. No addiction was present. Before treatment, in physical examination, blood pressure was 140/110mmHg, pulse rate was 72 bpm and respiratory rate was 22/min with temperature afebrile. On systemic examination, distended abdomen was found with mild tenderness in left and right renal angle. On abdomen percussion, tympanic sound was heard. No abnormality was detected in other systemic examination.

MATERIALS AND METHOD

The poly herbo-mineral research drug^[1,2,3] in *churna* form (2g) with *Tandulyodak*^[1,2,3] (25ml) and *Punarnava panchanga churna kwath* (30ml) as *anupana* and *nitya virechana* (*Eranda taila* 10ml + *Haritaki churna* 5g) at bed time were advised for 1 month. A follow up of 15th day and 30th day have been taken. Composition of the research drug :

- Ela* = 1 part
- Pashanbheda* = 1 part
- Pippali* = 1 part
- Shilajita* = 1 part

Along with the oral medication, the *pathya ahar* (diet chart) was also advised to the patient. Under nutritional management, the patient was advised low sodium, potassium and phosphorus diet.

RESULT AND DISCUSSION

In a follow up of 15 days and 1 month, a marked improvement

was noticed in both subjective and objective criteria.

Subjective criteria	Before treatment	After treatment	
		On 15 th day	On 30 th day
Pedal Oedema	+++	+	absent
Loss of appetite	Severely present	moderately present	Mildly present
Nausea	present	absent	absent
Vomiting	present	absent	absent
Abdomen bloating	present	absent	absent
Fatigue	Severely present	Mildly present	Mildly present
Breathlessness	absent	absent	absent
Muscle cramps	absent	absent	absent

Subjective criteria	Before treatment	After treatment	
		On 15 th day	On 30 th day
Blood pressure	140/110mm Hg	160/90mmHg	150/80mmHg
eGFR (CKD-EPI Creatinine 2009)	11 ml/min/1.73m ²	14ml/min/1.73m ²	22ml/min/1.73m ²
Serum creatinine	6.08mg/dl	5.1mg/dl	3.5mg/dl
Serum blood urea	80mg/dl	73mg/dl	64mg/dl
Haemoglobin	7.5mg/dl	6.3mg/dl	6.8mg/dl
Serum uric acid	11.3mg/dl	9.1mg/dl	7.0mg/dl
Urine albumin	++	+	+
Serum potassium	5.35 mmol/L	4.6 mmol/L	5.0 mmol/L
Serum sodium	141.0 mmol/L	150 mmol/L	137mmol/L

Uncontrollable hypertension or longterm hypertension results podocyte injury due to increased glomerular capillary wall thickness which progressively leads to Hypertensive nephropathy or hypertensive glomerulosclerosis. Proteinuria is one of the important indicator of developing nephropathy. As the proteinuria increases, the damaging of the nephrons also progresses parallelly resulting decreased Glomerular filtration rate(GFR).

Each ingredients of the poly herbo-mineral research drug not only exerts nephro-protective effect but has a holistic approach.

Ela:

- The crude extract of cardamom has shown blood pressure activity along with diuretic and sedative effects in animals.^[4]
- Experimental study showed Renal protective effect of cardamom against nephrotoxicity induced by gentamicin in rats.^[5]

Pashanbheda:

- Experimental studies showed that the methanolic and alcoholic extract of rhizomes of *Berginia ligulata* have antiurolithic activity, free radical scavenging activity, anti diabetic activity, diuretic activity.^[6]
- Alcoholic extract (500mg/kg body weight) of roots of *Berginia ligulata* was found to be effective in increasing urinary electrolyte concentration of Na⁺, K⁺ and Cl⁻ which indicates its significant diuretic activity. It was concluded that the active principles like flavonoids and saponins present in alcoholic extract of roots might be responsible for diuretic activity.^[6]

Pippali:

- Piperine possesses a CCB effect that is responsible for the cardio-depressant and vasodilator activities that provide the pharmacological basis for the blood pressure lowering effect, and the associated vasoconstrictor effects provide substantial evidence to the restricted decrease in blood pressure and small increase in the blood pressure followed by decline after each dose.^[7]
- Recent research on *Piper longum* indicates that it has anti-inflammatory action.^[6]
- Piperine has been shown to enhance the bio-availability of structurally and therapeutically diverse due to its easy partitioning and increasing permeability. The fruit extract has been found to have immunomodulatory effect.^[9]

Shilajita:

Shilajita contains 70-80% fulvic acid. Fulvic acid has the anti oxidation property an experimental studies showed that *shilajita* composed of humic substances and fulvic acid has strong immunomodulatory effect.^[10,11]

Both *Shilajit* and *pippali* come under *rasayana* , and therefore have the property of rejuvenating the damaged tissues and maintaining the quality of tissues. They undergo *srotoshodan* of *mutravaha srotas* and hence helps in the prevention of *avil mutrata*(turbid urine). They may come under as *Naimittik rasayan* for *mutravaha srotas*.

Tandulyodak is sheeta virya which will help in relieving burning sensation of chest and will balance the increased *ushnata* after taking the research drug.^[1,2,3]

Punarnava is *tridosahara*, *kaphapittasamak*, *sothahara* and has *mutrajanan* actions. Experimental studies on *Boerhavia diffusa* showed protection against structural and functional damage of kidneys induced by gentamicin possibly due to its antioxidant properties.^[12]

CONCLUSION

This was a single case study on the nephro-protective effect of the polyherbo-mineral research drug in Hypertensive nephropathy. As the observations and results have been promising, a larger clinical trial is under process to establish the efficacy of the research drug. A mass awareness amongst the people is required to discuss about the serious complications of hypertension including nephropathy, so that the progression of disease can be stopped. Lifestyle modifications with proper diet and *Pranayam* should be encouraged to each and every patient.

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Conflict of interest- none

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