

Management of Renal Parenchymal Disease in Ayurveda - A Case Study

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Abstract: Renal parenchymal disease is a disease affecting the parenchyma of the kidney. There are various causes of renal parenchymal disease. Some lead to acute kidney disease and cause severe condition in a very short time. Others damage the kidney progressively, so as to cause kidney failure in long run (chronic kidney disease). It has been recently estimated that in India, the incidence of renal disease (ESRD-End Stage Renal Disease) to be 229 per million population (pmp) and more than 1,00,000 new patients enter renal replacement programs annually. Ayurveda described various *mutrarogas* like *mutraghata*, *mutrakricchra* and *ashmari*. According to Ayurvedic principles of management tissue damage can be prevented and repaired by *Rasayana* drugs having action on *Mutravaha Srotas* because they have the capability to improve resistance of tissues and hence prevent further damage of the tissue. With the above objective 65 years old patient of renal parenchymal disease was treated with Ayurvedic formulations. Significant improvement in all subjective and objective parameters were noted after 30 days of treatment. So it may be concluded that Ayurvedic formulations like *Punarnava kwath*, *Chandraprabha vati* and *Gokshuradi Guggulu* can be given in renal conditions to improve and prevent damage of renal tissues.

Keywords: Renal parenchymal disease, *mutrarogas*, *Punarnava kwath*, *Chandraprabha vati*, *Gokshuradi Guggulu*

1. Introduction

Renal parenchymal disease is not an independent disease. It is the general term for a group of renal impairments. Parenchymal indicates the location of the damaged renal tissues. The renal parenchymal diseases refer to damages and impairments in renal cortical and medullary areas. Renal parenchymal disease can be unilateral or bilateral as well. In this disease kidney tissue or parenchyma, has generally been replaced by scar tissue which is nonfunctioning. The common bilateral renal parenchymal diseases include glomerular diseases, chronic interstitial nephritis, renal failure^[1].

There are various causes of renal parenchymal disease. Some lead to acute kidney disease and cause severe condition in a very short time. Others damage the kidney progressively, so as to cause kidney failure in long run (chronic kidney disease). The most common causes of renal parenchymal disease are diabetes and high blood pressure. Besides, medicines, bacteria, viruses, kidney stones, Genetic factors, polycystic kidney disease, autoimmune disorder etc, are common causes of renal parenchymal diseases.^[2]

Acute kidney failure constitutes 5-7% of acute care hospital admissions and upto 30% of admissions to intensive care unit^[3] It has been recently estimated that in India, the incidence of renal disease (ESRD-End Stage Renal Disease) to be 229 per million population (pmp)^[4] and more than 1,00,000 new patients enter renal replacement programs annually^[5]

Renal parenchymal disease can cause hypertension, haematuria, proteinuria and also urinary tract infection. The patient presents with various clinical symptoms like colicky pain in lumbar region (renal colic), swelling on the feet and face, fatigue, loss of appetite, nausea, vomiting, itching, metallic taste in mouth, etc. Renal parenchymal diseases can cause renal fibrosis and scarring which will ultimately lead to renal failure if not treated in time. The treatment of Renal

parenchymal disease depends on the underlying cause. The disease is not curable in most cases. In any type of renal parenchymal disease either dialysis or renal transplant is a choice of treatment as per the severity of the involvement. Dialysis and renal transplant are both quite costly with many side effects too. In such scenario there is need of safe, cost effective treatment. In ayurveda many herbo mineral drugs having *rasayana* properties are mentioned which help to repair damage tissue as well as prevent its further damage.

Some of Ayurvedic formulations like *Chandraprabha vati*, *punarnava kwatha*, *Gokshuradi guggul* act as *rasayana* for *mutravaha srotas*. Hence were used in this case.

2. Literature Survey

Detailed description regarding anatomy and physiology of *mutravaha srotas* is given in Ayurvedic classics like *Charak samhita* & *Sushruta samhita*. In Ayurveda, all urinary organs from kidney to bladder are coined under the term "*Basti*"^[6] *Apanavayu* is responsible for proper functioning of *Basti*^[7] In vitiation of *apana vayu*, the act of micturition is affected. Ayurvedic text have also described various categories of *mutraroga* like *mutraghata*, *mutrakricchra* and *ashmari*.

3. Material and Methods

Case study- A 65 years old male patient visited Kayachikitsa OPD of Mahatma Gandhi Ayurved College & Research Centre, Salod with complaints of –

Pain in lumbar region of both sides, radiating to lower abdomen- since two years,
Fatigue and Generalized Weakness- since one year,
Pedal oedema and Loss of appetite- since 3 months,
Nausea with occasional vomiting- since 1 month.

He was taking allopathy treatment from 3-4 months from a general practioner. But he did not get any relief. Hence he

came to our hospital for further treatment. He was on antihypertensive since 5 years.

H/O Present Illness- Patient was relatively normal before 2 years ago. He gradually started pain in lumbar region, both sides, radiating to lower abdomen. He complained of generalized weakness since one year. Thereafter he developed mild pedal oedema. He also had loss of appetite since 3 months. He also had complaint of nausea and occasional vomiting. He was a known case of hypertension taking treatment since 5 years.

H/o past illness -No H/O Diabetes or any other major illness in past

Family History- Father was suffering from hypertension.

On Examination-

Ashtavidha Pariksha-

Nadi-92/min, Regular, both sides equal in pressure and volume

Mal- samyak, Mutra- Alpa-Mutrata, Aavil Varna

Jihva – Saam, Shabda – Kshin, Sparsha -Anushnasheet

Druk – Pallor++, Akroti - Madhyam

Vital parameters-

Pulse-92/min, Regular, BP-150/90 mmHg

Temp-99°F, Resp.-24/min

Dashavidha Pariksha-

Prakriti: vata pradhan pitta

vikruti-Dosha-Vata,pitta,Kapha, Dushya-Rakta,meda,

Dushta Shrotas: Medovaha, Mutravaha, Rasvaha

Sara-Madhyama Samhanana-Madhyama

Satva- Avar Satmya-No allergy to any food and drug

Pramana- Madhyam Aharsakti-heen

Vyayamashakti- heen Vaya -Vruddhavastha

Systemic Examination-

RS- NAD, CVS- NAD, CNS-NAD

P/A- Soft, No Hepato- spleenomegaly,

Tenderness in lumbar region, both sides

Pitting Oedema feet+

Vyadhi Vinishchaya- Sannipatik Mutrakrichha

Medicines given

Punarnava kwath 20 ml twice daily

Gokshuradi guggul 500mg twice daily with water as anupan.

Chandraprabha vati 500mg twice daily with water as anupan.

Salt restricted simple diet.

4. Observation and Result

After 8 days of treatment pedal oedema reduced. On admission patient's S. creatinine was 2.40mg/dl. After 15 days treatment it was came down to 1.61mg/dl and after 30 days it was corrected to 0.79mg/d. Blood urea which was 51 at the start of treatment was reduced to 42 and 24 after 15 and 30 days after the start of treatment respectively. Haemoglobin was 8.8 gm % which increased to 9.8 gm% and 10.1gm% after 15 and 30 days treatment.

ESR was 92mm/1hr at the time of admission and got reduced to 66mm/1hr. and 32mm/1hr. after 15 and 30 days

of treatment respectively. There was also improvement in S. Na and K levels after 30 days treatment. Other symptoms like loss of appetite, nausea and vomiting also improved after treatment. USG revealed Bilateral Renal Paranchymal diseases grade II (CKD) which corrected to grade I (CKD) by the end of treatment. Kidneys too were reported to be of normal Size and Shape .There was improvement in general wellbeing of patient.

5. Discussion

In this patient there was involvement of *Mutravaha Srotas*. It is tridoshaja hence all the three *Doshas* are vitiated. Vitiating of *Kapha* causes obstruction and vitiating of *vata* leads to degeneration of parenchyma. The kidneys are mainly made up of the "*Rakta*" and "*Meda*" *dhatu*s. For treating kidney disease imbalance of these *dhatu*s must be corrected. Rasayana drugs act by their rejuvenation property and thereby repair damaged tissue. They also prevent further damage of tissues by increasing resistance

Punarnava (*Boerhaavia diffusa* L. nom. Cons.) is the main ingredient of *Punarnavadi kwatha* and is the best rejuvenating drug for *mutravaha srotas* [8,9]. *Punarnava* has *Ushna Veerya* (hot property), which corrects *Srotosanga* existing in the kidneys. The *Ushna Veerya* assists in the regeneration of renal tissues. It also acts as anti-inflammatory, diuretic and antibacterial activity [10,11,12] hence is useful in reducing oedema and correcting anemia. It also improves digestion and helps to remove toxins from the body. It also shows nephroprotective property in acetaminophen induced nephro toxicity possibly through improving the renal function and its antioxidant status [13]

Sudha Madhuri et.al.(2013) also showed that, aqueous extract of *Boerhaavia diffusa* produces a notable diuretic effect when compared with reference diuretic frusemide [14]

The fruit of *Gokshura* (*Tribulus terrestris*) is another drug widely used in treatment of many urinary disorders as Rasayana. *Gokshura* (*Tribulus terrestris* Linn.) is considered one among the drugs of *Mootra Virechaneya Gana* (diuretic drugs) [15] by Charaka. Hence, it acts as *Anulomana* (downward movement) of *Apana Vata*. This corrects the *Gati* (movement) of *Vata* there by influencing it in a positive way *Gokshur* having *Snigdha Guna*, *Madhur Rasa* & *Sheeta Veerya* passifies *Vata* & *Pitta*. Due to abundant presence of *lavan* and *Ksharabh* it act as diuretics [16] Its *Bastishodhana* [17] (cleansing) effect reduces *Avarana* of *Kapha* and *Meda* in the microcirculation of kidneys. It is very effective in most of the urinary tract disorders because of its cooling and smoothening actions on the membrane of the urinary tract thereby promoting the flow of urine by its mild diuretic effect. It is known to nourish and strengthen the renal parenchyma [18]

Goksuradi guggulu (combined Ayurvedic preparation) is *Rasayana* for *Mutravaha Srotas* and possesses *Lekhana* (scraping) effect because of both *Guggulu* (*Commiphora mukul*) and *Gokshur*. *Lekhana* action opens the blocked channels. Diuretic property helps in sodium excretion. [19,20,21]

Chandraprabha vati is very popular Ayurvedic herbomineral preparation consisting of 37 ingredients which is often recommended to treat several diseases mainly of urinary system. It is Tridosha hara (balances Vata, Pita & Kapha) Vrishya (improves vigour) and Rasayana (Rejuvenating) . Guggulu is an important ingredient of it which has rejuvenating properties. Chandraprabha Vati helps in reducing oedema, strengthens immunity^[22,23]. It is safe formulation containing Loha (Iron) and Shilajita without any heavy metals. Weerasekera K. R., et.al. proved Hypoglycaemic, hypotensive and bacteriostatic activities of Chandraprabha vati in their study^[24].

The improvement in this case may be due to the disease modifying effects of the drugs by their *Rasayana* effects. Laboratory tests showed good improvement within 30 days. Serum creatinine, blood urea and *albuminuria* were reduced to good extent. There was great relief in all the signs and symptoms and also improvement in general wellbeing of patient..

6. Conclusion

Early diagnosed Renal parenchymal disease can be safely and effectively treated with Ayurvedic formulations. Punarnava kwatha, Gokshuradi Guggul and Chandraprabha vati can be used in this condition which have the rasayan properties. It helps in regeneration of parenchymal tissue, preventing further damage to the renal parenchyma.

Recommendation - This being a result in a single case, cannot be generalized. More number of cases need to be studied to prove its effectiveness in renal disorders.

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Table 1: Investigations: Initial Values and after 15 days and 30 days Treatment

<i>Parameter</i>	<i>Initial</i>	<i>After 15 days</i>	<i>After 30 days</i>
Hb (13.5 - 17.5 g/dl)	8.8 gm%	9.8 gm%	10.1 gm%
ESR (mm/1hr.)	92 mm/1hr.	66 mm/1hr.	32 mm/1hr.
S.Creatinine(0.2-2.2 mg/dl)	2.40 mg/dl	1.61 mg/dl	0.79 mg/dl
Bl.Urea (7-21 mg/dL)	51 mg/dl	41 mg/dl	24 mg/dl
WBC(4000-11000 cmm)	6600 cumm	6900 cumm	6800 cumm
Urine Albumin	+++	++	Trace
RBC in Urine (0 – 2/hpf)	3-4/hpf	1-2/hpf	1-2/hpf
S. Na (142.9 ± 1.9)	145	144	136
S. K+ (4.2 ± 0.3†)	5.2	4.6	4.0
USG (Whole Abdomen)	Bilateral Renal Paranchymal diseases grade II (CKD).	Bilateral Renal Paranchymal diseases grade I (CKD). B/L Kidney is in normal Size and Shape	

