

AYURVEDA MANAGEMENT OF PROTEINURIA VIS-VIS ALBUMINURIA: A CASE REPORT

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**ABSTRACT**

Proteinuria is a hallmark of kidney disease. Proteinuria refers to the excretion of albumin, globulins, and other plasma proteins in the urine. When it involves only albumin, it is termed albuminuria, which is a sensitive early indicator of kidney disease. An increase in the albumin levels when left untreated often leads to CKD progression in a linear fashion. In the present case report, the patient presented with raised Urine protein, Urine protein creatinine ratio 2.26, raised Urine microalbumin, (ACR) Albumin Creatinine Ratio-1408.75, raised Serum Uric acid 8.92mg/dl and electrolyte imbalance - Serum Phosphorus -4.20mg/dl, Serum Sodium -133.60mEq/L, Serum Chloride- 98.70mEq/L. The patient was prescribed Ayurvedic proprietary medicines along with specific dietary changes. It was observed that Urine albumin levels (ACR), Albumin Creatinine Ratio, and levels of Urine protein- Protein creatinine ratio depicted 100% improvement in a period of 2 months. His other presenting complaints, like frothy urine, difficulty in urination, backache, leg cramps & constipation, were also completely relieved upon.

Keywords: Chronic Kidney Disease, Proteinuria, Albuminuria, Serum Electrolytes, Serum Uric acid levels, *Mutravaha Srotas Vikara*.

INTRODUCTION

Waste is filtered from the kidneys, keeping essential substances such as proteins in the blood. When the kidney's filtration units, such as glomeruli or tubules, are damaged, it leads to leakage of proteins into the urine. The presence of protein in urine in abnormal amounts indicates proteinuria. Proteinuria can be transient, orthostatic, or persistent. Transient proteinuria is temporary proteinuria occurring due to conditions affecting kidney filtration, such as fever, strenuous exercise, stress, or exposure to cold. Orthostatic proteinuria is a postural condition, usually seen in young adults, in which protein appears in urine on standing but not while lying down. [1] Persistent proteinuria is a condition in which there is persistent leakage of protein in urine, thereby evidencing underlying kidney ailments involving the Glomerulus and Tubules, i.e. Diabetic nephropathy, Glomerulonephritis, Hypertensive nephrosclerosis, Lupus nephritis, Tubulointerstitial nephritis, Drug toxicity (e.g., NSAIDs) or overflow proteinuria, i.e. Multiple myeloma.

Proteinuria refers to the excretion of albumin, globulins, and other plasma proteins in the urine. When it involves only albumin, it is termed albuminuria. The presence of a small (30–300 mg/day) but abnormal amount of the protein albumin in the urine is known as microalbuminuria. It's an early marker of kidney damage, especially in conditions like diabetes and hypertension. The presence of albumin >300 mg/day in urine is termed macroalbuminuria, and higher albumin levels are associated with CKD progression in a linear fashion.[2]

The present case report describes the potential of the Ayurvedic treatment modality in the management of a patient with raised Urine albumin and urine protein levels and depicts 100% complete improvement in the presenting complaints and urine and blood parameters.

Patient information

A 60-year-old male patient, retired, reported at the outpatient department of an Ayurveda hospital in Aug 2025 with complaints of frothy urine for 3

months associated with difficulty in urination, backache and leg cramps on and off. His USG findings were suggestive of mild prostatomegaly. Urine microalbumin test showed an albumin-to-creatinine ratio (ACR) severely elevated, suggestive of ACR category A3. Urine protein creatinine ratio was also raised. KFT findings were suggestive of elevated serum uric acid levels, and there was an imbalance in Serum electrolyte levels. The patient had *Vata pitta prakriti*, with no history of addiction to alcohol or smoking. The patient had been suffering from hypertension for 20 years, and hypertension was controlled with allopathic antihypertensives. No history of diabetes mellitus, tuberculosis, or any systemic illness was reported. Sleep, appetite and bowel movements were regular.

Physical examination

On general examination, the patient was of medium build, with blood pressure (126/80 mmHg) and pulse rate (82 bpm) recorded. There was no sign of pallor, icterus, cyanosis, oedema, or lymphadenopathy. No abnormality was found on systemic examination of the nervous, digestive, respiratory, and circulatory systems. Sleep was somewhat disturbed due to the urinary problem. On systemic examination, the chest was clear bilaterally, the abdomen was soft, the heart sounds were normal, and the patient was well-orientated.

Dashavidha pareeksha (~ Ten-fold examination)

Prakriti (~body temperament) was *Vata pitta*; *Vikriti* was *VataKapha pradhana tridoshaja*; *Satva* (~psyche)

was *Madhyama* (~moderate); *Sara* (~excellence of tissues), *Samhanana* (~compactness of organs), *Aahara shakti* (~power of food intake), *Satmya* (~suitability), *Pramana* (~measurement of body organs) were *Madhyama* (~moderate).

Ashtavidhapareeksha (~ Eightfold examination)

Nadi (~pulse) was *Vataja*; *Mala* (~bowel)

was *bhadda* (~formed stools); *Mutra* (~urine)

was *Phenila* (~frothy); *Shabda* (~voice)

was *Sadharana* (~normal); *Jihva* (~tongue)

was *Svachha* (~clean) and pale; *Akriti* (~body built)

was *Madhyama* (~moderate); *Drik* (~eyes) were *Picchil* (~smooth).

Clinical findings

The ultrasonography examination on July 12, 2025, revealed that the right and left kidneys were normal in size, outline, and echotexture, with no lesions, hydronephrosis, or calculi. Whereas the prostate appeared mildly enlarged. The urine examination revealed the presence of albumin and other proteins.

Diagnostic assessment

The Urine microalbumin test was performed, and the albumin-to-creatinine ratio was severely increased, indicating ACR category A3. Urine protein and protein-creatinine ratio were also elevated, indicating persistent proteinuria. In the Blood examination reports, S. Uric acid was raised, and Serum Electrolytes were imbalanced.

From an Ayurvedic perspective, the diagnosis was *Kapha Pradhan tridoshaj vyadhi*.

Timeline and therapeutic intervention

Written informed consent was obtained from the patient before treatment. The intervention plan was made based on the treatment of *Kapha Pradhan tridoshaj vyadhi*. In the beginning, *Tab Renal Plus* (2 Tab twice daily), *Tab U Clear D* (1 Tab twice daily), and *Syrup Nephrowin Arka* (20 ml twice daily, after meals with an equal quantity of water) were administered for a month. Patients connected on call consultation after 3 days (Aug 8, 2025) and complained of constipation, and *Triphala* powder one tsf was added once at bedtime. The first follow-up was after a month (Sep 19, 2025). The patient experienced relief of urination (unrestricted flow), constipation, backache, and leg cramps. Albuminuria depicted ACR category A2; thus, the same treatment was continued. The patient had no complaints during the second follow-up (Oct 8, 2025), and albumin was not detected in the urine analysis. Thus, the previous four medicines were continued for 1 month. Patients again took an on-call consultation on 29 Oct and didn't have any complaints. The patient was advised fruits like apples, pears, vege-

tables like pumpkin, bottle guard, onion, pulses like *Moonga* (green gram), *Arhar* (pigeon pea), *Masura* (red lentil). Foods like lemon, orange, avocado, and vegetables like tomato, beans, peas, and cabbage, and pulses like chickpeas and kidney beans, as well as milk products like curd and cheese, were to be avoided. The intervention details are depicted in Table 1.

Follow-up and outcome

The follow-up duration was 30 days. All symptoms were relieved at the first follow-up, except for albuminuria. A reduction in albumin: urea ratio was noted after 2 months of treatment. The details of the follow-up and outcome are depicted in Table 2—graphs 1,2,3,4.

DISCUSSION

Mechanisms of proteinuria can be categorised as glomerular, tubular, secretory, or overflow. [3,4,5,6] Glomerular proteinuria is due to increased filtration of proteins, particularly albumin, across the glomerular wall due to its increased permeability because of structural defects, damage by immune complexes. Or by a reduction in the number of functioning nephrons, leading to increased diffusion of protein across the glomeruli. Tubular proteinuria occurs when there is impaired reabsorption by the proximal tubules. Secretory proteinuria results from the oversecretion of specific proteins in the tubules. Overflow proteinuria occurs when the plasma concentration of low-molecular-weight proteins exceeds the tubular capacity to reabsorb filtered protein.

In the present case, the patient had hypertension for the past 20 years, and Chronic high blood pressure damages glomerular capillaries. Increased intraglomerular pressure leads to glomerulosclerosis (scarring), and increased glomerular permeability leads to proteinuria (protein in the urine).[7] The patient had complaints of frothy urine, backache, difficulty in urination, leg cramps, constipation, raised Uric acid, ACR levels and electrolyte imbalances; hence, the treatment was formulated as per Ayurveda principles.

In Ayurveda, the term proteinuria/albuminuria is not mentioned as such; it can be understood as similar conditions described in Ayurveda, such as *Mutravaha srotas dushti* (urinary channels vitiation), involving derangement of *Triddosha* (biological humours) with *Kapha* predominance, or *Kaphaja Prameha*, another condition where *Kapha* and *Medas (fat)* accumulate in urine, leading to turbidity and heaviness. Hence, *Kapha*, *Meda* pacifying, *Triddosha* balancing, urinary channel strengthening and rejuvenating treatment were planned.

Tablet Renal Plus was administered, possessing herbal ingredients like *Triphala* (classical ayurveda formulation) [8], *Trikatu* (classical ayurveda formulation) [9], *Musta* (*Cyperus rotundus*) [10], and *Gokshura* (*Tribulus terrestris*) [11], having diuretic and anti-inflammatory properties. *Shuddha Guggulu* [12] (*Commiphora mukul*) and *Bimbi* [13] (*Coccinia indica*), which are reported to lower serum creatinine levels and exhibit nephroprotective action. *Tablet U-Clear-D* contains herbs such as *Shuddha Guggulu* (*Commiphora mukul*) and *Suddha Shilajit* (*Asphaltum punjabianum*), which possess diuretic properties and protect the kidneys from damage. *Shilajeet* is a storehouse of minerals, including calcium, potassium, and magnesium. It helps correct electrolyte imbalance. [14] *Devdaru* (*Cedrus deodara*) exhibits anti-inflammatory properties [15], and *Chandan* (*Santalum album*) is *Pitta shamaka* (~pacifying *Pitta*), *Sheeta virya* (~cold potency), and has healing properties for the urinary tract. [16] *Triphala* helps relieve constipation and balances the *Rakta* and *Meda dhatus*, which are essential for kidney nourishment [17,18]. *Nephrowin Arka* depicts significant *Agni Deepak* (increases digestive fire), *Vatakaphahar* (pacifies vata kapha humor), *Vishaghna* (antitoxic), *Mutral* (increase urine flow), *Shothahara* (anti-inflammatory), *Rasayan* (aphrodisiac),

nephroprotective, diuretic, and immunomodulatory effects. [19]

Its ingredients are *Punarnava* (*Boerhaavia diffusa*), *Kasni* (*Cichorium intybus*), and *Kakmachi* (*Solanum nigrum*). *Punarnava* depicts diuretic, antioxidant & renoprotective effects. [20,21,22] Whereas *Kasni* tends to reduce S.uric acid. [23] and *Makoy* tends to depict analgesic, anti-inflammatory, and antioxidant effects [24,25,26]. Patients were prescribed the above-mentioned medicine for 1 month and, during the first follow-up, complete resolution of symptoms such as difficulty in urination, leg cramps, backache, and constipation was noted, and the urine microalbumin test improved, indicating ACR category 2. Further, after a month, during the second follow-up, symptoms were resolved, and the urine microalbumin test showed normal ACR and urine protein levels. Serum Uric acid and Serum electrolytes also improved to the normal range.

CONCLUSION

The patient presented with a complaint of proteinurea and albuminuria (ACR category A3) and was managed taking into consideration *Mutravaha Srotasa Vikar* and *Kaphaj meha*. The medication given to the patient showed promising results, being nephroprotective, antioxidant, analgesic, and anti-inflammatory. There was complete resolution of signs and symptoms. The urine examination showed complete improvement in ACR levels from A3 to the normal range. Serum uric acid and electrolyte levels were also normalised. Hence, the study provides preliminary evidence of the efficacy of Ayurveda interventions in managing proteinuria and albuminuria.

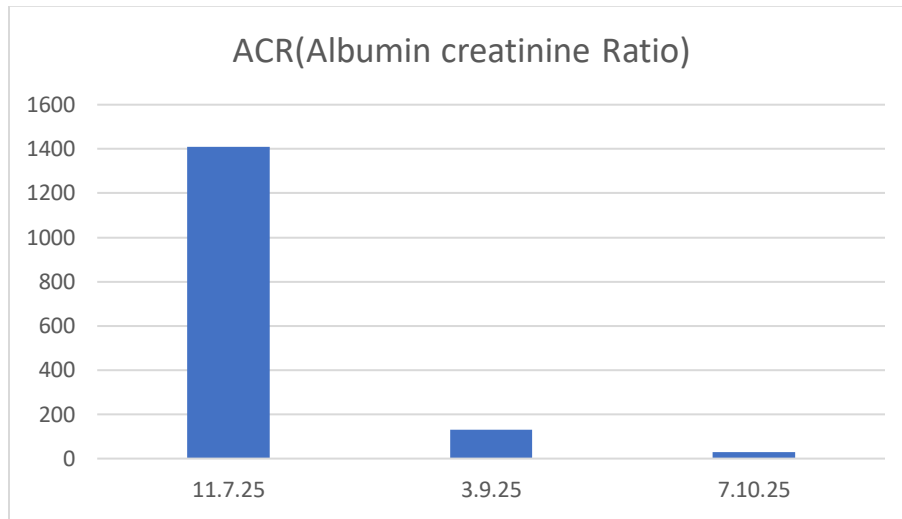
Table 1: Timeline of the visit and therapeutic intervention

Visit Date	Intervention (Shaman treatment)
Aug 5, 2025(at 1 st visit)	<i>Tablet Karma T-Renal Plus</i> 2 Tab TDS A/M with lukewarm water, <i>Tablet Karma U Clear D</i> 2 Tab BD A/M with Lukewarm water, <i>Syrup Karma NephroWin Ark</i> 20ml BD A/M with equal water <i>Triphala powder</i> I TSF HS with Lukewarm water (added on Aug 8, 2025)
Sep 19, 2025(at 1 st follow up)	The same medicines were prescribed.
Oct 8, 2025(at 2 nd follow up)	The same medicines were prescribed.
Oct 29, 2025(at 3 rd follow up)	The same medicines were prescribed.

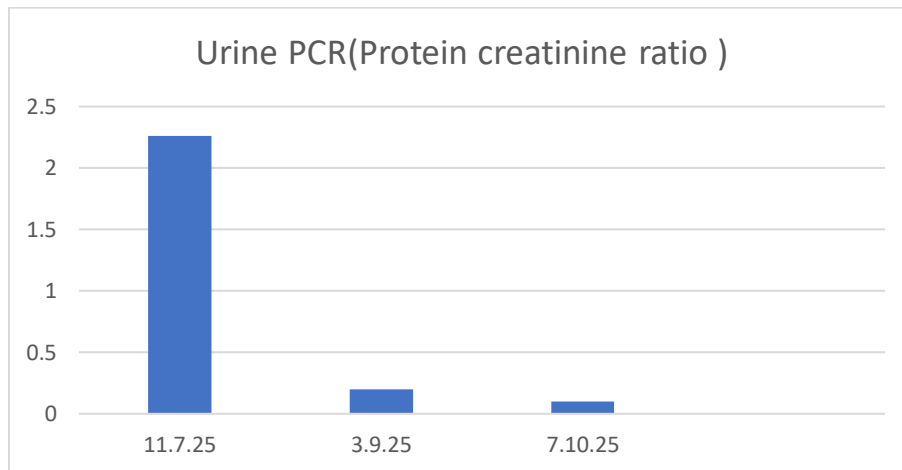
Table 2: Follow-up and outcomes

Visit Date	Investigations	Findings
July 11, 2025	1. Urine microalbumin	Urine Albumin -599mg/dl, (ACR)Albumin Creatinine Ratio-1408.75, ACR Category A3(severely increased)
July 12, 2025,	2. Urine protein	Urine protein -98.50mg/dl, Urine protein creatinine ratio 2.26 (moderate proteinuria)
	3. KFT	Creatinine .87 mg/dl, Blood Urea-17mg/dl, Uric acid 8.92mg/dl ,
	4. Serum Electrolytes	Serum Phosphorus -4.20mg/dl , Serum Sodium - 133.60mEq/L, Serum Potassium -4.51mEq/L, Serum Chloride- 98.70mEq/L
Sept 3, 2025	1. Urine microalbumin	Urine Albumin -96mg/dl, (ACR)Albumin Creatinine Ratio-129.48, ACR Category A2(moderately increased) .
	2. Urine protein	Urine protein -14.80mg/dl, Urine protein creatinine ratio .20(moderate proteinuria)
	3. KFT	Creatinine .89 mg/dl, Blood Urea-18.54 mg/dl, Uric acid 4.0 mg/dl ,
	4. Serum Electrolytes	Serum Phosphorus -2.40mg/dl , Serum Sodium - 132.10mEq/L, Serum Potassium -4.27mEq/L, Serum Chloride- 102.00mEq/L
Oct 7,2025	1. Urine microalbumin	Urine Albumin -30mg/dl, (ACR)Albumin Creatinine Ratio ≤30 ACR Category A1(normal-mild increase) .
	2. Urine protein	Urine protein-12.90mg/dl, Urine protein creatinine ratio .10 (normal)
	3. KFT	Creatinine 0.88 mg/dl, Blood Urea-16.00 mg/dl, Uric acid 4.40 mg/dl .
	4. Serum Electrolytes	Serum Phosphorus -3.10mg/dl , Serum Sodium - 137.80mEq/L, Serum Potassium -4.48mEq/L, Serum Chloride- 101.40mEq/L

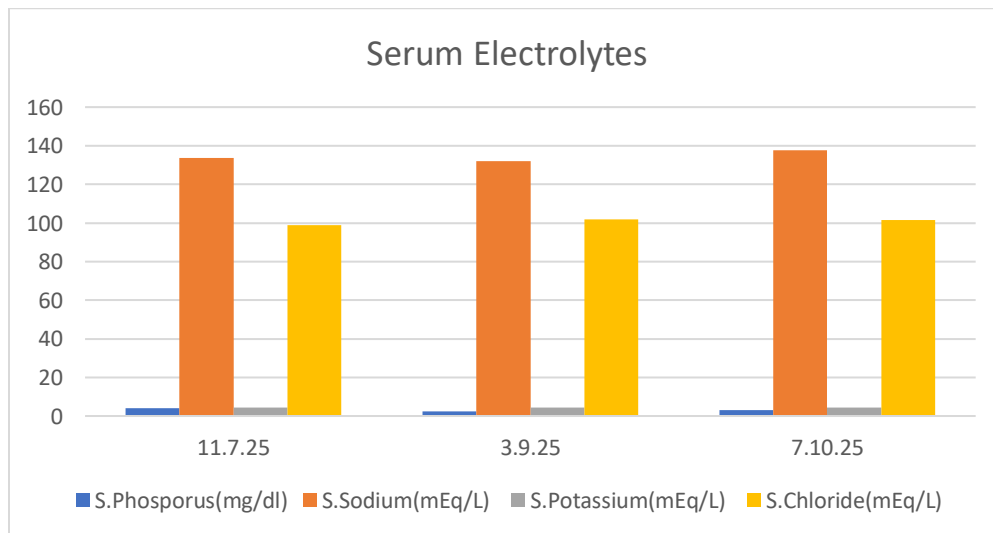
Graph:1



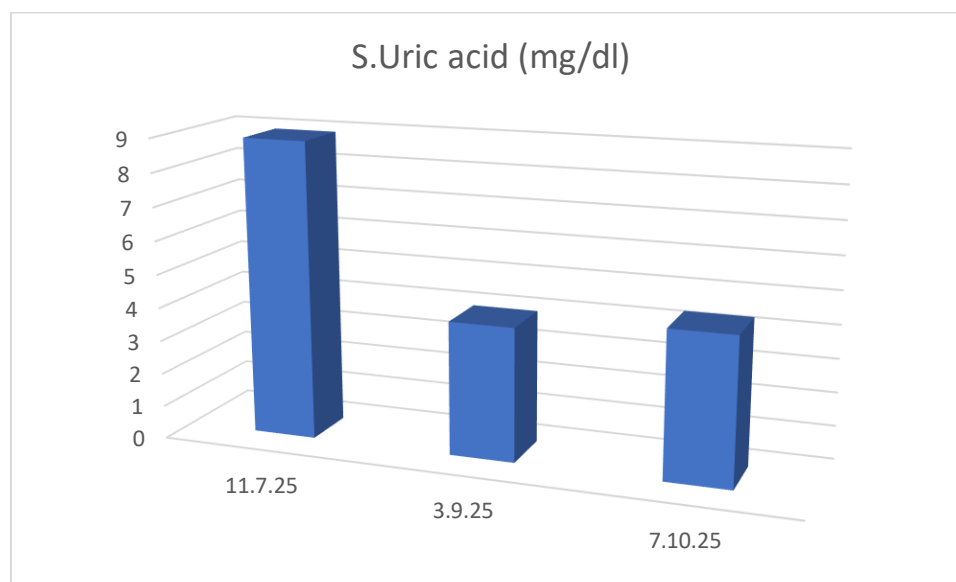
Graph:2



Graph:3



Graph:4



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