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Case Study

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AYURVEDIC MANAGEMENT OF HYDRONEPHROSIS (*MUTRAGHATA*): A CASE REPORT

Acharya Manish[1], Dr. Gitika Chaudhary*[2], Dr. Richa[3], Dr. Sunil Kumar Verma[4], Dr. Tanu Rani[5]

[1]Director, Meditation Guru, Jeena Sikho Lifecare Limited, India.
[2]Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (*Ayurveda*), Jeena Sikho Lifecare Limited, India.
[3]Senior Research Officer, BAMS, PGDIP, CICR, CAIM, CMW, Jeena Sikho Lifecare Limited, India.
[4]Consultant, BAMS, Jeena Sikho Lifecare Limited Hospital Ahmedabad, Gujrat, India
[5]Research Associate, BAMS, Jeena Sikho Lifecare Limited, India.

***Corresponding Author: Dr. Gitika Chaudhary**

Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ayurveda), Jeena Sikho Lifecare Limited, India.

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ABSTRACT

Hydronephrosis, corresponding to "*Mutraghata*" in *Ayurveda*, is a condition characterized by urine flow obstruction leading to kidney swelling and impaired renal function. This case report presents the *Ayurvedic* management of a 15-year-old male diagnosed with hydronephrosis secondary to pelviureteric junction (PUJ) obstruction in the left kidney. The patient exhibited symptoms of flank pain, reduced urine output, and discomfort. Initial investigations revealed an enlarged left kidney with thining of renal parenchyma with reduced excretory function, and significant tracer retention on 99mTc-DTPA renal scintigraphy. A comprehensive *Ayurvedic* treatment, lifestyle and dietary modifications were advised. The outcome was assessed using subjective parameters like the Visual Analog Scale (VAS) for pain, which improved from 7 to 3, and objective parameters such as renography, which indicated moderately improved parenchymal function with sluggish clearance post-treatment. The use of herbs like *Gokhru* (*Tribulus terrestris*), *Punarnava* (*Boerhavia diffusa*), and *Chandraprabha* demonstrated anti-inflammatory, diuretic, and nephroprotective effects, supporting their role in managing urinary obstructions. This case underscores the potential of integrating *Ayurvedic* medicine for chronic renal conditions and highlights the need for further research to establish efficacy on a larger scale. This report provides a promising insight into the role of *Ayurveda* in managing hydronephrosis (*Mutraghata*), suggesting a non-invasive approach to improve patient outcomes.

KEYWORDS: *Mutraghata*, Hydronephrosis, Pelviuretric Junction Obstruction, *Ayurvedic* Medicines.

INTRODUCTION

Hydronephrosis, known as *Mutraghata* in *Ayurveda*, is a pathological condition characterized by the dilation of the renal pelvis and calyces due to the obstruction of urine flow. It can be caused by various factors, including kidney stones, congenital abnormalities, tumors, or strictures. This condition often leads to pain, haematuria, recurrent urinary tract infections, and compromised renal function if left untreated. Modern diagnostic tools like ultrasound and CT scans aid in identifying the severity and cause of hydronephrosis. Treatment in conventional medicine includes ureteral stenting, nephrostomy, or surgical intervention to alleviate obstruction and prevent renal damage.

Classical *Ayurvedic* texts provide a profound understanding of *Mutraghata* and related urinary disorders. *Mutraghata*, literally translating to "urinary obstruction," encompasses a range of conditions resulting in impaired micturition. References to this disorder are found in *Charaka*[1] *Samhita*, *Sushruta Samhita*[2], and *Ashtanga Hridaya*[3], where the involvement of aggravated ***Vata Dosha*** is predominantly highlighted. The condition is described under ***Mutravaha Srotodushti*** (urinary channel obstruction) and is classified into various types based on the causative factors and presenting symptoms. The management principles focus on alleviating *Vata*, balancing the *Tridoshas*, and clearing the obstruction using diuretic herbs (*Mutravirechaniya*), detoxification therapies like *Basti* (medicated enemas), and supportive *Rasayana* drugs to restore renal health. Previous research has documented the efficacy of *Ayurvedic* formulations like *Gokshuradi Guggulu*, *Punarnava*[4], and *Varunadi Kwatha* in relieving symptoms and improving renal function in *Mutraghata*.

From a modern perspective, hydronephrosis is a

secondary condition resulting from an underlying cause that obstructs urine flow. Common aetiologies include urolithiasis, benign prostatic hyperplasia, pregnancy, or congenital abnormalities such as ureteropelvic junction obstruction. The disease pathophysiology involves increased hydrostatic pressure within the renal pelvis, leading to nephron damage and decreased renal filtration capacity. This can further progress to fibrosis and chronic kidney disease if untreated[5]. Epidemiologically, hydronephrosis is more prevalent in males, with congenital cases being common in infants and acquired forms in older adults due to age-related urological conditions. The incidence varies globally, with studies reporting approximately 1 in 1000 individuals affected annually.[6]

In *Ayurveda*, the ***Samprapti Ghataka*** of *Mutraghata* involves *Vata dosha* as the primary aggravating factor, obstructing the flow of urine through the ***Mutravaha Srotas***. *Kapha dosha* may contribute by causing stagnation or obstruction, while *Pitta dosha* involvement is seen in cases with infection or inflammation. The ***Dushya*** includes *Rasa* and *Mutra*, while ***Srotodushti*** occurs due to *Sanga* (obstruction). *Nidana* (causative factors) include dietary and lifestyle habits that vitiate *Vata*, such as excessive physical exertion, dehydration, or suppression of natural urges. The resulting pathology manifests as *Mutraghata*, causing symptoms like difficulty in urination, flank pain, and systemic signs of renal dysfunction.

The integrative approach of *Ayurveda*, combining systemic detoxification, symptomatic relief, and long-term rejuvenation of the renal system, highlights its potential as a complementary or alternative therapeutic strategy for managing hydronephrosis.

CASE REPORT

Patient History and Information

A 15-year-old male patient presented with complaints of intermittent flank pain localized to the left iliac region for the past one month. The pain was sharp, episodic, and radiated toward the lower abdomen, typically worsening after physical exertion. No associated fever, nausea, or dysuria was noted. The patient reported occasional episodes of mild haematuria.

The patient's medical history revealed no significant surgical interventions or hospitalizations in the past. However, the patient had sought allopathic treatment for similar complaints in the previous three months and was prescribed analgesics and antispasmodics, which provided temporary relief. There was no history of stone expulsion or urinary tract infections. *Ayurveda* medicines had not been used prior to the current consultation.

Dietary and Lifestyle History

The patient reported a predominantly vegetarian diet with irregular meal timings. A low water intake (<1 liter/day) was noted, along with a preference for salty and spicy foods. Physical activity included playing sports on weekends, with no regular exercise routine. The patient admitted to suppressing natural urges for urination during school hours.

Family History

No significant familial illnesses such as diabetes, hypertension, or renal disorders were reported.

Disease Onset and Progression

The patient's complaints began one month ago with mild, intermittent left-sided flank pain. Over time, the pain episodes increased in frequency and intensity, particularly after prolonged sitting or exertion. The patient described a sense of incomplete voiding during urination and reduced urine output during episodes of pain. A recent CT Urography conducted during the prior allopathic consultation suggested Left kidney appears enlarged in size and shows gross hydronephrosis with marked dilatation of renal pelvis with abrupt change in calibre at pelviureteric junction. Marked diffuse thinning of renal parenchyma is noted with markedly reduced excretory function. Blood and urine investigations were unremarkable, except for microscopic haematuria.

Given the symptoms and history, the patient was diagnosed with *Mutraghata* (hydronephrosis) in *Ayurveda*, with aggravated *Vata* and *Kapha Dosha* obstructing the *Mutravaha Srotas*. The treatment plan was aimed at relieving obstruction, pacifying *Vata*, and improving renal function through dietary, lifestyle modifications, and *ayurvedic* interventions.

Table 1: Vital Parameters.

Sr. No	Examination	Findings
1.	**Blood Pressure**	128/78 mm of Hg
2.	**Pulse**	94/min
3.	**Weight**	43 kg
4.	**Height**	4 feet 7 inches

Ayurvedic Examination

Table 2: *Ashtavidha Pariksha* (Eight-fold Examination).

Sr. No	Examination	Findings
1.	***Nadi* (Pulse**	*Vata-Pittaja*
2.	***Mutra* (Urine)**	*Safena*
3.	***Mala* (Stool)**	*Avikrita*
4.	***Jihva* (Tongue)**	*Saam*
5.	***Shabda* (Voice)**	*Spashta*
6.	***Sparsha* (Touch)**	*Anushnashita*
7.	***Drik* (Eyes)**	*Prakrita*
8.	***Akriti* (Appearance)**	*Avikrita*

Table 3: *Dashavidha Pariksha* (Ten-fold Examination).

Sr. No	Examination	Findings
1.	*Prakriti* (Constitution):	*Pitta Kapha*
2.	*Vikriti* (Imbalance):	*Vata*
3.	*Sara* (Tissue Excellence):	*Madhyam*
4.	*Samhanana* (Body Build):	Moderate
5.	*Pramana* (Body Proportions):	Within normal limits.
6.	*Satmya* (Adaptability):	*Avar*
7.	*Satva* (Psychological Strength):	*Avar*
8.	*Ahara Shakti* (Digestive Strength):	*Avar*
9.	*Vyayama Shakti* (Exercise Capacity):	*Madhyam*
10.	*Vaya* (Age):	15 yr old

Systemic Examination

Abdominal Examination

- **Inspection**
  - Abdomen was soft and non-distended.
  - No visible masses, scars, or discoloration.
  - No visible pulsations.

- **Palpation**
  - Tenderness noted in the left iliac region.
  - Left renal angle tenderness present.
  - No palpable masses or organomegaly detected.

- **Percussion**
  - Percussion note was tympanic in most areas.
  - No evidence of ascites.

- **Auscultation**
  - Normal bowel sounds were heard.

Respiratory System

- Chest expansion was bilaterally symmetrical.
- Breath sounds were vesicular with no added sounds.

Cardiovascular System

- Heart sounds (S1 and S2) were normal.
- No murmurs or additional heart sounds.

Urogenital System

- No external signs of abnormalities.
- The patient reported a sense of incomplete voiding but denied dysuria or urgency at the time of examination.

Diagnostic Assessment

Table 3: Laboratory Results: Sr. Creatinine – 0.97 mg/dl.

Imaging Results

1. **CT Urography**: done on 06/09/2024 suggested the Enlarged, grossly hydronephrotic left kidney with marked dilatation of renal pelvis with abrupt change in calibre at pelviureteric junction. Marked diffuse thinning of renal parenchyma with markedly reduced excretory function. No evidence of radio dense renal or ureteric calculus. Findings are in favour of left pelviureteric junction obstruction. Normal morphology, post contrast enhancement and excretory function of right kidney. No evidence of focal lesion, hydronephrosis or renal/ureteric calculus noted on right side.

2. **DTPA Scan** done on 04/09/2024 suggested that

a. **Left kidney:** Enlarged and hydronephrotic and reduced cortical function. Renogram curve shows obstructed pattern. Significant tracer retention at pelvicalyceal system with no significant PCS tracer clearance in delayed images – PUJ obstruction.

b. **Right kidney:** Well visualized with good cortical function and unobstructed excretion.

	Left kidney	Right kidney
Relative function (%)	15	85
GFR (ml/min)	09	52
TTP (min)	Delayed	Normal
T ½ (min)	Prolonged	Normal

Assessment Parameters

Subjective Parameters (Using Scales)

1. **Pain Intensity and Frequency:** Visual Analog Scale (VAS): A 10-point scale (0 = no pain, 10 = worst possible pain). This scale allows the patient to rate pain intensity, and it is widely used to assess pain severity over time.[8]
2. **General Well-being:** Short Form Health Survey (SF-36): A widely used health survey that includes scales to assess physical and mental health, fatigue, and overall well-being.[9]

Objective Parameters (Using Scales)

1. **99mTc-DTPA renal scintigraphy: One such scale, adapted from studies on post-kidney transplant patients using 99mTc-MAG3 scintigraphy, categorizes renogram curves as follows[10]**

Grade 1: Normal renal scintigraphy curve with rapid uptake and excretion.

Grade 2: Normal uptake with a flat excretion curve or plateau phase.

Grade 3: Rising curve without an excretion phase.

Grade 4: Reduced absolute uptake without an excretion phase.

THERAPEUTIC INTERVENTION

I. Diet Plan[9]

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital include the following key commendations:

a. Foods to be avoided

- Do not consume wheat, refined food, milk and milk products, coffee and tea and packed food.
- Avoid eating after 8 PM.
- During solid consume as small bite and chew 32 times.

b. Hydration

- During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.
- Drink about 2-3 litre of alkaline water 3 to 4 times throughout the day.
- Include herbal tea, living water, and turmeric-infused water part of your daily routine.
- Boil 4 litre water & reduce up to 2 litre and consume.

c. Millet Intake

- Incorporate five types of millet into your diet: Foxtail (*Setaria italica*), Barnyard (*Echinochloa esculenta*), Little (*Panicum sumatrense*), Kodo (*Paspalum scrobiculatum*), and Browntop (*Urochloa ramose*).
- Use only steel cookware for preparing the millets
- Cook the millets only using mustard oil.

d. Meal Timing and Structure:

1. Early Morning (5:45 AM): Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.
2. Breakfast (9:00-10:00 AM): The patient will have steamed fruits (Seasonal), steamed sprouts (according to the season) and a fermented millet shake (4-5 types).
3. Morning Snacks (11:00AM): The patient will be given red juice (150 ml) and soaked almonds.
4. Lunch (12:30 PM - 2:00 PM): The patient will receive Plate 1 and Plate 2. Plate 1 will include a steamed salad, while Plate 2 with cooked millet-based dish.
5. Evening Snacks (4:00 – 4:20 PM): Green juice (100-150 ml) along with 4-5 almonds.
6. Dinner (6:15-7:30 PM): The patient will be served a steamed salad, chutney, and soup, as Plate 1, along with millet *khichdi* as Plate 2.

e. Fasting

- It is advised to observe one-day fasting.

f. Special Instructions:

- Express gratitude to the divine before consuming food or drinks.
- Sit in *Vajrasana* (a yoga posture) after each meal.
- 10 minutes slow walk after every meal.

g. Diet Types:

- The diet comprises low salt solid, semi-solid, and smoothie options.
- Suggested foods include herbal tea, red juice, green juice, a variety of steamed fruits, fermented millet shakes, soaked almonds, and steamed salads.

II. Lifestyle Recommendations

(i) Include meditation for relaxation.
(ii) Practice barefoot brisk walk for 30 minutes.
(iii) Ensure 6-8 hours of quality sleep each night.
(iv) Adhere to a structured daily routine.

Medications that were used in this case

Table 4: 07/09/2024.

Medications	Dose	Anupana	Duration
Vrikkashudhhi Kwatha - It contains a blend of potent herbs, including **Gokhru** (*Tribulus terrestris*), **Punarnava** (*Boerhavia diffusa*), **Bhumyamalaki** (*Phyllanthus niruri*),; **Shatavari** (*Asparagus racemosus*; **Guggul** (*Commiphora wightii*),; and **Chandan** (*Santalum album*).	20 ml Morning	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)
Chandraprabha Vati - Chandraprabhavati contains the following herbs: *Commiphora wightii, Phyllanthus emblica, Terminalia chebula, Terminalia bellerica, Zingiber officinale, Piper longum, Rauvolfia serpentina, Tinospora cordifolia, Sida cordifolia,* and *Terminalia chebula, Terminalia bellerica, Phyllanthus emblica* (as part of Triphala).	1/2 Tablets BD	Lukewarm Water (*Koshna Jala)*	*Adhobhakta* (After Meal)
Mutravardhak Vati - Gokhru (*Tribulus terrestris*), Guggul (*Commiphora wightii*), Sonth (*Zingiber officinale*), Kalimirch (*Piper nigrum*), Pippal (*Piper longum*), Bahera (*Terminalia bellerica*), Harad (*Terminalia chebula*), Amla	1 Tablets BD	Lukewarm Water (*Koshna Jala*)	*Adhobhakta* (After Meal)

(*Phyllanthus emblica*), and Motha (*Cyperus rotundus*) are some of the key herbs used in traditional *Ayurvedic* medicine, each offering unique therapeutic properties.			
Cap Nephron plus - Hazrool Yahood Bhasma Powder, Chandraprabha Powder, Pashanbheda (*Bergenia ligulata*), Mulak Kshar Powder, Yava Kshar Powder, Amalaki Rasayan Powder, Trivikrum Rasa Powder, Navasara Powder, Nimbu Stava Powder, Gokshur (*Tribulus terrestris*), Durbhamool (*Cynodon dactylon*), Shila Pushpa (*Didymocarpus pedicellata)*, Black Salt Powder, and Hing (*Asafoetida*) Powder form a diverse grouping of *Ayurvedic* substances, each with unique therapeutic properties.	1 Cap OD	Lukewarm Water (*Koshna Jala*)	*Pragbhakta* (Before Meal)
CKD Syrup - Kasani *(Cichorium intybus)*, Gokhru *(Tribulus terrestris)*, Shatavari *(Asparagus racemosus)*, Giloy *(Tinospora cordifolia)*, Sorbitol (a sugar alcohol derived from glucose), and Shudh Shilajit (a mineral pitch obtained from the Himalayas) are herbs and compounds frequently used in traditional and *ayurvedic* medicine. Each brings unique benefits and is often included in supplements or formulations aimed at improving various aspects of health.	10 ml BD	Equal amount of Lukewarm Water (*Sam matra Koshna Jala*)	*Adhobhakta* (After Meal)

FOLLOW-UP & OUTCOME

After 1 month of treatment with *Ayurvedic* **Medicines following changes were seen**

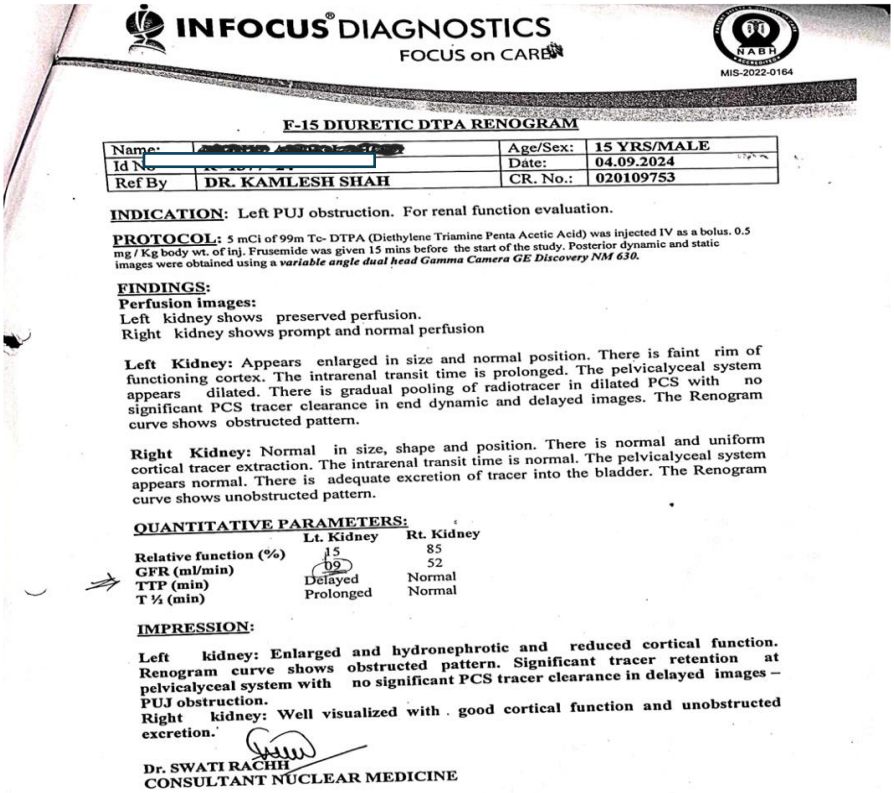
Table 4: Outcomes – Objective Parameters.

Parameters	Pre-Treatment (04/09/24)	Post-Treatment (24/09/24)
DTPA Scan	**Left kidney:** Enlarged and hydronephrotic and reduced cortical function. Renogram curve shows obstructed pattern. Significant tracer retention at pelvicalyceal system with no significant PCS tracer clearance in delayed images – PUJ obstruction. **Right kidney**: Well visualized with good cortical function and unobstructed excretion **Absolute GFR of Left kidney – 09 ml/min** **Relative Function of Left Kidney - 15%**	**Left kidney:** enlarged with moderately impaired parenchymal function and sluggish clearance with significant PUJ obstruction. **Right kidney:** normal parenchymal function and maintained clearance. **Absolute GFR of Left kidney – 40 ml/min** **Relative Function of Left kidney - 35%**

The changes in the subjective parameters that was observed were

Table 5: Outcomes – Subjective Parameters.

Parameters	Pre-Treatment	Post-Treatment
Pain Severity (VAS)	VAS score: 7/10 (intermittent and sharp flank pain in the left iliac region).	VAS score: 2/10 (occasional mild discomfort, no significant pain).
General Well-being (SF-36):	Poor general well-being, fatigue, and reduced physical activity (Score: 42/100).	Improved physical and mental well-being, reduced fatigue, and increased activity levels (Score: 76/100).



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NABH MIS-2022-0164

F-15 DIURETIC DTPA RENOGRAM

Name:	[redacted]	Age/Sex:	15 YRS/MALE
Id No	[redacted]	Date:	04.09.2024
Ref By	DR. KAMLESH SHAH	CR. No.:	020109753

INDICATION: Left PUJ obstruction. For renal function evaluation.

PROTOCOL: 5 mCi of 99m Tc- DTPA (Diethylene Triamine Penta Acetic Acid) was injected IV as a bolus. 0.5 mg / Kg body wt. of inj. Frusemide was given 15 mins before the start of the study. Posterior dynamic and static images were obtained using a *variable angle dual head Gamma Camera GE Discovery NM 630.*

FINDINGS:
Perfusion images:
Left kidney shows preserved perfusion.
Right kidney shows prompt and normal perfusion

Left Kidney: Appears enlarged in size and normal position. There is faint rim of functioning cortex. The intrarenal transit time is prolonged. The pelvicalyceal system appears dilated. There is gradual pooling of radiotracer in dilated PCS with no significant PCS tracer clearance in end dynamic and delayed images. The Renogram curve shows obstructed pattern.

Right Kidney: Normal in size, shape and position. There is normal and uniform cortical tracer extraction. The intrarenal transit time is normal. The pelvicalyceal system appears normal. There is adequate excretion of tracer into the bladder. The Renogram curve shows unobstructed pattern.

QUANTITATIVE PARAMETERS:

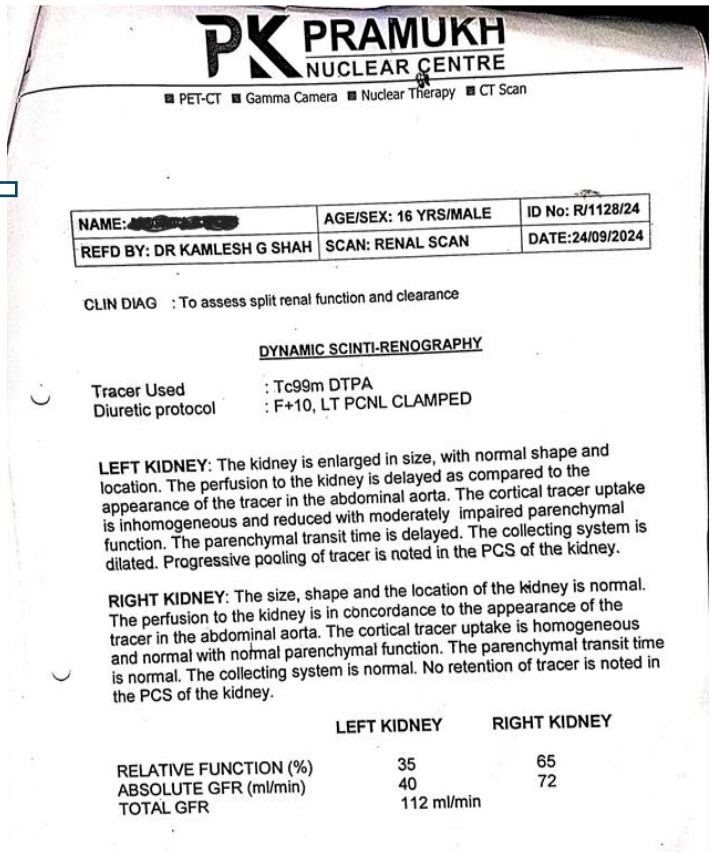
	Lt. Kidney	Rt. Kidney
Relative function (%)	15	85
GFR (ml/min)	09	52
TTP (min)	Delayed	Normal
T ½ (min)	Prolonged	Normal

IMPRESSION:

Left kidney: Enlarged and hydronephrotic and reduced cortical function. Renogram curve shows obstructed pattern. Significant tracer retention at pelvicalyceal system with no significant PCS tracer clearance in delayed images – PUJ obstruction.
Right kidney: Well visualized with good cortical function and unobstructed excretion.

Dr. SWATI RACHH
CONSULTANT NUCLEAR MEDICINE

Image 1: Before Treatment.



PK PRAMUKH NUCLEAR CENTRE
PET-CT ■ Gamma Camera ■ Nuclear Therapy ■ CT Scan

NAME: [redacted]	AGE/SEX: 16 YRS/MALE	ID No: R/1128/24
REFD BY: DR KAMLESH G SHAH	SCAN: RENAL SCAN	DATE:24/09/2024

CLIN DIAG : To assess split renal function and clearance

DYNAMIC SCINTI-RENOGRAPHY

Tracer Used : Tc99m DTPA
Diuretic protocol : F+10, LT PCNL CLAMPED

LEFT KIDNEY: The kidney is enlarged in size, with normal shape and location. The perfusion to the kidney is delayed as compared to the appearance of the tracer in the abdominal aorta. The cortical tracer uptake is inhomogeneous and reduced with moderately impaired parenchymal function. The parenchymal transit time is delayed. The collecting system is dilated. Progressive pooling of tracer is noted in the PCS of the kidney.

RIGHT KIDNEY: The size, shape and the location of the kidney is normal. The perfusion to the kidney is in concordance to the appearance of the tracer in the abdominal aorta. The cortical tracer uptake is homogeneous and normal with normal parenchymal function. The parenchymal transit time is normal. The collecting system is normal. No retention of tracer is noted in the PCS of the kidney.

	LEFT KIDNEY	RIGHT KIDNEY
RELATIVE FUNCTION (%)	35	65
ABSOLUTE GFR (ml/min)	40	72
TOTAL GFR	112 ml/min	

Image 2: After Treatment.

DISCUSSION

Pelviureteric Junction (PUJ) obstruction is a significant condition characterized by a blockage at the junction of the renal pelvis and ureter, leading to impaired urine flow, progressive hydronephrosis, and eventual deterioration of renal function if untreated. The condition may result from congenital anomalies, extrinsic compression, or intrinsic abnormalities. Chronic obstruction can cause severe thinning of the renal parenchyma, as seen in the case presented here, along with reduced excretory function.

From a conventional medicine perspective, treatment typically involves surgical intervention, such as pyeloplasty, or minimally invasive procedures like endopyelotomy to relieve the obstruction. However, the limitations of surgical approaches, including risks of infection, recurrence, and functional decline, highlight the need for holistic management strategies to preserve renal health. *Ayurvedic* Perspective. In *Ayurveda*, the clinical features of PUJ obstruction can be correlated with "*Mutravaha Srotodushti*" (disorders of the urinary system), specifically "*Mutraghata*a" or "*Mutra Sangha*" (urinary obstruction). This condition is often attributed to the vitiation of *Vata Dosha*, which governs movement, including the flow of urine. Aggravated *Vata* can lead to constriction or blockage of the urinary pathways, causing stagnation of urine and subsequent complications.

The pathophysiology aligns with the concepts of *Sanga* (obstruction) and *Vimarga Gamana* (flow in the wrong direction) due to the imbalance in *Vata*. Chronic obstruction may also involve *Pitta Dosha*, leading to inflammation and eventual involvement of *Kapha*, manifesting as structural changes like hydronephrosis. The mode of action of each of these medicines in breaking the *Samprapti* of this disease is: -

Vrikkashuddhi Kwatha: The herbs in this formulation—such as *Gokhru*, *Punarnava*, and *Chandana*—exhibit anti-inflammatory, diuretic, and nephroprotective properties. *Gokhru* and *Punarnava* help reduce swelling and promote diuresis, which aids in clearing urinary obstruction. *Bhumyamalaki* and *Shatavari* rejuvenate renal cells, while *Guggul* supports tissue repair and inflammation control.

Chandraprabha Vati: This polyherbal formulation acts as a systemic detoxifier and urinary tonic. Ingredients like *Triphala* (*Terminalia chebula, Terminalia bellerica, and Phyllanthus emblica)* improve renal filtration and reduce oxidative stress. *Commiphora wightii* and *Tinospora cordifolia* have anti-inflammatory properties, helping reduce obstruction at the PUJ, while herbs like *Zingiber officinale* and *Piper longum* enhance urinary flow and relieve stagnation.

Mutravardhak Vati: This diuretic formulation, with key herbs like *Gokhru, Pippali (Piper longum),* and *Motha (Cyperus rotundus),* promotes urine production and flow, thus clearing obstructions and relieving pressure in the renal pelvis. The combination of *Bahera*, *Harad*, and *Amla* helps in detoxification and preventing further stone formation or obstruction.

Tab Nephron Plus: The diverse ingredients, including *Pashanbheda* and *Hazrool Yahood Bhasma*, specifically target urinary tract health by breaking down obstructions like stones and improving renal filtration. Herbs like *Gokhru* and *Durbhamool* enhance diuresis, while *Chandraprabha* and *Amalaki Rasayan* aid in cellular repair and detoxification. The addition of black salt and *hing* enhances digestion and metabolic balance, reducing toxin load on the kidneys.

CKD Syrup: The formulation includes *Kasani*, *Gokhru*, and *Shatavari*, which act synergistically to reduce inflammation, support renal function, and enhance urinary output. *Shudh Shilajit* improves cellular energy and rejuvenates kidney tissues, while *Giloy (Tinospora cordifolia*) provides immunomodulatory effects, protecting the kidneys from further damage. Sorbitol acts as an osmotic agent to promote diuresis and toxin clearance.

The management of Pelvi-Ureteric Junction (PUJ) obstruction has been extensively studied in both modern and *Ayurvedic* systems of medicine. In modern medicine, surgical interventions such as pyeloplasty remain the gold standard for severe cases. Shukla and Srivastava discussed advancements in diagnostic modalities like ultrasonography, diuretic renography, and surgical techniques for PUJ obstruction, particularly in pediatric patients.[11] Similarly, Weld and Nuss provided insights into the utility of 99mTc-DTPA renal scintigraphy in identifying the severity of obstruction and evaluating post-treatment outcomes.[12]

In the *Ayurvedic* system, PUJ obstruction aligns closely with *Mutravaha Srotodushti* (disorders of the urinary channels) and is addressed using a combination of *ayurvedic* medicines, dietary modifications, and lifestyle changes. Prajapati and Singh highlighted the efficacy of *Ayurvedic* formulations like Chandraprabha Vati and *Pashanbheda* in managing urinary tract obstructions and improving renal function.[13] Additionally, Baghel et al. demonstrated the role of *Punarnava* (*Boerhavia diffusa*) in alleviating symptoms associated with urinary tract disorders by reducing inflammation and promoting diuresis.[14]

Specific herbs such as *Gokhru* (*Tribulus terrestris*) and *Bhumyamalaki* (*Phyllanthus niruri*) have been shown to possess significant anti-inflammatory, diuretic, and lithotriptic properties. *Kulkarni* and *Patki* reviewed the use of *Gokhru* in improving renal clearance and relieving obstruction[15], while *Dwivedi* and *Udupa* emphasized the role of *Chandana* (*Santalum album*) and *Shatavari* (*Asparagus racemosus*) in soothing urinary tract irritation and enhancing renal health.[16]

Integrative approaches combining modern diagnostics with *Ayurvedic* therapeutics have shown promise in managing chronic conditions like PUJ obstruction. Joshi emphasized the importance of exploring such integrative strategies to improve outcomes in renal and urinary disorders.[17] Studies by Nadkarni and Rao further supported the efficacy of *ayurvedic* interventions in clearing urinary obstructions and restoring renal function.[18,19]

This case report adds to the growing evidence supporting the role of *Ayurvedic* formulations, such as Vrikkashuddhi Kwatha, Chandraprabha Vati, and Mutravardhak Vati, in managing PUJ obstruction. The findings align with previous research that underscores the potential of *Ayurveda* in complementing conventional treatments, particularly in improving renal function and overall quality of life.

NEED FOR FURTHER RESEARCH

While the present case highlights the potential of *Ayurvedic* formulations in managing Hydronephrosis (*Mutraghata*) with Pelvi-Ureteric Junction (PUJ) obstruction and improving renal function, further research is needed to validate these findings on a larger scale. Randomized controlled trials comparing *Ayurvedic* interventions with standard allopathic treatments could provide robust evidence for their efficacy and safety. Additionally, detailed pharmacological studies on the active compounds in herbs like *Tribulus terrestris*, *Boerhavia diffusa*, and *Phyllanthus niruri* could elucidate their mechanisms of action in renal pathologies. Integrative approaches combining modern diagnostics with *Ayurvedic* therapeutics should also be explored to develop comprehensive treatment protocols for urinary tract disorders.

CONCLUSION

In this case of Hydronephrosis (*Mutraghata*) with PUJ obstruction, the *Ayurvedic* treatment regimen demonstrated notable improvements in both subjective and objective parameters. The patient was treated with a combination of *Ayurvedic* formulations, including **Vrikkashuddhi Kwatha**, **Chandraprabha Vati**, **Mutravardhak Vati**, **Cap Nephron Plus**, and **CKD Syrup**, for six months. Pain intensity, as measured by the VAS scale, reduced significantly from **7 to 3**, indicating a marked decrease in symptom severity. Pre-treatment renography showed severe obstruction and reduced cortical function in the left kidney, with no significant PCS tracer clearance. Post-treatment renography revealed moderately impaired parenchymal function with sluggish clearance, demonstrating measurable improvement. This outcome highlights the potential of *Ayurvedic* therapies in managing PUJ obstruction and improving renal function, supporting their integration into holistic care approaches for such conditions. Further research is necessary to validate these findings on a larger scale.

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