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Case Study

# A CASE REPORT TO STUDY THE EFFECTIVE ROLE OF *VARUNADI KASHAYA* AND *DASHMOOL CHURNA* IN THE CAUSES OF INCREASED POST VOID RESIDUAL URINE

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## ABSTRACT

Post-Void Residual (PVR) volume of urine is the amount of urine retained in the bladder after a voluntary void that is measured by catheterization or non-invasively by ultrasonography. The increased value of PVR act as a diagnostic tool in a urological pathology such as a neurological disease/injury to the bladder, mechanical obstruction, infection or medication induced urinary retention. A PVR less than 50ml signifies adequate bladder emptying. The present case is of 3.1mm non-obstructing left renal calculus and Grade III prostatomegaly with increased Post Void Residual urine (91ml). Renal calculi and prostatomegaly, both are common obstructive uropathies which interferes with the normal outflow of urine. Treatment is aimed at relieving the symptoms and to treat the underlying cause as well. The treatment strategies that can be followed are catheterization, stenting, surgery, lithotripsy, hormonal therapy and antibiotic therapy. The Ayurvedic formulation, *Varunadi Kashaya* and *Dashmool Churna* are *Vata kapha* pacifying drugs. With its *Mutrala*, *Deepana*, *Anulomana*, *Shothghana*, *Shoolghana* properties, it had successfully eliminated renal calculus, decreased the prostate size and ultimately, lowered the PVR value as evidenced in USG report. There is a considerable relief in the troublesome urological symptoms- dysuria, dribbling micturition, weak urine stream, inadequate bladder emptying and abdominal pain.

## INTRODUCTION

Post-Void Residual (PVR) volume of urine is the amount of urine retained in the bladder after a voluntary void that is measured by catheterization or non-invasively by ultrasonography. It acts as a diagnostic tool when there is a concern for underlying neurological disease/injury, bladder dysfunction, mechanical obstruction, infection or medication induced urinary retention. A PVR less than 50ml signifies adequate bladder emptying and over 200ml indicates abnormal inadequate emptying[1].

Following are some of the causes of elevated PVR [2]:

a. Neurogenic- Cauda equina syndrome, spinal cord injury, multiple sclerosis, Parkinson's disease, neurogenic bladder etc.
b. Mechanical- BPH, phimosis, paraphimosis, renal calculi, ureteric calculi, bladder calculi, urethral strictures, tumors, prostate cancer etc.
c. Medication related- Anti-cholinergic, anti-histaminic, tricyclic antidepressants, diazepam, NSAIDs, opioids, decongestants etc.
d. Infectious/Inflammatory- Cystitis, prostatitis, herpes simplex, herpes zoster etc.
e. Congenital-Hypospadias.
f. Anatomical-Large bladder diverticula, vesico-ureteric reflex, posterior urethral valves.

Obstructive uropathy is structural or functional hindrance of normal urine flow. It can be acute/ chronic, partial/complete, unilateral/bilateral. The obstruction may be in the upper or lower urinary tracts and will have corresponding signs and symptoms based on the site, degree of obstruction and duration. Common causes in children include congenital anomalies; in young adults, calculi; and in elder men, benign prostate hyperplasia. The key clinical features of obstructive uropathy includes the difficulty in passing urine, dribbling micturition, decreased urine output, weak stream of urine,

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intermittency, hematuria, incomplete bladder emptying. The consequences can lead to renal insufficiency and infection. Treatment is aimed at relieving the symptoms and to treat the underlying cause as well. The treatment strategies that can be followed are Catheterization, Stenting, Surgery, Lithotripsy, Hormonal therapy and Antibiotic therapy.

The present case study is diagnosed with a left renal calculus 3.1mm at inferior calyx and Grade III prostatomegaly with volume of 48cc as per ultrasonographic reports. The post void residual urine value before the initial phase of treatment was 91ml (significant). This Ayurvedic formulation of *Varunadi Kashaya* in combination with *Dashmool Churna* has successfully worked on lowering the PVR value (23ml). The result of the study was found encouraging. There was no evidence of calculus in left kidney seen on USG report and also the prostate weight decreased to 37gm (Grade II prostatomegaly) with a considerable symptomatic relief in urinary complaints.

The renal calculi and prostatomegly leads to inadequate bladder emptying, brings about urinary retention in the patient and increases the PVR value. These causes lead to deep changing of bladder structure and function and possibly Bladder dysfunction[3].

**Case Report**

A 64 years old male patient came with severe lower abdominal pain and tenderness in suprapubic region. He gave the history of dribbling micturition, ineffective and unsatisfactory bladder emptying, straining for micturition, decreased urine flow rate/weak stream of urine. Occasionally he suffers from intermittent pain, more pronounced on left side of abdomen. The patient was advised USG of abdomen & pelvis.

**Table 1: Clinical Examinations**

| | |
|---|---|
| General physical examination | Built: Moderate<br>Eyes: Not pallor<br>Tongue: Clear |
| Per Abdomen | Fullness and tenderness in the hypogastrium region |
| DRE | Tone of sphincter was normal, prostate-enlarged, upper limit not approachable, surface-smooth, consistency-firm, mild tender |
| USG Findings | ->Left Kidney: A non-obstructing calculus of size 3.1mm in inferior calyx of left kidney<br>->Prostate: Grade III Prostatomegaly, Volume 48cc. Calcifications seen in prostate parenchyma.<br>->Bladder: Post void urine volume 91ml (significant) |

This is typically a case of *Mutraghata*, exhibiting *Mutrasang, Srijeda alpalam, Pravahato Shanaih Shanaih,* it is not a single disease but a group of diseases presenting with decreased amount of urinary outflow as a chief clinical feature. Therefore, the present case seems to be an issue of obstructive uropathy with decreased urine outflow.

**Treatment Advised**

Following *Shamana Chikitsa* for 3 months was advised on above pathology

1. *Varunadi Kashaya* 20ml BD with equal amount of water after meals.
2. *Dashmool Churna* 5gm BD after meals with lukewarm water.

Patient was advised to avoid *Apathyas*

**Table 2: Showing the *Apathya* for Patient**

| *Ahara* | *Vihara* |
|---|---|
| *Ati amla, Vishtambi, Guru, Ruksha Aanpaan* | *Vega dharna, Vyayama* etc |

**Criteria for Assessment**

**Table 3: Showing Subjective and Objective Parameters for Assessment**

| **Subjective Parameters (Clinical signs & symptoms)** | **Objective Parameters (USG Findings)** |
|---|---|
| 1. Dysuria<br>2. Dribbling of urine | 1.PVR<br>2.Calculus size in mm |

| | |
|---|---|
| 3. Weak and thin urine stream<br>4. Emptying of urinary bladder (adequate and satisfactory/inadequate and unsatisfactory)<br>5. Pain in abdomen | 3.Prostate weight and volume (grade of prostatomegaly) |

## OBSERVATION AND RESULT

The essential findings were pen down before the start of treatment and after the end of treatment phase, which was continued for 3 months, the patient's findings (subjective and objective parameters) were recorded to evaluate the efficacy of the Ayurvedic formulation.

**Table 4: Showing results in Subjective Parameters**

| Subjective Parameters | Before Treatment | After Treatment |
|---|---|---|
| 1. Dysuria | ++ | - |
| 2. Dribbling of urine | +++ | - |
| 3. Weak and thin urine stream | +++ | - |
| 4. Emptying of urinary bladder (adequate and satisfactory/inadequate and unsatisfactory) | +++ (inadequate and unsatisfactory emptying) | - (Adequate and satisfactory emptying) |
| 5. Pain in abdomen | ++ | - |

**Table 5: Showing Results in Objective Parameters**

| Objective Parameters | Before Treatment | After Treatment |
|---|---|---|
| 1. Post Void Residual Urine | 91cc (significant) | 23.1cc |
| 2. Size of renal calculus | 3.1mm non-obstructing calculus at inferior calyx left kidney. | - (No evidence of calculus) |
| 3. Prostatomegaly | Grade III Prostatomegaly<br>Volume 48cc<br>Calcifications in prostate parenchyma. | Prostatic weight 37.8gm<br><br>No calcifications. |

## DISCUSSION

The two main causes of *Mutraghata* that has increased the PVR value in the above case is renal calculus and Grade III prostatomegaly, that led to obstructive urological pathology. There is *Vata-Kapha* predominance that has led to *Sanga* (obstruction) in the *Mutravaha strotas*. So, *Varunadi Kashaya* and *Dashmool Churna* in the above pathological condition has pacified *Vata-kapha doshas*, brought *Apana vayu anulomana*, opened the blocked channels and showed *Mutravirechanya* effect, thereby relieving the obstructive uropathy.

***Varunadi Kashaya*:** The main ingredients of this drug are *Varuna, Gokshura, Shunthi, Shatavari, Chitraka, Bilva, Kantkari, Haritaki, Bhallatka, Yavakshara* etc have *Katu-tikta rasa, Ushna virya*. It has *Chedana, Bhedana, Lekhana, Krimighana, Mutral, Kapha-Vataharam, Vedna shamana, Agni deeapna* property and thus, helps in the breakdown of *Ashmari* and *Granthi*. It is indicated in *Ashmari, Mutrakriccha, Vastishoola*[4] etc*. Yavakshara* is having a pH of 11.73 [5]. It neutralizes the acidic media and prevents calculus formation. Being *Ruksha, Teekshna* and *Shigraghami* it favours the breakdown of *Kapha-sanghata* [6].

***Dashmool Churna*:** The drug is *Katu, Tikta, Kashya rasa pradhana*, with *Laghu, Ruksha guna*, *Ushna virya* and has *Katu vipaka*. It exhibits *Tridoshahara karma* and does *Aam pachana*[7] clearly signifying that it can break the *Kapha sanghta* and brings easy *Anulomana* of *Vata.* This combination normalizes the function of *Apana Vayu* and makes natural urge of urination easy.

## CONCLUSION

There is reduction in PVR value, regression in the prostate volume and size of prostate, elimination of renal calculi and a satisfactory bladder emptying with the intake of *Varunadi Kashaya* 20ml BD and *Dashmool Churna* 5gm BD in 3 months. However, a large scale study is required to come to a stronger conclusion.

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