



Low-Pressure, Low-Flow Voiding Dysfunction in an Elderly Male Treated Through Ayurveda: A Case Report

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Abstract

Introduction. Neurogenic bladder is a common urological condition among elderly. It results in incontinence or retention of the urine depending on the synergy of bladder smooth muscles and urethral sphincter. There can also be a condition where retention causes overflow incontinence. Retention of urine in this condition is caused by relative lack of contractility of bladder smooth muscles in response to the stretch reflex. As a result, there is no urge and therefore the bladder remains over-distended causing retention of urine. Currently, there are no absolute ways to deal with such a situation except that the patients are advised for self-help techniques of regularly evacuating the bladder. Pharmacotherapy for such condition is not promising. As the patients of neurogenic bladder are often healthy otherwise (with manageable conditions such as diabetes), a bladder dysfunction is considered as a disability that they do not want to share. In this state, any approach that offers a regeneration of bladder reflex and restoration of its functions is more than one can expect for. **Methods.** An elderly male suffering with chronic urinary retention recommended for indwelling catheterization after the failure of voiding trial following the possible conventional pharmacotherapy was treated with Ayurvedic therapy. **Results.** There was a complete symptom reversal after about 45 days of Ayurvedic therapy. The changes were stable after 3-month follow-up of the patient. **Conclusion.** This case report presents the complete symptom reversal in a case of chronic urine retention as an outcome of Ayurvedic therapy. Seeing the importance of this clinical condition and unavailability of sufficient means in conventional medicine, it requires a serious note and enquiry into its applicability in similar cases.

Keywords

alternative medicine, Ayurveda, complementary and alternative medicine

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Lower urinary tract dysfunction is a major health concern among elderly. Prevalence of lower urinary tract dysfunction increases with age.¹ Urinary incontinence caused by overactive bladder is a common lower urinary tract symptom occurring in more than 15% to 35% community dwellers and up to 90% in hospital admissions.² Although not as common as overactive bladder, hypocontractile bladder is also a substantial problem among elderly. Represented as low-pressure, low-flow of urinary voiding, the condition is marked with loss of bladder voiding reflex in relation to the distention of bladder. This results in urine retention due to absence of urge and subsequent inability of the patient to void. There are huge implications to this as chronically retained urine leads to multiple local and systemic problems. Subsequent backflow of urine in the urinary system eventually causes increased frequency of urinary tract infections, stone formation, and hydronephrosis. The condition may become life-threatening if not treated adequately and

urgently. An urgent evacuation is often required in this condition followed by finding the ways and means through which the bladder may regularly be evacuated. This is often done by a regular indwelling catheterization or by training the patient to void by self-catheterization through clean intermittent catheterization.³ Neurogenic bladder, although common in elderly, may also present in children due to a variety of causes such as lesions in the nervous system including a deficit in the central or peripheral nervous system.⁴

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The diagnosis of neurogenic bladder is mainly done on the basis of urodynamic studies.⁵ Management of neurogenic bladder is primarily done on conservative lines including behavioral therapy consisting of triggered reflex voiding, bladder expression (Crede and Valsalva maneuver), and toileting assistance; catheterization including intermittent catheterization and indwelling catheterization; condom catheter and external appliances; pharmacotherapy; and electrostimulation composed of electrical neuromodulation, electrical stimulation of the pelvic floor musculature, and intravesical electrical stimulation.

Drug management of neurogenic bladder revolves mainly around decreasing/increasing detrusor activity, increasing bladder capacity, and/or increasing/decreasing bladder outlet resistance. The effectiveness of drugs for the treatment of detrusor/sphincter dyssynergia is not well documented.⁶

Complete recovery from a neurogenic bladder is uncommon, so the goal of the treatment remains the management of its effects and to offer means to evacuate the bladder in a timely manner not affecting the quality of life.⁷ With this kind of concurrent understanding about the cause, presentation, diagnosis, management, and prognosis of neurogenic bladder, we present the case of a patient with neurogenic bladder with features of chronic urine retention who responded well to the Ayurvedic therapy.

Case Report

An elderly Hindu male of about 70 years of age belonging to a lower medium socioeconomic strata and habitant of subtropical climate (northern plains of India) reported to the Ayurvedic Outpatient Department (December 20, 2016) with complaints of inability to void urine and subsequent urine retention for 1 month. The patient was on an indwelling catheter for past many days in order to facilitate urine evacuation.

A detailed history of the patient revealed him having type 2 diabetes and hypertension for which he was receiving conventional treatment (telmisarten 40 mg once a day and gliclazide 60 mg once a day). About 1 month prior (November 1, 2016), due to his inability to sense the urge to void urine, he reported having vertigo. He was examined thoroughly by the physician for the complaint. His blood sugar (random) was found to be 111 mg/dL without any other significant physical and systemic finding. The symptom however did not improve on institution of antihistaminic therapy to address vertigo. The patient further developed loss of appetite. He was identified this time as having dehydration and therefore recommended to increase fluid intake (November 5, 2016). He was also suggested to have detailed blood examination for counts, urea, and creatinine and also a computed tomography scan of his head. The blood investigations were conducted on the same day and were found to have increased leucocytes with relative polymorpholeucocytosis (Table 1). Urine examination was found devoid of any abnormality.

Computed tomography scan of the head conducted on November 19, 2016, suggested the findings of atrophic changes

Table 1. Blood Investigations on November 5, 2016.

Name of Investigation	Values
Hemoglobin	10.3 g%
Total WBC count	14 800/mm ³
Differential WBC count	
Polymorphs	90%
Lymphocytes	10%
Eosinophils	0%
Monocytes	0%
Erythrocyte sedimentation rate	
Observed reading	46 mm in first hour
Packed cell volume	30 cc%
Corrected ESR	24
Platelet count	228 000/mm ³
Serum urea	38.2 mg%
Serum creatinine	1.17 mg%

Abbreviations: WBC, white blood cell; ESR, erythrocyte sedimentation rate.

Table 2. Blood Investigations on November 23, 2016.

Name of Investigation	Values
Hemoglobin	9.5 g%
Total WBC count	7900/mm ³
Differential WBC count	
Polymorphs	86%
Lymphocytes	10%
Eosinophils	0%
Monocytes	04%
Erythrocyte sedimentation rate	
Observed reading	38 mm in first hour
Packed cell volume	27.1 cc%
Corrected ESR	24
Platelet count	225 000/mm ³
Serum urea	24.0 mg%
Serum creatinine	0.7 mg%
Serum sodium	132.0 mEq/L
Serum potassium	3.2 mEq/L
Blood sugar	
Fasting	109 mg/dL
Postprandial	175 mg/dL

Abbreviations: WBC, white blood cell; ESR, erythrocyte sedimentation rate.

in the brain with dilated ventricular system although the patient was devoid of any clinically recognizable cognitive deficit supporting the scan findings. Despite the treatment offered so far, at this point in time the patient has further developed the complaint of inability to sense urinary urge (November 22, 2016). He was again asked to go for a repeat blood count, urea, creatinine, and electrolytes and was further advised to have an ultrasonography to reveal any outlet obstructive pathology of the urinary bladder (Table 2).

Ultrasonic study of whole abdomen was conducted on November 23, 2016, and revealed mild hydroureteronephrosis involving both kidneys and ureter. Urinary bladder was found over-distended with low-level internal echo in the lumen. The bladder wall was found circumferentially thickened. Prostate

was enlarged in size measuring $47 \times 23 \times 36$ mm with a weight of 21 g. Post void residual volume of urine in the bladder was 332 mL. On the basis of findings of ultrasonography, the patient was referred to have a urologic opinion. The urologic examination conducted on November 25, 2016, and found an over-distended bladder with chronic retention of urine. Bilateral pedal edema was also observed. The patient was catheterized with indwelling catheter and was recommended to have a voiding trial following 7 days of therapy (tamsulosin hydrochloride MR 0.4 mg, dutasteride 0.5 mg once a day, and bethanecol 25 mg twice a day). The voiding trial was done on December 2, 2016, which failed. Subsequent to the trial failure, the patient was recatheterized and was recommended to have urodynamic studies. Urologically, he was suspected to have a diabetic cystopathy or hypocontractile bladder due to diabetes. A voiding cystometrography was done on December 16, 2016, and it suggested the findings of low pressure, low flow with straining. Failing to get a satisfactory treatment option from modern medicine, at this point in time, the patient was brought for Ayurveda consultation.

After thorough clinical examination from the Ayurveda perspective, the patient was found to have the predominance of *Vata* in his personality, and his symptoms were also found to be related with hypofunctioning of *Vata* (clinical examination of *prakriti* or the Ayurvedic constitution of the body was done for the purpose). He was initiated with a few Ayurvedic medicines as listed below along with a local massage over the bladder area with *Mahanarayana* oil.

Ayurvedic Treatment Recommended on December 20, 2016

- Tablet *Basanta Kusumakar Rasa*: 125 mg twice a day with water
- Tablet *Khanjanikari Bati*: 65 mg twice a day with water
- *Varunadi kwath*: 30 mL twice a day

The patient's catheter was due for change on January 14, 2017. He was suggested to have a voiding trial after Ayurvedic therapy and to see if he is able to void. The voiding trial was successful this time and the patient was able to pass urine on his own following the removal of the catheter. This voiding although was associated with discomfort and burning. Subsequently the patient reported to have increased frequency of urge of micturition. To address these problems, he was further prescribed with the following Ayurvedic medicines on January 22, 2017.

- Tablet *Chandra Prabha Bati*: one tablet twice a day with water
- Syrup *Chandanasava*: one teaspoon twice a day with equal amount of water

In next follow-up after about 2 weeks (February 5, 2017), the patient reported the passing of urine without any burning or pain. He was able to feel the urge to pass urine although more

frequently; the passage of urine was symptom free. The treatment recommended for the burning and pain was subsequently stopped and the patient was suggested to continue with the initially prescribed medicines. The patient remained symptom free and catheter free since then. Another follow-up was done on March 2, 2017, after about 2½ months of initial institution of Ayurvedic therapy. The patient was found completely symptom free in this follow-up. He was recommended to have another follow-up ultrasonography to see if there are changes in post void residual urine volume after the treatment. The ultrasonography conducted on March 6, 2017, showed significant improvement in urodynamic status as the post void residual urine was reduced to 49 mL compared with 332 mL earlier. There was no hydronephrosis and there was no circumferential thickening of the bladder wall as was reported in the earlier sonography. A small renal calculus, which was reported in the earlier ultrasonography, was also found absent in the recent report.

It is now almost 3 months that the patient is asymptomatic, catheter free, and is able to pass urine with normal urge and ease although still with increased frequency.

Discussion

Complete recovery from neurogenic bladder is uncommon, and hence, its conventional management strategy focuses on easy methods of bladder evacuation, which can be performed in the long run without complexity during the procedure and also without any apparent complications. Pharmacotherapy in such cases primarily aim at decreasing/increasing detrusor activity, increasing bladder capacity, and/or increasing/decreasing bladder outlet resistance. The effectiveness of drugs for the treatment of detrusor/sphincter dyssynergia is not well documented. Although recommended, pharmacotherapy in these cases is not of much use, and eventually, patients take a respite in evacuating the bladder by mechanical means.

Catheterization, indwelling or intermittent, transurethral or suprapubic, has its own set of problems. These are complex, cumbersome procedures having a potential of developing long-term complications including recurrent urinary tract infection, septicemia, and stone formations. Indwelling catheterization limits the quality of life for necessity of carrying a catheter and urobag. Intermittent catheterization also limits the quality of life due to the necessity of evacuating the bladder at regular intervals. As the patients of neurogenic bladder are often otherwise healthy individuals, the problems of evacuation are not easy to be shared with others due to the associated stigma of having a disability. The current understanding of the disease and its treatment strategy therefore leaves the patient with no other options but to undergo treatment with what is available. Depression is another leading outcome of the disease despite its management. It is further increased when a treating urologist declares that there are no remedies for the condition and possibly the person has to live

Table 3. Composition of Ayurvedic Drugs Used in the Case.

Name of Ayurvedic Drug	Composition
<i>Basant Kusumakar Rasa</i>	Gold ash Silver ash Tin ash Lead ash Iron ash Mica ash Coral ash Pearl ash Processed in cow's milk, sugarcane juice, plantain flower and root juice, lotus flower juice, and others
<i>Khanjanikari Bati</i>	Strychnus nuxvomica Silver ash Iron ash Processed in Arjuna bark (<i>Terminalia arjuna</i>) decoction
<i>Chandra Prabha Bati</i>	Karchur (<i>Curcuma zedoaria</i>) Vacha (<i>Acorus calamus</i>) Nagarmotha (<i>Cyperus rotundus</i>) Chirayata (<i>Swertia chirayata</i>) Devadaru (<i>Cedrus deodara</i>) Haridra (<i>Curcuma longa</i>) Atis (<i>Aconitum heterophyllum</i>) Pippali root (<i>Piper longum</i>) Chitrak (<i>Plumbago zeylanica</i>) Nishoth (<i>Operculina terpathum</i>) Coriander (<i>Coriandrum sativum</i>) Triphala (three fruits) Vidanga (<i>Embelica ribes</i>) Shilajatu Guggulu (<i>Commiphora mukul</i>)

with the disease with possible management as is available currently.

Any remote possibility of making things better by offering a better quality of life with a possibility to live without catheter is more than one can really think of in the current scenario. Ayurvedic treatment offered in this case, resulting in a complete reversal of the condition ratified on the grounds of urodynamic and sonographic studies, therefore brings a ray of hope to such patients having neurogenic bladder presenting with loss of urge resulting in urine retention. What might have resulted in a response in the patient is still a question. The treatment offered in the case was a complex management offered by Ayurveda composed of a local emollient (*Mahanarayana* oil) with known neurological stimulant and regenerator actions.⁸ The other compounds *Basanta Kusumakar Rasa* and *Khanjanikari Bati* are used traditionally as a rejuvenator and as nerve stimulants, respectively. Both these drugs are active upon *Vata* pathology, and as the patient's temperament and the disease process was suggestive of *Vata* derangement, the drugs might have acted through this pathway. *Varunadi kwath* is a urinary antiseptic. *Chandra Prabha Bati* and *Chandanasava* are also urinary antiseptics and coolants. These drugs are used conventionally in Ayurveda for patient care in a variety of urological symptoms (Table 3).

Although a literature search is not able to provide convincing reports or researches on their efficacy in such conditions, their constant use in clinical practice of Ayurveda is convincing enough for their possible roles in such conditions. The treatment offered in the case reported here deserves a merit of evaluation on the grounds of offering a complete reversal of retention of urine, which is not observable otherwise in similar conditions. This case argues that Ayurvedic conventional therapies on the basis of their patient-centered responses require a serious consideration even if they do not comply with the benchmarks and gold standards of biomedical clinical researches.⁹

Conclusions

Neurogenic bladder with urine retention is a common condition in elderly with diverse causes involving central or peripheral nervous system. Despite its diverse causes, the management is essentially the same and is often composed of offering a mechanism to evacuate the bladder to ease the symptoms and to avoid further complications. This treatment has its own set of complexities and complications. An Ayurvedic treatment offering a reversal of the symptoms in this scenario is highly worthy of further investigations and deserves proper attentions as is reported in the case.

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Ethical Approval

Consent was obtained from the patient to publish the case study. Ethical considerations were followed while offering treatment and writing the article. Care was taken to maintain the anonymity of the patient.

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