Journal of Ayurveda and Integrative Medicine 15 (2024) 100926

Contents lists available at ScienceDirect

Journal of Ayurveda and Integrative Medicine

journal homepage: elsevier.com/locate/jaim

Chronic urine retention due to neurogenic bladder in a young woman treated through ayurveda: A case report

Sanjeev Rastogi *

Ayurveda-Arthritis Treatment and Advanced Research Centre (A-ATARC), State Ayurvedic College and Hospital, Lucknow, 226003, India

ARTICLE INFO

Keywords:
Neurogenic bladder
Urine retention
Ayurveda
Case report
Clean intermittent catheterisation

ABSTRACT

Chronic urine retention due to functional reasons is a difficult to treat condition. Low-pressure, low-flow voiding dysfunction also called as neurogenic bladder is a common functional reason of chronic urinary retention. Conventional pharmacotherapy has not been promising in such conditions and the symptomatic management is done through regular catheterisation. Catheterisation due to its social and medical limitations has a high discontinuation rate even though if it is recommended. In this scenario, any possibility of alternative interventions leading to the clinical improvements without catheterisation comes with hope as a lead to the future medicine. We present here case of a young woman suffering with chronic urinary retention due to neurogenic bladder, previously on regular intermittent catheterisation for few months and subsequently treated through Ayurveda interventions aiming to improve bladder contractility to the extent of complete recovery raises a high hope for treating such cases if such observations are being brought to the serious scientific enquiry and are translated into regular treatment strategy for similar clinical conditions.

1. Introduction

Urine retention is a common condition among elderly but is uncommon in younger population. The causes associated with urine retention are either related to bladder outlet obstruction (BOO) or detrusor underactivity (DUA). Women in their young age rarely present with urine retention. Its incidence in young women ranges from 0.3 to 3 cases per 100,000 per year [1]. The underlying pathology of urine retention could be associated with anatomical, neurogenic, and myogenic factors, or it may be the result of pharmacotherapy or functional reasons without any obvious organic cause. Mechanical causes of urine retention include pelvic organ tumours, stenosis of the bladder neck, urethral diverticulum, pelvic organ prolapse, and pelvic surgery. The functional causes are a result of the pathological changes in the contraction of the peri-urethral muscles (dysfunctional voiding and detrusor sphincter dyssynergia) or impaired urethral relaxation (Fowler's syndrome). Urinary retention caused by mechanical BOO is usually treated successfully with medication or surgery, whereas the management of urinary retention resulting from detrusor underactivity or functional BOO including Fowler's syndrome remains a challenge. Published literature is scarce in case reports of any successful intervention from any system of medicine across the globe which might have successfully treated the conditions of urine retention resulting as an outcome of functional impairment. The only published case report available reflecting a successful intervention in a case of low pressure, low flow voiding dysfunction in an elderly male, had an intervention through Ayurveda [2]. This published case report is slightly different than the case presented here which belongs to a young woman. A complete symptom reversal in the earlier published case was observed after about 45 days of Ayurvedic therapy. The changes observed after the given intervention were found to be stable after 3-month follow-up of the patient. This case report proposed that seeing the importance of this clinical condition and unavailability of dependable therapy in conventional medicine, improvement observed in this case should have been given a serious note and an enquiry should have been made for its possible applicability in similar intractable cases.

Ayurvedic texts presents a comprehensive description of various urinary flow related clinical conditions. These are principally classified into *atiprivrutti* (hyperactivity) and *apruvritti* (underactivity) of the bladder and are named as *bahumutrata* and *mutraghat* respectively. Various Ayurvedic herbs acting on urinary system have also been elaborately identified [3].

Peer review under responsibility of Transdisciplinary University, Bangalore.
* Corresponding author
E-mail address: rastogisanjeev@rediffmail.com.

https://doi.org/10.1016/j.jaim.2024.100926
Received 27 October 2023; Received in revised form 28 March 2024; Accepted 31 March 2024

Here we present a case of chronic urine retention in a young woman facing it since two years and had been on clean intermittent catheterisation (CIC) regularly for past few months in order to relieve the symptoms. On the basis of clinical presentation and available investigations, the case was likely to be of functional DUA or Fowler's syndrome. Ayurvedic intervention was given to this case for about three months. Initial 2 month intervention resulted in partial response shown by the meagre flow of urine upon straining. During Ayurvedic treatment, the patient was advised to do the voiding trial every 15 days. A complete reversal of the symptoms was observed after about ~75 days (5th voiding trial). This voiding trial was marked with normal flow of urine without straining and without any need of CIC. The patient still had symptoms of burning micturition which persisted for some more time, but soon relieved with Ayurveda interventions in next 15 days. A three month follow-up of the patient with continued Ayurveda intervention revealed a completely asymptomatic status of the patient related to her urinary functions.

2. Case report

2.1. Patient information

A young apparently healthy married woman of about 28 year age presented with the history of straining to micturition and occasional dysuria, for over 1.5 years. She was nulliparous and had the history of one abortion in July 2022. She had been on regular clean intermittent catheterisation (CIC) when she presented for Ayurveda consultation.

2.2. Clinical findings

There was no history of fever and urinary incontinence. In February 2022, upon reporting with acute urinary retention, she was intervened with a self-retaining catheter which remained in situ for 1.5 months. Subsequently she used to have regular retaining catheterisation and changing it every 15 days. Last retaining catheterisation was done in April 2023. Since then she had been recommended for self-catheterisation by CIC to be done regularly at desired time intervals. She was found to be on CIC during her first visit to Ayurveda clinic on June 15, 2023 where she arrived in search of Ayurvedic intervention in her case.

2.3. Diagnostic assessment

During the course of her illness, in order to get the diagnosis and appropriate treatment, she visited AIIMS, New Delhi where she was investigated for Urodynamic study (May 4, 2023). This study revealed the findings of highly compliant bladder and unable to void despite of abdominal straining. MRI LS Spine (May 05, 2023) revealed disc desiccation, with concentric disc bulge with posterior central disc prolapse at L5-S1 level. MRI could not reveal any spinal canal stenosis or cauda equine syndrome. A repeat Urodynamic study was done on June 09, 2023 and it confirmed the same findings as observed in earlier UDS. During this study, first sensation in the form of lower abdomen discomfort was observed at 270 ml and first desire to void because of lower abdomen discomfort was observed at 510 ml. Patient was however unable to void at this stage despite of abdominal straining (Table 1). The observation of highly compliant bladder along with reduced bladder sensation were suggestive of neurogenic cause of urinary retention where neurogenic bladder (NGB) including Fowler's syndrome was expected to be the possible diagnosis. Other gynaecological and pelvic causes of urine retention were ruled out following a thorough clinical examination. Following this history, the patient approached the Department of Kaya Chikitsa, State Ayurveda College and Hospital, Lucknow seeking any possible intervention from Ayurveda in her case (June 15, 2023).

On examination, the patient was found to be in good health except having anxiety related to her urinary symptoms. The condition was determined to be a case of *apana vata* derangement since *apana vata* is held responsible for bowel and bladder evacuation. The important point to be considered here is that it was a *vata* derangement leading to bladder dysregulation alone and bowel functions were almost normal. *Mutra jathar* is an Ayurvedic clinical condition which resembles to acute urinary retention and *mutravritta vata* is a condition which resembles the chronic urinary retention. This case was considered as of *mutravritta vata* on the basis of clinical presentation and symptomatology.

2.4. Therapeutic intervention

A *vatanulomaka* (promotive of *vata* functions) treatment was thus planned accordingly and recommended for three months with a monthly follow-up to evaluate the progress. The treatment consisted of oral

Table 1
Timeline of the events in the case

Date	Particulars	Remarks/Observations	Impression
Feb 2022	Catheterisation for Acute Urinary retention	Retained for 1.5 months	Regular self-retaining catheterisations since then after regular intervals
July 2022	Abortion	–	–
May 4, 2023	Urodynamic study	Highly compliant bladder Unable to void despite of abdominal straining	Neurogenic bladder
May 5, 2023	MRI L/S Spine	Disc desiccation, with concentric disc bulge with posterior central disc prolapse at L5-S1 level	No impingement, stenosis or specific compression was noted
May 15, 2023	Clean Intermittent Catheterisation (CIC)	Initiated	Practiced daily at regular intervals
June 9, 2023	Repeat Urodynamic Study	Highly compliant bladder Unable to void despite of abdominal straining	Neurogenic bladder
June 9, 2023	Urine R/M; C/S	Sterile	
June 15, 2023	Start of Ayurveda interventions		
July 24, 2023	Blood Investigations	Haemoglobin = 12.9 g m/dl Serum Calcium Total = 9.5 mg/dl Serum Calcium Ionic 4.8 mg/dl Blood Sugar Fasting = 92 mg% TSH = 1.5 micro IU/ml 25 OH Vitamin D = 24.7 ng/ml	
July 25, 2023	Urine C/S	Sterile	
July 25, 2023	Urine R/M	Within normal limits	

therapy aiming at systemic correction of *vata* as well as local therapy aiming at local correction of *vata* (Table 2).

2.5. Follow-up and outcome

Since the start of the therapy, the patient was advised to have a voiding trial every two weeks by avoiding the CIC for at least 6–8 hours and giving a self-trial to void the urine without the assistance of a catheter. There was a good compliance of the treatment as it did not cause any inconvenience or adversity. The voiding trials however remained futile initially as the patient was not able to void the urine at her own for at least 5 initial voiding trials (initial 10 weeks) except that there were occasional urge for micturition during the later phase of therapy followed by passage of very small amount of urine. After 10 weeks of therapy, however the patient observed significant benefits in the form of ability to pass the urine at her own. This passage of urine was however associated with burning and pain during the micturition. She did not require any CIC after the 10 weeks of therapy. Treatment continued for two more months and during this follow up period, and continued to remain symptom free. She continued to practice some of the recommended Ayurveda local interventions and reports no recurrence of symptoms related to urine retention or burning or pain during micturition.

3. Discussion

Urine retention due to functional causes like detrusor underactivity or urethral spasm has a poor prognosis. Conventional pharmacotherapy is not found promising in such cases and so these conditions are managed symptomatically with regular or intermittent catheterisation. Although such measures relieve the urine retention symptom, it exposes the patients to the risks induced by repeated catheterisation. Severe compromise in the quality of life either due to indwelling catheter or due to the need of repeated self-catheterisation is an obvious ill effect of this management strategy. Urinary retention in young women is a rare clinical problem so is often underdiagnosed. Functional causes of urinary retention often pose a diagnostic challenge. Fowler's syndrome, associated with impaired urethral relaxation is characterized by a large bladder capacity, reduced sensation, increased maximal urethral closure pressure, and detrusor underactivity [4]. Several hypotheses are made to explain the cause of urethral relaxation disorders. These include hormonal changes characteristic of Polycystic Ovary Syndrome (PCOS), abnormal stabilization of the muscle membrane, primary failure of relaxation of the striated muscle of the urethra sphincter, and increased urethral afferent activity and inhibition of the bladder afferent signals from reaching the brain by potentiating a spinal mechanism of urinary continence. Sacral neuromodulation is the only intervention available currently that can restore an atypical voiding pattern in women with Fowler's syndrome. Well-designed, long-term prospective studies comparing sacral neuromodulation (SNM) with other therapies such as pelvic floor muscle physiotherapy however are warranted to offer the best patient-tailored treatment.

From Ayurvedic perspective, *mutra vegavarodh* (voluntary suppression of urinary urge) is proposed as one important reason of urine retention. In the present case however such cause could not be delineated. Ayurveda also proposed to use the *shalaka* (catheter) for evacuation of the urine in case of acute urinary retention which is similar to catheterisation recommended presently for such conditions [5]. *Mutra jathar* and *mutravritta vata* are two clinical conditions in ayurveda which resemble to acute and chronic urinary retention. Present case on the basis of its symptomatology seems close to *mutravritta vata*. The Ayurvedic intervention planned in the case had urinary bladder as the primary site of action and *mutra virechana* and *vatanulomna* as primary pharmacological action. Ayurvedic interventions selected to treat this case had a large borrowing from the intervention plan utilised in the case report published earlier.

Despite of self-catheterisation in the form of CIC as the only intervention offered to the cases of functional urinary retention, its

Table 2
Ayurvedic treatment recommended

Date	Method of application	Intervention	Reference	Dose and Frequency and anupana	Duration	Observed benefits
June 15, 2023	Oral	Khanjanikari Bati	*Siddha Yoga Samgraha (Vata vyadhi)*	65 mg twice a day with water	Continued for 3 month	No improvements in initial 2 months. Occasional passage of small amount of urine in 9–10 weeks. Normal urine flow observed in 11–12 weeks however burning and pain was observed during micturition.
		Amrit Bhallataka	*Ashtanga Hridaya (Uttar Sthana)*	½ TSF twice a day with milk		
		Sanjeevani Bati	*Sharangadhara Samhita (Madhyam Khand)*	125 mg twice a day with water		
		Varun Shigru Kwath	*Bhaishajya Ratnavali (Ashmari)*	30 ml twice a day		
	Local	Mahanarayana Oil local application in the naval and below naval area	*Bhaishajya Ratnavali (Vata vyadhi)*	Twice a day		
		Sprinkling of cold water below the naval area		Twice a day		
		Alternate hot and cold fomentation below the naval area		Twice a day		
July 17, 2023	Oral	*Chandra Prabha Bati*	*Sharangadhara Samhita (Madhyama khand-Prameha)*	One tablet twice a day with water	Continued for 2 months	Occasional passage of urine in small amount
		Gokshuradi Guggulu	*Bharat Bhiashjya Ratnakar*	One tablet twice a day with water		
August 16, 2023	Oral	*Ashwagandharishta*	*Bhaishajya Ratnavali (Murcha)*	10 ml twice a day mixed with equal amount of water	Continued for 1 month	Able to pass the urine with normal flow after 2.5 months of treatment. Urine flow however is associated with pain and burning.
		Praval Pishti	*Rasa Tarangini*	500 mg twice a day with honey		
October 27, 2023						Able to pass the urine without CIC. Burning and pain during micturition reduced.

discontinuation is fairly common. The commonest difficulty noted by the compliant patients was about carrying out clean intermittent catheterisation in outdoor environments due to the unavailability of toilet facilities. Urinary tract infection is also found commonly associated as a complication of CIC [6].

In the absence of dependable interventions in conventional medicine, people suffering with such conditions often take a respite in alternative system of medicine. Published literature however is scarce in showing the success of any alternative intervention in treating such cases of urinary retention. The only case which was available in the literature was of an elderly male with the complaints of chronic urine retention, treated successfully with Ayurveda intervention [2]. This published case was promising since it not only relieved the symptoms but kept the patient symptom free for rest of his life without any further need of continuing the medication for the primary complaints of urine retention. It was argued that on the basis of clinical improvements observed and in the absence of any other management strategy except CIC, such alternative interventions should be taken seriously as a lead to the future management strategies of similar conditions. Unfortunately, in past 5 years of publication of the 1st case report, any further progress could not be made in this area and now we are presenting the similar observations again in the form of a case report with a difference that this case pertains to a young woman. The observations made in this case are more remarkable on multiple grounds. Functional urine retention in a young woman has a known bad prognosis and besides CIC there are no approachable interventions. This case has visited tertiary care biomedical centres in search of cure and was ended with a recommendation of CIC only. Searching the alternative remedies in such conditions is a natural human response which was also done in this case. While searching for remedies of urine retention in Ayurveda through internet, the patient has discovered the earlier published case report which was prompting for a successful treatment of an elderly male having the complaints of chronic urine retention. This report was motivational to patient to reach out to the Ayurveda for finding a cure. Obviously, after finding the desired relief, her confidence on alternative system of care might have increased. Since this patient has turned to Ayurveda after reading a similar report, this emphasises the importance of published case reports in bringing the awareness among people for all possible interventions available for similar conditions.

Although promising, the case reports in general have their own limitations. This is a common observation that upon getting the relief, patients often feel reluctant to repeat the investigations. This happened in this case too. Patient is still symptom free and despite of repeatedly asking her to go for repeat investigation, she did not complied for this request. Case reports usually represent the random reporting of cases having some unusual importance from diagnostic or outcome perspectives, these form the knowledge pool which is highly important yet is uncommon. Taking the leads from case reports and bringing the strategies adopted as the possible strategies to be mainstreamed could be a great advantage of case reporting. A very unlikely disadvantage of case reporting is the promotion of self-treatment by the people suffering with similar conditions. We have seen this happening in reference to the case report published prior to this report [2]. Another big advantage of publishing a case report is extending awareness among the people having the described clinical features and promoting them to take the similar course of therapy. This eventually will help creating a pool of the patients having desirable clinical conditions and will allow the treating physician to enrich his experience by treating more of such cases.

4. Conclusion

Urine retention due to functional reasons like detrusor underactivity or neurogenic bladder is a difficult to treat condition through pharmacotherapy. Clean intermittent catheterisation which is commonly recommended in such cases for symptomatic relief has its own problems and complications besides being severely devastating to the self-image and social life of the patient. If urine retention is related to a young woman, its detrimental effects can be unimaginable. In the absence of any promising remedy for this, any intervention which shows some light, should be taken up wholeheartedly for evaluating its real potential of treating similar cases. It is in this spirit, this case where a young woman having neurogenic bladder related urinary retention and had been on CIS for many months, if treated to the perfection through Ayurveda interventions, deserves a high mention in medical literature and is worth of getting evaluated further for its potential to bring out a promising cure for such cases.

5. Patient's perspective

This was quite a difficult situation for us to cope with self-evacuation of the urine regularly through the use catheter. After visiting AIIMS, New Delhi and being told that there are no remedies for such conditions and we need to take the help of self-catheterisation as and when it is required, we lost almost every hope. In the meantime, someone told us about the possibility of some cure from Ayurveda and shown us the published case report of similar condition. This has raised a small ray of hope again and we consulted the concerned Ayurveda physician. For initial few weeks nothing really happened and we have again started losing hope but since there was nothing else to do we had to wait. We started getting the response from Ayurveda intervention initially in the form of evacuation of small amount of urine with substantial burning. We continued the therapy with some modifications as suggested by the physician and gradually it went off. Now I am without any medication and is completely symptom free. This is almost unbelievable to anyone what actually has happened to me. Thanks to Ayurveda.

6. Informed consent

Informed consent was obtained from the patient before the start of the therapy. It was further obtained for the purpose of publication of the case report provided that all individual identifications were carefully concealed.

Funding acknowledgement

No funding has been acquired to compile this manuscript in any form.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author did not use any AI tool for writing, evaluation or analysis. The author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

Declaration of competing interest

No conflict of interest in any manner is there to be declared by the author.

Acknowledgement

The author wish to express their gratitude to the patients and her family for showing a trust on Ayurveda and allowing us to publish this case report as a service to humanity.

References

[1] Leslie SW, Rawla P, Dougherty JM. Female urinary retention [Updated 2023 May 30]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023. Available from: https://www.ncbi.nlm.nih.gov/books/NBK538497/.

[2] Rastogi S. Low-pressure, low-flow voiding dysfunction in an elderly male treated through ayurveda: A case report. J Evid Based Complementary Altern Med 2017 Oct;22(4):846–50. https://doi.org/10.1177/2156587217712764. Epub 2017. PMID: 28592135; PMCID: PMC5871289.
[3] Bhat SD, Ashok BK, Acharya R. Critical analysis of herbs acting on Mutravaha srotas. Ayu 2010;31(2):167–9. https://doi.org/10.4103/0974-8520.72379. PMID: 22131705; PMCID: PMC3215359.
[4] Szymański JK, Słabuszewska-Jóźwiak A, Jakiel G. Fowler's syndrome-the cause of urinary retention in young women, often forgotten, but significant and challenging to treat. Int J Environ Res Publ Health 2021;18(6):3310. https://doi.org/10.3390/ijerph18063310. PMID: 33806865; PMCID: PMC8005021.
[5] Gajanana Hegde, Priya Bhat. A case study on Neurogenic bladder vis- a- vis Bastikundalika. J Biol Sci Opin 2014;2(1):91–3. https://doi.org/10.7897/2321-6328.02120.
[6] Joshi AD, Shukla A, Chawathe V, Gaur AK. Clean intermittent catheterization in long-term management of neurogenic bladder in spinal cord injury: Patient perspective and experiences. Int J Urol 2022;29(4):317–23. https://doi.org/10.1111/iju.14776. Epub 2022 Jan 12. PMID: 35018670.