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Case study of Uttarbasti in clinical management of atonic bladder

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Abstract
Atonic bladder (neurogenic bladder with poor detrusor contractility) is a urological condition characterized by urinary retention, overflow incontinence, and incomplete voiding. Modern management includes catheterization, cholinergic drugs, or surgical interventions, but with limited success. Ayurveda describes *Mutraghata* conditions (esp. *Vatakr̥ta Mutraghata* / *Bastikundala*) that closely resemble this presentation. *Uttarbasti*, mentioned by Ācharya Sushruta and Charaka as a specific therapy for *Mutravikara*, can be an effective line of management. This study presents a single case where *Uttarbasti* demonstrated significant improvement in bladder function**.**

Keywords: Atonic bladder, Mutraghata, Vatakr̥ta Mutraghata, Bastikundala, Uttarbasti

Introduction
Atonic bladder, also referred to as neurogenic bladder with detrusor underactivity, is a clinical condition characterized by the inability of the bladder muscle to contract effectively, leading to urinary retention, overflow incontinence, and large post-void residual urine volume. It may result from neurological lesions, diabetes mellitus, chronic bladder overdistension, or spinal trauma. The prevalence of underactive bladder is reported to be around 10-15% in patients with lower urinary tract dysfunction, and the condition significantly affects quality of life due to recurrent urinary tract infections, catheter dependence, and renal complications [1].
In modern medicine, treatment options include intermittent catheterization, cholinergic agonists such as bethanechol, alpha-blockers, and in severe cases, surgical interventions [2]. However, outcomes are often unsatisfactory and may not restore physiological bladder function.
In Ayurveda, conditions resembling atonic bladder are described under the spectrum of *Mutraghata* (obstructive or dysfunctional micturition disorders). Among the 13 types of *Mutraghata* mentioned in classical texts, *Vatakr̥ta Mutraghata* and *Bastikundala* closely resemble neurogenic/atonic bladder [3]. The pathogenesis (*samprapti*) is attributed to vitiated *Apana Vata* leading to dysfunction of *Basti marma* (urinary bladder neuromuscular mechanism) [4].
Among Panchakarma therapies, *Uttarbasti* is considered the supreme line of management for *Mutravikara*, *Striroga*, and *Shukravikara* [5]. Ācharya Sushruta has specifically mentioned *Uttarbasti* as beneficial in disorders of bladder and urethra due to its direct local action on *Basti sira, snayu, and mamsa* [6]. The medicated oil used in *Uttarbasti* provides *Snigdha*, *Sukshma*, and *Vatahara* properties, thereby improving neuromuscular coordination and tone of the bladder [7].
Thus, considering the limitations of contemporary management and the potential efficacy of Ayurvedic therapy, the present single case study was conducted to evaluate the effect of *Uttarbasti* in a patient of atonic bladder.

Case Report
Patient Profile

Age/Sex: 48-year-old male

Occupation: Clerk (sedentary lifestyle)

Presenting Complaints
- Inability to void urine voluntarily since 4 months
- Dribbling and overflow incontinence

- Feeling of incomplete evacuation
- Occasional suprapubic discomfort

History
- Diabetic for 8 years, on allopathic medication
- No history of trauma, surgery, or spinal lesion
- General Examination: Moderately built, afebrile, stable vitals

Local Examination: Distended bladder palpable above pubic symphysis

Investigations
- **USG KUB:** Grossly distended bladder with significant post-void residual urine (~600 ml)
- **Uroflowmetry:** Poor flow, residual urine present
- **Routine urine exam:** WNL
- **Blood sugar:** Mildly raised (FBS - 138 mg/dl)

Ayurvedic Assessment
- **Nidana:** Madhumeha, Apatarpana, Vegavidharana (long hours of urine suppression at work)
- **Lakṣaṇas:** *Mutraavrodha, Mutra kricchrata, Mutraashaya udara shoola*
- **Samprapti:** *Vata prakopa* (esp. *Apana Vata*) → obstruction and atony of bladder → *Mutraghata*
- **Vyadhi Vinischaya:** *Vatakṛta Mutraghata*

Intervention
Preparation (Poorvakarma)
- Deepana-Pachana with *Trikatu Churna* 2 g/day × 5 days
- Mild *Snehapana* with *Murchhita Tila Taila* for 3 days

Pradhana Karma - Uttarbasti
- **Drug Used:** *Balataila* (processed with *Dashamoola* + *Bala*)
- **Dose:** 5 ml per sitting
- **Route:** Urethral (male)

Method
- Patient in lithotomy position
- Local cleaning with antiseptic decoction (*Triphala Kashaya*)
- Warm *Balataila* instilled slowly into bladder via sterilized catheter
- Retention advised for 15-20 minutes

Schedule: 1 sitting on alternate days × 10 sittings (total 20 days)
Adjuvant Internal Medicines
- *Chandraprabha Vati* - 500 mg BD
- *Varunadi Kwatha* - 40 ml BD before food
- *Dashamoolarishta* - 20 ml BD after food

Observations & Results

Day	Observation
Day 1-3	Relief in suprapubic heaviness, mild spontaneous voiding urge appeared
Day 4-7	Increased ability to void, reduced residual urine to ~400 ml
Day 10	Patient able to void without catheter support, residual urine ~250 ml
Day 15	Significant improvement, frequency of dribbling reduced, post-void residual ~150 ml
Day 20	Near normal bladder sensation, improved voiding, residual urine ~80 ml (USG)

Day/Stage	Subjective Findings	Objective Findings
Day 0 (Before Treatment)	No voluntary urge, constant dribbling, suprapubic heaviness	Bladder distended & palpable, USG KUB: residual urine ~600 ml, catheterization drained 650 ml, Uroflowmetry: poor flow
Day 1-3	Relief in heaviness, faint sensation of bladder fullness	PVR ~500 ml, spontaneous dribbling reduced, mild straining possible but no effective voiding
Day 4-7	Occasional weak urge to pass urine	Voluntary voiding ~200-250 ml, catheterization PVR ~400 ml, overflow incontinence reduced
Day 8-12	Clearer urge sensation, better initiation without excessive straining	Voluntary voiding ~350-400 ml, PVR ~250 ml, less bladder distension, Uroflowmetry: moderate flow
Day 13-16	Increased confidence in bladder evacuation, dribbling markedly reduced	Voluntary voiding ~450-500 ml, PVR ~150 ml (USG), no suprapubic discomfort, flow curve more continuous
Day 17-20 (Completion)	Near-normal urge, reduced nocturia, micturition satisfactory	Voluntary voiding ~550-600 ml, PVR ~80 ml (near-normal), USG: normal bladder outline, no catheterization ne

Discussion
The present case of atonic bladder was managed successfully with *Uttarbasti* using *Balataila*. In contemporary medicine, the mainstay of management for detrusor underactivity is catheterization and parasympathomimetic drugs such as bethanechol, but their efficacy is limited and complications like infections and drug intolerance are common [8]. This highlights the need for safer alternatives with better outcomes.
In Ayurveda, *Mutraghata* is described as a disease caused primarily by *Vata dosha vitiation*, particularly of *Apana Vata*. The dysfunction of *Apana Vata* leads to *Mutravarodha* (urinary obstruction) or *Mutra-apravṛtti* (inability to expel urine) [9]. *Basti* is considered one of the prime sites of *Vata* activity, and when deranged, it produces *Bastiroga* like *Bastikundala* (distended bladder) which resembles atonic bladder [10].

Uttarbasti is a specialized procedure indicated for *Mutravikara* because of its localized administration into the urinary bladder. It provides *Snehana*, *Vatahara*, and *Bṛhmana* actions, thereby nourishing bladder tissues and restoring neuromuscular coordination [11]. The oil, when retained inside the bladder for a stipulated time, acts directly on *Basti snayu (nerves)* and *mamsa (muscles)*, improving the tonicity of the detrusor and correcting the dysfunction of *Apana Vata* [12].
Balataila was specifically chosen in this case because *Bala (Sida cordifolia)* is *Balya* (strength-promoting), *Bṛhmana* (nourishing), and *Vatahara* in nature. It is also described as beneficial in *Snayu-Mamsa Vata Vyadhi* (neuromuscular disorders) [13]. Experimental studies have demonstrated that *Bala* contains alkaloids, phytosterols, and mucilaginous substances that exert anti-inflammatory and neuro-

regenerative effects [14], which may further support bladder neuromuscular recovery.

The gradual reduction in residual urine, improvement in bladder sensation, and restoration of spontaneous voiding in this case indicate the efficacy of *Uttarbasti*. Previous Ayurvedic studies have also reported positive outcomes of *Uttarbasti* in *Mutraghata* and neurogenic bladder cases [15]. Unlike conventional management, which remains supportive, *Uttarbasti* offers a restorative approach by addressing the root cause at the level of *Apana Vata* derangement and bladder musculature.

Mode of Action of Uttarbasti

1. Ayurvedic Perspective

Direct *Apāna Vāta sthāpana*

- In *Mutraghata*, the root pathology lies in *Apāna Vāta dushti*, which causes obstruction or absence of normal bladder emptying.
- *Uttarbasti* introduces *Snehadravya* (medicated oil/ghee) directly into the bladder/urethra.
- Its *Snigdha, Sukṣma, Vyavāyi* and *Vātahara* qualities pacify aggravated *Vāta* and restore its normal functions of *mutravisarga* (micturition).

Nourishment of *Basti mamsa, snāyu, and sira*

- Acharya Suśruta describes that *Basti* is composed of *mamsa, snāyu and sira* (muscle, nerve & vascular structures).
- Taila/ghee used in *Uttarbasti* acts as *Bṛhmana* (nourishing) and *Balya* (strength-promoting), thereby strengthening detrusor muscle and neural control.

Srotoshodhana (cleansing of urinary channels)

The unctuous drugs penetrate through *srotas* (urinary pathways), remove obstructions, and improve patency.

Stimulation of local *Agni*

Drugs like *Bala, Dashamoola* infused in taila stimulate local metabolism and tissue repair, supporting bladder tone and function.

Rasayana effect

Many *uttarbasti yogas* (e.g., *Balataila*) have *rasayana* and *vatahara* properties which promote regeneration and long-term restoration of bladder health.

2. Modern Perspective

Direct Neuromuscular Action

- Medicated oil reaches bladder mucosa and diffuses into underlying muscle & nerve plexuses.
- This stimulates sensory receptors, improves neuromuscular conduction, and restores bladder reflex arcs.

Local Lubrication & Tonicity

- Oils like *Balataila* provide a lubricating and nourishing effect on bladder wall.
- Improves compliance of bladder mucosa and enhances detrusor contractility.

Anti-inflammatory & Neuroprotective Effect

- Herbs like *Bala (Sida cordifolia)* have alkaloids and sterols with anti-inflammatory, antioxidant, and mild neuro-regenerative properties.
- Helps in reducing diabetic/neuropathic damage in atonic bladder.

Improved Blood Circulation

Retained oil enhances microcirculation in bladder wall and nourishes smooth muscle fibers, leading to improved tone.

Restoration of Bladder Sensation

The therapy enhances afferent signaling from bladder to brain, helping patient regain the urge for micturition and voluntary control.

Conclusion

Uttarbasti with *Balataila* demonstrated significant improvement in bladder function in a case of atonic bladder. This highlights its potential as an effective Ayurvedic intervention in *Mutraghata* conditions, especially in neurogenic bladder dysfunction. Larger clinical trials are needed to validate these findings.

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