



**ROLE OF UTTARBASTI IN THE MANAGEMENT OF THE NEUROGENIC BLADDER:
A CONCEPTUAL STUDY**

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ABSTRACT

Neurogenic bladder is a condition in which problems with the nervous system affects urination. Consequently, it can include overflow, incontinence, frequency, urgency, urge incontinence, and retention. Method- The review is taken from the Kayachikitsa, Sambuligum and articles from internet on the subject. Result – Bladder dysfunction due to nerve destruction. Conclusion – The evolution and management of the neurogenic bladder is the challenge to the contemporary medical science and Neuroscience. The process of management includes traditional principles and new technology process both.

KEY WORDS: *Neurogenic bladder, Uttarbasti.*

INTRODUCTION

Neurogenic bladder is the bladder dysfunction caused by the any damage in nervous system. Damage may be due to trauma or other nerve disease such as Parkinsonism and Multiple sclerosis. Neurological bladder is found in USA (40 percent to 90 percent) of persons with multiple sclerosis, (37 – 72 percent) of those of Parkinsonism and (50 percent) of the stroke. Found in more than 200,000 persons with spinal cord injury. Life style becomes uncomfortable due to neurogenic bladder. It affects patient's social behavior too. Neurogenic bladder can cause complication like renal damage, stone formation. Because of improper purification of urine, other chances of severe disease may develop such as arthritis. Main complication is severe renal failure which may be irreversible other complications are stone formation, bladder wall destruction, loss of control of urinary sphincter, and urinary tract infection due to storage. Severe renal damage can cause hematuria and death.

GENERAL INTRODUCTION

Neurogenic bladder is the bladder dysfunction caused by neurological damage. Disease of the peripheral and autonomic nervous system may result neurogenic bladder dysfunction. Symptoms include overflow, incontinence, frequency, urgency, partial emptying of bladder and retention of urine. Uncontrolled diabetes, B12 deficiency, Syphilis, or other infection and brain injury are aggravating factor of neurogenic bladder. Dysuria are present in commonly upper and lower urinary tract infection. Main symptoms are painful micturation and burning micturation. Due to Nerve

involvement there structural or obstructive abnormality may develop.

LITERATURE REVIEW CORRELATION

The symptoms of neurogenic bladder can correlate *Mutrakricha* (Dysuria), *Mutratis* (Incontinence of urine), *Mutrathar* (distended bladder), *Vatakundalika* (Spasmodic stricture), *Vatabasti* (retention of urine), *Mutrotsang* (Stricture of urethra), *Vatakundalika* (Atonic condition of bladder), *Mutrashaya* (Anuria). These all symptoms and complication occur due to neurogenic bladder. In correlation of dosha due to *Vata dosha* pain in lower abdomen or bladder, increased frequency or decreased quantity of urine, In *Pitta dosha* burning micturation, burning in bladder and penis, painful micturation, In *Kapha* dosha there is heaviness and swelling in bladder, testis, penis. Urine may be sticky, cold, white colored.

PHYSIOLOGY

Micturation is a process by which urine is voided from urinary bladder. It is a reflex process. Urinary bladder consists of body, neck and internal urethral sphincter. Smooth muscle forming the body of bladder is called detrusor muscle. At the distal end of urethra there is external urethral sphincter. It is made up of skeletal muscle fibers there for it is responsible for voluntary control of micturation. Preganglionic fibers of the sympathetic nerve arise from the two lumbar segment of the spinal cord. The stimulation of the sympathetic nerve causes relaxation of the detrusor muscle and

constriction of the internal sphincter. It results filling of urinary bladder.

The stimulation of the pelvic nerve or parasympathetic nerve S1, S2, S3 nerve causes contraction of the detrusor muscle and relaxation of the internal sphincter. It results emptying of urinary bladder.

External sphincter is innervated by the somatic nerve called the pudendal nerve. It arises from second, third, fourth sacral segment of the spinal cord. It maintains the tone or contraction of the skeletal muscle fiber of the external sphincter and keeps external sphincter constricted. Always during micturation this nerve is inhibited. In neurogenic bladder the pontine micturation center (PMC) is essential for the co-ordination of micturation. PMC is a collection of neuronal cell bodies located in the rostral Pons in the brain stem involved in the supraspinal regulation of the micturation. There is also involvement of the frontal cortex, insular cortex, hypothalamus and periaqueductal gray (PAG). PAG acts as a relay station for ascending bladder information from the spinal cord and incoming signals from the higher brain areas. In bladder emptying stage the (PMC) sends excitatory influence to the sacral spinal cord that produces detrusor (smooth muscle of the bladder) contraction simultaneously sending inhibitory influence to the thoracolumbar cord that produces internal urinary sphincter relaxation. Sympathetic nervous system innervations to the lower urinary tract arise from the T11-L2 thoracolumbar cord.

During bladder storage stage phase (PMC) inhibition cause suppression of sacral spinal cord that produces detrusor relaxation while simultaneously sending excitatory influence to the thoracolumbar cord that produces internal sphincter contraction. When conscious decision to void occurs the prefrontal cortex inhibition of the preaqueductal gray matter (PAG) is interrupted while simultaneously the hypothalamus stimulates (PAG). The overall result of the excitation of the (PMC) which produces voiding urine.

The mix sensory and motor nerves hypo gastric, pelvic and pudenda nerve innervates the lower urinary tract. Hypogastric nerve carries sympathetic autonomic nerves system innervations, and Pelvic nerve carries the parasympathetic autonomic nervous system innervations and pudendal nerve carries the somatic nervous system innervations to the lower urinary tract.

Trauma, Stroke, brain tumor other any type of lesion above the (pontine micturation center) in brainstem causes impairment of the bladder function. There is usually reduces awareness of the bladder fullness and low capacity bladder. It is also called spastic neurogenic bladder or hyper active neurogenic bladder. The lesion in brain stem causes continuous excitation of spinal micturation center that result in frequent and uncontrollable bladder. Due to Nerve involvement there

is structural or obstructive abnormality may develop. Severe destruction of the nerve causes permanent dysfunction of neurogenic bladder.

During the first stage after injury to sacral segment of spinal cord the bladder becomes atonic. Upper motor neuron neurogenic bladder dysfunction is characterized by detrusor-sphincter dysynergia (DSD). Where in simultaneous detrusor and urinary sphincter contractions produce high pressures in the bladder leading to back flow of the urine in ureter that can produce renal damage.

In lower motor neuron neurogenic bladder, the sacral micturition centers or related peripheral nerves are damaged though the thoracic sympathetic nervous system out flow to the urinary tract is intact. Despite low detrusor pressure over flow urinary incontinence and urinary tract infections are not uncommon thoracolumbar cord that produces internal urine sphincter contraction. When conscious decision to void occurs the prefrontal cortex inhibition of the preaqueductal gray matter (PAG) is interrupted while simultaneously the hypothalamus stimulates (PAG). The overall result produces voiding.

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In traumatic spinal cord injury or multiple sclerosis involvement cervicothoracic spinal cord lesion between (PMC) and sacral spinal cord) produces upper motor neuron bladder.

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SAMPRAPTI GHATAK

Dosha – Tridhosha vata pradhana

Dushya – Mutra

Srotas – Mutravaha srotas

Adhishan - Basti, Mutramarg

Srotodusti prakar – Sang

Savbhav – Chirkari

Sadyata-asadyata – KrichaSadya.

MANAGEMENT

To prevent these all complications, proper management of the patient's life style and treatment are required immediately. Main treatment is Anticholinergics, Solifenacin, Imipramine and intermittent self catheterization in emergency condition.

Panchakarma – Panchakarma treats disease from the basic level, so result is satisfactory more than allopathic

treatment. There is purification of the *dhosha* and metabolic waste material which can cause damage to the body organ, and causes *dhosha shaman kriya*. In neurogenic bladder the basic line of treatment is *shaman* of *apan vayu* by the *snehan* of bladder by the Uttarbasti. In ayurveda, Uttarbasti is the main treatment for urinary disorder. In Uttarbasti per urethral administration of medicated oil (krimighan, vranropan quality) is recommended for urinary tract disorder. Uttarbasti has very good result in structural abnormality and obstruction abnormality.

It acts very fast due to direct application. Uttarbasti enters micro channels due to *sukshma guna* of taila and it causes vata shaman due to its *snigdha guna*. Uttarbasti may stimulate organs which increase the blood supply favoring absorption of the drugs.

Other treatment of neurogenic bladder - In Ayurveda uses of *sahingen* and *laghu panchamulavarga*, *savdranstradi ghruta*, *Punarnavadi yoga*, *Gokshuradi yoga* are effective medicine in urinary disorder. According to dosha therapy may use *vaman* in *kapha*, *virechana* in *pitta*, *basti* in *vata*.

CONCLUSION

Neurogenic bladder caused by the impairment of the nerve function caused by any damage or disease. So we have to first treat causes. According to ayurveda the nerves system defect is vata *dushti* or *prakop*. So first vata *shamak kriya* should be done (mainly *apan vayu*). So Uttar bast is the best treatment for neurogenic bladder.

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