

Dysuria happens when the patient cannot void urine due to various reasons, which manifest as hesitancy and difficulty in urination, extended time, shortened range, weak urine stream, interrupted voiding and dribbling after urination, etc. With progression of the disease, failure to empty urine from the bladder results in urinary retention or ischuria. These patients always exhibit frequency and urgency on urination, urinary incontinence and dribbling after urination.

27.1 Etiology and Mechanism

1. **Mechanical obstruction:** The function of muscles and nerves which participate in urination is normal, but there are obstructive lesions between the bladder neck and external urethral orifice.

Common causes of mechanical obstruction:

- Bladder-neck obstruction: Internal organs lesions which are adjacent to bladder neck, such as benign prostatic hyperplasia, fibrosis and tumor, bladder calculus, blood clot and foreign bodies, uterine myoma, or uterine incarceration.
 - Urethral obstruction: Stricture of the urethra caused by inflammation or trauma, urethral calculus, foreign bodies, tuberculosis, tumor and diverticulum. Phimosis and posterior urethral valve are common causes of urethral obstruction in male infants.
2. **Dynamic obstruction:** There is no mechanical obstruction in the urinary tract. The cause of difficulty in urination is injury of the central or peripheral nerves, which leads to paralysis of detrusor muscle or spasm of the urethral internal sphincter. Some medications can also lead to the same finding.

Common causes:

- Neurological: congenital deformity such as rachischisis, spinal meningocele and meningomyelocele, cerebral or spinal cord tumors, stroke, encephalitis, poliomyelitis and myelophthisis, diabetes, radiation, multiple sclerosis and peripheral neuritis, which can damage peripheral nerves that control urination.
- Surgical: injury of pelvic nerves during anesthesia, surgery of the central nervous system, pelvic surgery which can injure pelvic nerves or cause dysfunction
- Medications: anticholinergic agents (atropine, 654-2 etc.), antidepressant, antihistamine and opiates.
- Psychological: mental stress, unfamiliar environment or habit of urination.

27.2 Clinical Manifestations and Accompanying Symptoms

1. **Benign prostatic hyperplasia or prostatic cancer:** commonly seen in male patients over the age of 50 with progressive difficulty in urination, accompanied by urinary frequency and urgency. Patients with terminal cancer may have tumor related clinical manifestations.
2. **Stricture of urethra:** These patients have the history of urethral injury, gonorrheal urethritis or lower abdominal radiotherapy. Purulent secretion near urethral orifice is usually seen in gonorrheal urethritis.
3. **Bladder or urethral calculus, foreign bodies:** Interruption of urinary stream or bifurcation of flow can be found in these patients, some may manifest dysuria and hematuria.
4. **Neurogenic bladder:** Diabetic peripheral neuropathy, neurological diseases or injuries are commonly found in these patients, usually accompanied with laxitas of anal sphincter and absent anal reflex, lower abdominal distention, frequent micturition and urinary incontinence.
5. **Lower urinary tract infection:** These patients typically have symptoms of urinary irritation including frequent

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and urgent urination, dysuria, also systemic symptoms of infection, such as fatigue and fever.

Key Points in History Taking

1. Duration and severity of difficulty in streaming (such as the trajectory, force and the duration of micturition), the frequency of urination (including the nocturnal polyuria) and urine volume.
2. Whether difficulty in streaming is combined with frequent micturition and urgent urination, dysuria, interruption of urinary stream and systemic symptoms (such as fever, fatigue and emaciation).
3. History of trauma, surgery or infection of cerebrum, spinal cord and urinary tract.
4. History of diabetes, peripheral neuritis and radiation of pelvic area.
5. Medications that can lead to difficulty in streaming, such as anticholinergic agent, antidepressant, antihistamine and opiates.