URETHRITIS (P. 1129)

- Inflammation of the urethra
- Causes → bacteria or viral infection, trichomonas and monilial infection (especially in women), chlamydia and gonorrhea (especially in men)
    - In men the cause is usually STIs → purulent discharge = gonococcal urethritis or clear discharge = nongonococcal
    - More difficult to diagnosis in women (discharge may not be present)
- Clinical manifestations → LUTS (dysuria, urgency, frequency)
- Discharge or split urine culture (urine collection at beginning of urine flow and midstream) for diagnosis
- Treatment based on identifying cause and symptomatic relief
    - Bacteria: trimethoprim/sulfaethoxazole and nitrofurantoin
    - Trichomonas: metronidazole (flagyl) and clotrimazole (Mycelex)
    - Monilial infection: nystatin (mycostatin) and fluconazole (diflucan)
    - Chlamydia: doxycycline (vibramycin)
    - Women with negative cultures and no pyuria → warm sitz bath
        - Do not use vaginal sprays, properly cleanse and wipe perineal area and avoid sex until symptoms subside
- Refer sexual partners (within the past 60 days) for medical evaluation

URETHRAL DIVERTICULA (P. 1129-1130)

- Result of obstruction and subsequent rupture of the periurethral glands into the urethral lumen with epithelialization (regrowth of issue) over the opening of the resulting periurethral cavity
- More common in women, men occurrences usually due to congenital anomalies
- Skene's glands are the largest/most distal and common site of diverticula formation
- Causes→ urethral trauma (childbearing, instruments, dilation and gonococcal infection)
- Symptoms (1/4 women have no symptoms)
    - Dysuria, post void dribbling, frequency (every 2 hours or less), urgency, suprapubic pressure/discomfort, dysparenunia, incomplete bladder emptying
    - Cloudy urine with sediment and gross hematuria
    - Anterior vaginal wall mass → tender and express purulent discharge
- Diagnosis→ cystourethrography to confirm dx; ultrasound and MRI to determine size
- Treatment
    - transurethral incision of diverticular neck
    - marsupialization (permanent opening) of the diverticular sac into the vagina
        - Spence procedure
    - Surgical excision → very cautious procedure,result in defect →neourethra (new urethra)
    - Other precautions: diverticular neck closure, complete sac mucosal lining removal to prevent reoccurrence, and multiple layered closure to prevent fistula formation
        - Complications → stress urinary incontinence

INTERSTITAL CYSTITIS / PAINFUL BLADDER SYNDROME (P. 1130-1131)

Interstitial cystitis (IC)

- chronic, painful inflammatory disorder of the bladder
- Symptoms of urgency/frequency and pain in the bladder and pelvis

Painful bladder syndrome (PBS)

- suprapubic pain r/t bladder filling
- Other symptoms of frequency with no UTI or obvious pathology

CAUSE

- Most common in women over 40
- Unknown, suspected factors:
    - Chronic inflammation with bladder mast cell invasion
    - Glycosaminoglycan layer defect (protective bladder mucosa against urine exposure)
    - Abnormal urine contents
    - dysfunction of the lower urinary tract and reflex sympathetic dystrophy

CLINICAL MANIFESTATIONS

- Pain in the suprapubic area but also the vagina, labia or entire perineal area
    - Exacerbated by bladder filling, postponing urination, physical exertion, suprapubic pressure, eating and emotional distress
    - Pain is relieved by urination
    - Women: pain before menstruation and aggravated by sex and emotional distress
- Bothersome LUTS (frequency and urgency)
    - Often misdiagnosed as recurrent UTIs or chronic prostatitis (men)
- Get worse over time→ can suddenly disappear after weeks/months or persist for years

DIAGNOSIS

- Diagnosed by exclusion
    - Suspected if UTI symptoms but no bacteriuria, pyuria or positive urine culture
    - Similar to UTI and endometriosis symptoms
        - Must have at least one negative urine culture during active symptoms
    - IC → cystoscopic exam reveals small bladder capacity and superficial ulcerations
        - Also bladder filling called glomerulations
        - these findings are not found in PBS
- Inclusion criteria
    - Pain during bladder filling → relieved by voiding
    - Urgency and frequency
    - Small bladder capacity on urodynamic testing
    - Cystoscopic evidence of ulcerations of glomerulations
- Exclusion criteria
    - Bladder capacity >350 ml of urodynamic testing
    - Overactive bladder contractions on urodynamic testing
    - Daytime voiding frequency <8 times/day
    - Active genital herpes

    - Hx of chemotherapy (especially cyclophosphamide [Cytoxan]) or pelvic radiation
    - Tubercular cystitis
    - Balder tumor

COLLABORATIVE CARE

- Dietary alterations to relieve pain and voiding complications
    - Low acidic foods, no coffee/tea/alcohol/carbonation
    - Over the counter calcium phosphorus (prelief) → assists with diet associated pain
        - Alkalinizes the urine and provides pain relief
- Basic relaxation techniques
    - Sitz baths, heat or cold application to perineum/bladder and stress reduction tapes
- Altered positions and lubricants during sex

DRUG THERAPY

- Tricyclic antidepressants → amitriptyline (Elavil) and nortriptyline (Aventyl)
    - Reduce burning pain and frequency
- Pentosan (Elmiron) →only oral agent to treat IC
    - Enhances glycosaminoglycan layer of the bladder
    - Take weeks to become effective → immediate relief with opioid analgesics (short term)
- Agents instilled directly into the bladder (via small catheter)
    - Dimethyl sulfoxide (DMSO) desensitizes bladder wall pain receptors
    - Heparin and hyaluronic acid to relieve symptoms
        - Thought to enhance the glycosaminoglycan protective properties
    - Instilled with lidocaine due to rapid instillation pain
- Bacille Calmette-Guerin (BCG) intravesically
    - Mechanism of action unclear → possible alleviation of autoimmune disorder
- Surgery → ileal conduit
    - Last resort when pain is severe and unrelieved
    - May still experience pain in the diversion (indication the urine itself is the issue)

NURSING MANAGEMENT

- Focus on pain characterization and specific dietary/lifestyle factors
- Bladder log and voiding diary over at least 3 days → frequency and nocturia
    - Include a pain record
- Reassure patient that IC/PBS is real and experienced by others relieves anxiety/guilt/frustration
- UTI can occur due to diagnostic instruments and testing →acute LUTS and pain exacerbation
- Education
    - Diet (most effective pain treatment)
        - Caffeine, alcohol, citrus, aged cheese, nuts, vinegar, curry, hot peppers
    - Avoid high potency vitamin supplements
    - Avoid tight belts, restrictive waistlines, or any clothing producing suprapubic pressure
    - Coping support for frequency and emotional burden
        - Support groups ad patient advocacy groups