Block P MCQs Presentations

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OBSTETRICS

Placenta Previa

- Painless, bright-red vaginal bleeding in the 2nd or 3rd trimester
- Often after 20–28 weeks
- No abdominal pain
- Soft, non-tender uterus
- Bleeding may be recurrent and unpredictable
- Fetal heart rate usually normal
- Maternal vitals stable initially

Placental Abruption

- Sudden onset of painful vaginal bleeding in the 2nd or 3rd trimester
- Severe constant abdominal pain
- Uterus is hard / “wood-like” / tender
- Bleeding may be dark red
- Uterine contractions are frequent
- Fetal distress or death may be present

Concealed abruption

- Little or no vaginal bleeding
- But severe pain + shock + fetal compromise
- Fundal height ↑ due to hidden blood
- MCQs often test: severe pain + fetal distress + shock but minimal bleeding

Classic exam “one-liners” to memorize for Placental Abruption

- “Painful third-trimester bleeding”
- “Board-like uterus”
- “Hypertensive pregnant woman with bleeding”
- “Fetal distress with abdominal pain”
- “Shock out of proportion to visible blood loss”
- “History of trauma followed by bleeding”
- “Low fibrinogen levels”
- “Ultrasound may be normal”

Vasa Previa

- Painless vaginal bleeding after rupture of membranes + acute fetal distress or death
- Usually in 2nd stage / during labor
- Bleeding is fetal blood → small volume but catastrophic for baby
- Maternal vitals often normal
- Fetal heart rate: bradycardia or decelerations
- Often followed by stillbirth if not treated immediately

- Very common MCQ line: “A woman in labor has sudden painless vaginal bleeding immediately after rupture of membranes. Fetal heart rate drops to 60 bpm.”

Uterine Rupture

- Pregnant woman in labor with sudden severe abdominal pain + loss of fetal station + fetal distress
- Sudden tearing / ripping abdominal pain
- Cessation of contractions afterward
- Fetal heart rate → bradycardia or absent
- Presenting part moves up / loss of engagement
- Vaginal bleeding
- Maternal tachycardia / hypotension
- “A woman with a previous C-section develops sudden severe abdominal pain during labor followed by fetal bradycardia and loss of fetal station.”

Uterine Inversion

- Sudden postpartum hemorrhage with shock out of proportion to blood loss
- Timing: Immediately after delivery (usually 3rd stage of labor)
- Clue: Severe hypotension + bradycardia (vagal response)
- Shock appears disproportionate to visible bleeding

OR

- A mass protruding from the vagina
- Described as:
    - “Red-blue globular mass in the introitus”
    - “Uterus seen outside the cervix”
- Often accompanied by: Severe pain, Bleeding, Collapse

OR

- Uterine fundus NOT palpable abdominally

Amniotic Fluid Embolism

Signature Pattern (VERY HIGH-YIELD)

- Sudden cardiovascular collapse + respiratory distress + DIC
- during labor, delivery, or immediately postpartum

Ultra-High-Yield One-Liners

- “Sudden hypoxia + hypotension + DIC during labor” → AFE
- “Cardiopulmonary collapse immediately postpartum” → AFE
- “Most common cause of DIC in obstetrics” → AFE
- “Feeling of impending doom before collapse” → classic line

Cord Prolapse

- Sudden, severe fetal bradycardia or recurrent variable decelerations after membrane rupture
- FHR <110 bpm
- Prolonged deceleration
- Deep variable decelerations
- …and this occurs immediately after ROM — either spontaneous or artificial.
- "Following artificial rupture of membranes, the fetal heart rate suddenly drops to 60 bpm. On vaginal examination, a pulsating cord is felt."

If these are mentioned, think prolapse:
- Prematurity / low birth weight
- High fetal station (-3, -2)
- Long cord
- Malpresentation (breech, footling)
- Multiparity
- Polyhydramnios
- Artificial rupture of membranes
- External cephalic version

Placenta Accreta
- "A woman with placenta previa and prior cesarean section has severe postpartum hemorrhage when the placenta fails to separate after delivery."
- Key line: "Placenta does not separate and there is torrential bleeding."
- "Placenta previa + previous C-section → think accreta"
- "Placenta fails to separate + massive bleeding → accreta"
- "Most definitive treatment = hysterectomy"
- "Do NOT manually remove the placenta in known accreta"
- "Percreta invading bladder → hematuria / cystoscopy clues"

Antenatal Clue (Often Given in Question)
- Placenta previa
- History of prior C-section(s)
- Multiparity
- Prior uterine surgery / curettage
- IVF (less common but tested sometimes)

At Delivery
- Placenta fails to detach
- Manual removal is difficult or impossible
- Massive postpartum hemorrhage

Ultrasound Findings in the Question (when diagnosed antenatally)
- Loss of retroplacental "clear zone"
- Placental lacunae ("Swiss-cheese appearance")

- Increased vascularity on Doppler
- Placenta bulging into bladder (percreta)
- Antenatal diagnosis is VERY commonly tested.

Very High-Yield Risk Factors

- Placenta previa + previous C-section (most important)
- Multiple C-sections → risk ↑ with number
- Prior uterine surgery (myomectomy)
- Curettage / Asherman's
- Multiparity
- Maternal age >35

How Exams Try to Trick You

- Placenta previa - Painless antepartum bleeding, normal separation
- Placental abruption - Painful bleeding before delivery
- Retained placenta - Placenta separates but remains trapped
- Uterine atony - Soft boggy uterus but placenta delivered
- With accreta, the placenta is firmly attached and won't separate.

Preterm Labor

- Labor occurring between 20–37 weeks of gestation with regular uterine contractions + cervical changes (≥2 cm dilatation or ≥80% effacement).
- Contractions without cervical change = threatened PTL
- With cervical change = preterm labor
- Ultrasound: cervical length (<25 mm increases risk)
- Fetal fibronectin (presence in cervicovaginal secretions 22–34 wks → increased risk)
- If maternal/fetal compromise → delivery regardless of gestation
- "24-week fetus, PTL, how to delay labor?"→ Tocolysis + corticosteroids
- "Best predictor of preterm birth in asymptomatic women?"→ Cervical length or fetal fibronectin
- Magnesium sulfate for neuroprotection
- Contraindication to tocolysis?" → maternal hemorrhage, severe preeclampsia, fetal compromise

PPH

- Blood loss ≥500 ml after vaginal delivery or ≥1000 ml after cesarean section within 24 hours of birth (primary PPH).
- Secondary PPH: 24 hours to 6 weeks postpartum, usually due to retained products or infection.
- Uterus soft, boggy → clue for uterine atony
- Firm uterus but continued bleeding → trauma or retained tissue
- Ultrasound → retained products if secondary PPH
- Management
    - Oxytocin - 10 IU IM/IV - First-line for atony

    - Misoprostol - 600–1000 mcg PO/PR - Alternative
    - Methylergometrine - 0.2 mg IM - Contraindicated in hypertension / preeclampsia
    - Carboprost (PGF2α) - 250 mcg IM - Contraindicated in asthma
    - Uterine massage (first step if atony)
    - Compression sutures (B-Lynch)
    - Arterial ligation (uterine / hypogastric)
    - Hysterectomy (last resort)
- Most common cause of PPH?→ Uterine atony
- Risk factor for PPH?→ Multiple gestation, prolonged labor, previous PPH
- Management of uterine atony?→ Uterine massage + oxytocin
- Drug contraindications MCQ:
    - Methylergometrine → hypertension / preeclampsia
    - Carboprost → asthma

Renal Surgery

Undescended Testes

- “A 6-month-old / 1-year-old boy with an empty scrotum on one side since birth.”
- “Testis not palpable in the scrotum.”
- “A small firm mass is felt in the inguinal canal” - Undescended, not absent
- Newborn - Many descend spontaneously
- 6 months - Should have descended
- 6–12 months - Time for orchiopexy
- >1 year - ↑ infertility & malignancy risk
- Orchidopexy involves mobilization of testes and spermatic cord and repositioning into the scrotum. The testes is placed in pouch constructed between dartos muscle and skin.
- “Empty scrotum in infant” → cryptorchidism
- “Most common complication” → infertility
- “Most common malignancy” → seminoma
- “Best age for orchiopexy” → 6–12 months
- “Testis palpable in inguinal canal” → undescended testis
- “Retractile testis is NOT cryptorchidism”

Testicular Torsion

- Adolescent boy with sudden, severe unilateral scrotal pain, often waking him from sleep, associated with nausea and vomiting.
- Sudden onset scrotal pain
- Nausea & vomiting (very common)
- Neonates and adolescents (12–18 years)

- Physical Examination Findings
    - High-riding testis - Affected testis sits higher than normal
    - Horizontal lie of testis - Due to bell-clapper deformity
    - Absent cremasteric reflex - Most sensitive physical sign (Stroking inner thigh → no testicular elevation)
    - Swollen, tender scrotum
    - Negative Prehn sign - Elevation of testis does NOT relieve pain
- Do NOT delay surgery for imaging if suspicion is high
- Doppler US shows absent blood flow (if done)
- Immediate surgical exploration should be done
- Bilateral orchiopexy (even if torsion is unilateral)
- "Sudden scrotal pain + vomiting in adolescent" → torsion
- "Absent cremasteric reflex" → torsion
- "High-riding, horizontal testis" → torsion
- "Negative Prehn sign" → torsion

Differentials Examiners Love to Contrast
- Epididymitis - Gradual onset, fever, dysuria, relief on elevation
- Torsion of appendix testis - Blue dot sign, less severe pain
- Inguinal hernia - Cough impulse, reducible
- Orchitis - Viral prodrome, parotitis

Torsion of testicular appendage
- Acute onset of hemiscrotal pain
- pain is located in superior pole of testes
- common in boys < 11 years old
- Nodule at superior pole of testis with "blue dot" appearance
- Cremasteric reflex is present

Epididymo-Orchitis
- Sexually active young man with gradually increasing unilateral scrotal pain, fever, and urinary symptoms.
- Gradual onset scrotal pain
- Urinary symptoms - Dysuria, Frequency, Urethral discharge (STI-related cases)
- Positive Prehn sign - Elevation of scrotum relieves pain
- Intact cremasteric reflex
- Testis in normal vertical position
- Urinalysis: pyuria, bacteriuria
- NAAT positive for Chlamydia/Gonorrhea
- Doppler US: increased blood flow (hyperemia)

Varicocele
- Adolescent or young adult male with painless scrotal swelling or infertility, worse on standing and relieved on lying down.

- Painless scrotal swelling
- “Bag of worms” on examination
- Left-sided predominance (VERY high-yield)
- Most common correctable cause of male infertility

Common MCQ Traps / Differentials

- Hydrocele - Transilluminates
- Inguinal hernia - Cough impulse
- Epididymal cyst - Localized, cystic
- Testicular tumor - Hard, non-reducible

Hydrocele

- Painless scrotal swelling that transilluminates, often noticed incidentally
- Positive transillumination test (VERY high-yield)
- Testis not separately palpable - Testis is surrounded by fluid
- Scrotal ultrasound → confirms fluid collection

Painful acute scrotum

- Acute severe pain + high-riding testis + absent cremasteric reflex → testicular torsion
- Gradual pain + fever + Prehn’s sign positive → epididymo-orchitis
- First investigation → doppler US
- management → torsion → surgery immediately

Painless scrotal swelling

- Transilluminates → hydrocele or spermatocele
- Firm, non-transilluminating → testicular tumor

Infertility / bag-of-worms

- Varicocele → most common left-sided
- May be subclinical → detected on standing exam
- MCQ trap: “Which side is most commonly affected?” → Left (longer vein, more vertical drainage)

Hernia vs scrotal mass

- Inguinoscrotal hernia → increases on cough / standing
- Hydrocele → does not change with posture

Investigations to know for MCQs:

- Doppler US → torsion vs orchitis
- Urine culture → epididymo-orchitis
- Ultrasound → tumors, hydrocele, spermatocele
- Semen analysis → varicocele evaluation

High-yield MCQ tips / traps

- Age clues → testicular tumors (20–40yo), hydrocele (children & adults), torsion (teens)
- Side clues → varicocele left-sided predominance
- Acute management → torsion = surgical emergency, not antibiotics
- Red flag → any painless swelling in adult male → rule out tumor

Urolithiasis

- A patient presents with severe colicky flank pain radiating to groin with hematuria.
- Renal colic → loin to groin
- Microscopic or gross hematuria
- Nausea/vomiting common
- Pain not relieved by change in posture
- Gold standard → Non-contrast CT KUB
- Initial test in pregnancy / children → US KUB
- Follow-up of radio-opaque stones → X-ray KUB
- IVU → mostly outdated
- Trap: X-ray KUB ≠ confirmatory for all stones
- Radiolucent → Uric acid, cystine (faint)
- Radio-opaque → Calcium, struvite
- Common sites:
    - Pelvi-ureteric junction (PUJ)
    - Crossing of iliac vessels
    - Vesico-ureteric junction (VUJ) ← most common
- Stone < 5 mm → conservative (fluids, analgesia)
- NSAIDs → drug of choice for renal colic
- Alpha blockers (tamsulosin) → medical expulsive therapy
- Fever + obstruction → urological emergency
- Pregnancy → US KUB
- Recurrent stones → metabolic evaluation
- Children → suspect metabolic cause
- Diagnosis confirmed by → NCCT KUB
- Most common stone → Calcium oxalate
- Most common impaction site → VUJ
- Best analgesic → NSAIDs

Causes of Dysuria

- UTIs (most common)
- Urolithiasis
- Urethritis
- Prostatitis (male)
- Other / miscellaneous
    - Catheter irritation
    - Radiation cystitis
    - Drugs (cyclophosphamide → hemorrhagic cystitis)

UTIs

- Cystitis → dysuria, frequency, suprapubic pain
- Pyelonephritis → dysuria + fever + flank pain
- Asymptomatic bacteriuria → screen in pregnancy

Urethritis

- STI-related (gonorrhea, chlamydia)
- Dysuria + urethral discharge

Prostatitis (male)

- Dysuria + perineal pain + tender prostate
- Chronic vs acute distinction

Investigations for Dysuria

- Urine dipstick → leukocyte esterase, nitrites
- Urine microscopy & culture → gold standard
- Imaging if complicated → NCCT KUB (stones), US KUB (pregnancy)
- Red-flag scenarios → cystoscopy (recurrent, painless hematuria)

Treatment

- Uncomplicated UTI: Nitrofurantoin, fosfomycin, amoxicillin-clavulanate
- Pyelonephritis: IV antibiotics
- Pregnancy: Treat all UTIs (including asymptomatic bacteriuria)
- STI urethritis: Azithromycin / doxycycline or ceftriaxone (depending on organism)

Special considerations

- Dysuria in pregnancy - Must treat asymptomatic bacteriuria
- Dysuria + negative culture - Consider STI urethritis
- Dysuria + flank pain - Could be stone or pyelonephritis
- Male dysuria - Rule out prostatitis / urethritis

Hematuria

- UTI
- Urolithiasis
- Glomerular causes
- Malignancy
- Trauma / iatrogenic
- Benign prostatic hyperplasia (BPH)

Investigations

- Urine routine & microscopy
- Urine culture (to rule out infection)
- Imaging

    - NCCT KUB → stones
    - Ultrasound → hydronephrosis, stones
    - Cystoscopy → painless hematuria, suspected malignancy
- Gross painless hematuria → cystoscopy is mandatory, not just imaging

Combined “Dysuria + Hematuria” MCQs

- “Young woman with dysuria, frequency, hematuria, no fever.” - Cystitis (uncomplicated UTI)
- “Older male, painless hematuria, no infection.” - Bladder carcinoma → cystoscopy
- Fever + hematuria → think pyelonephritis, not cancer
- Dysuria + negative culture → consider urethritis

BPH

- Non-malignant enlargement of the prostate, usually in men >50, causing bladder outlet obstruction.
- Most common cause of lower urinary tract symptoms (LUTS) in older men.
- Lower urinary tract symptoms (LUTS)
    - Obstructive / voiding symptoms: Hesitancy, Weak stream, Intermittency, Straining, Incomplete emptying, Terminal dribbling
    - Irritative / storage symptoms: Frequency, Nocturia, Urgency, Dysuria (less common)
- “Older male, weak urinary stream, nocturia. Most likely diagnosis?” → BPH
- “Which of these is an irritative symptom?” → frequency/nocturia
- Enlarged, smooth, firm prostate on DRE
- No nodules → differentiates from prostate cancer
- “Firm, smooth, enlarged prostate, no nodules → likely diagnosis?” → BPH
- “Hard nodular prostate → think?” → prostate cancer
- “Acute retention in older male → first-line management?” → Catheterization, not surgery
- Investigations MCQs
    - PSA - Can be mildly elevated; mainly to rule out cancer
    - Urine routine / culture - Rule out UTI
    - Ultrasound KUB - Assess residual urine, hydronephrosis, stones
    - Uroflowmetry / post-void residual - Optional; sometimes asked in MCQs
    - Cystoscopy - Rarely for complicated cases (stricture or hematuria)
    - PSA slightly raised → doesn’t automatically mean cancer in BPH
- Medical therapy
    - Alpha-1 blockers → tamsulosin, terazosin (fast relief)
    - 5-alpha reductase inhibitors → finasteride, dutasteride (shrink prostate, slow onset)
    - Combination therapy → severe LUTS
- Surgical therapy Indications:
    - Failed medical therapy
    - Complications (stones, retention, hydronephrosis)
- Surgical Procedures:

    - TURP - Trans urethral resection of prostate (exam favorite)
    - Open prostatectomy (very large glands)
    - Minimally invasive procedures (laser, stent; less common in undergrad MCQs)

Alpha-1 blockers (e.g., tamsulosin, terazosin, doxazosin)

- Onset of action: Fast (hours–days)
- Effect: Improves urinary flow, relieves symptoms quickly
- Does not shrink the prostate
- Best for: Men with moderate symptoms, smaller prostates, or urgent symptom relief
- Elderly male with LUTS, moderate obstruction, no complications → alpha-blocker first
- Acute symptom relief before surgery
- Tamsulosin (selective alpha-1A blocker) can cause Intraoperative Floppy Iris Syndrome (IFIS)

5-alpha reductase inhibitors (e.g., finasteride, dutasteride)

- Onset of action: Slow (3–6 months)
- Effect: Reduces prostate size, reduces risk of urinary retention / need for surgery
- Best for: Men with large prostates (>40–50 g), progressive disease, or recurrent retention
- Large prostate with moderate-severe LUTS

Combined therapy: severe LUTS + large prostate → alpha-blocker + 5-alpha reductase inhibitor

Prostate size and management

- < 30 gm (small)
    - Usually medical therapy (alpha-blockers ± 5-ARI)
    - TUIP / TUI (Transurethral incision of prostate)
    - TUIP preferred in small glands; less invasive, preserves ejaculation
- 30 - 80 gm (Moderate)
    - Medical therapy possible; if symptoms persist → surgery
    - TURP (Transurethral resection of prostate) - Gold standard for moderate BPH
- > 80 gm (Large)
    - Often medical therapy initially; if symptomatic → surgery
    - Open prostatectomy / Transvesical prostatectomy
    - Large glands may need open surgery; TURP technically difficult
- > 100 gm (Very large)
    - Surgery indicated if symptomatic
    - Open prostatectomy

Red-flag / Exam Trap MCQs

- Acute urinary retention - First step → catheterization
- Painless hematuria in BPH patient - Consider rule out malignancy, cystoscopy
- Hard, nodular prostate - Prostate cancer
- Elderly male with LUTS - Most common cause → BPH

- Severe LUTS not responding to medication - TURP indication

Pathophysiology / basic fact MCQs
- Hyperplasia mainly occurs in periurethral / transitional zone
- Can cause bladder outlet obstruction
- Does not usually lead to cancer (though PSA monitoring needed)

Prostate
- Peripheral zone (PZ) - site for prostatic carcimoma (due to high number of glands)
- Transitional zone (TZ) - also called periurethral zone - site for BPH

Bladder Carcinoma
- Painless gross hematuria
- Dysuria / frequency / urgency
- Age - Most common in 50–70 years, male > female
- Risk factor hints in stem - Smoking, industrial exposure (aniline dyes, rubber, leather, textiles), chronic Schistosoma infection
- "A 65-year-old man presents with painless hematuria. Most likely diagnosis?" → Bladder carcinoma
- "Which of the following is a major risk factor for bladder cancer?" → Smoking
- Transitional cell carcinoma (urothelial carcinoma) - Most common (~90%)
- Gross appearance - Exophytic, papillary, often described as cauliflower-like mass projecting into the bladder lumen
- Squamous cell carcinoma - Associated with Schistosoma infection / chronic irritation
- Adenocarcinoma - Rare, often at bladder dome
- Investigations
    - Urine cytology - Detects malignant cells (high-grade lesions)
    - **Cystoscopy** - Gold standard for diagnosis
    - Biopsy / TURBT - Confirms histology
    - Imaging (CT / US) - Staging and detecting upper tract involvement
    - Urine dipstick / routine microscopy - Often shows hematuria, non-specific
    - "Painless hematuria → next investigation?" → Cystoscopy, not just imaging or urine tests
- Non-muscle invasive (Ta, T1) → confined to mucosa/submucosa
- Muscle invasive (T2+) → invades detrusor → worse prognosis
- Intravesical BCG → prophylaxis for recurrence
- Recurrence monitoring → cystoscopy every 3–6 months
- Painless hematuria in adult male → always suspect bladder cancer
- Chronic catheter / stones → squamous cell carcinoma
- Cytology may be negative in low-grade tumors → cannot rule out disease
- Do not confuse hematuria from UTI (painful, irritative) vs cancer (painless)

Hypospadias
- A male child has urethral opening on the ventral surface of penis.

- Glanular - On glans
- Coronal / Subcoronal - Near corona
- Penile - Shaft
- Penoscrotal - Junction
- Perineal - Perineum (severe)
- Hypospadias results from failure of fusion of urethral folds on ventral penis
- Timing of surgery - 6–18 months of age (best answer)
- Circumcision is contraindicated before repair (prepuce used for surgery)
- MAGPI → distal hypospadias
  MAGPI (Meatal advancement and granuloplasty)
- Snodgrass (TIP repair) → most common
- Duckett → proximal cases
- Most common complication - Urethrocutaneous fistula
- Embryological defect → Failure of urethral fold fusion

Urethral Stricture

- Anterior urethral stricture → infection / instrumentation
- Posterior urethral stricture → pelvic fracture
- Bulbar urethra (most common site) - Trauma, instrumentation
- Penile urethra - Lichen sclerosus
- Posterior urethra - Pelvic fracture
- Young male with recurrent UTIs + weak stream
- Gold standard investigation - Retrograde urethrogram (RGU)
- Short stricture (<1–2 cm) - Dilatation, Optical internal urethrotomy (OIU)
- Long / recurrent stricture - Urethroplasty (definitive)
- Acute retention with stricture - Suprapubic catheterization (NOT urethral)
- Most common cause → Iatrogenic
- Most common site → Bulbar urethra
- Best investigation → RGU
- Definitive treatment → Urethroplasty
- Acute retention management → Suprapubic catheter
- Weak stream after catheterization → urethral stricture
- Pelvic fracture + retention → posterior urethral injury
- RGU showing narrowing → diagnosis
- Recurrent stricture after OIU → urethroplasty
- Retention + stricture → SPC

Likely source of hematuria

- Initial hematuria - Anterior urethra
- Terminal hematuria - Bladder neck / posterior urethra
- Total hematuria - Kidney / ureter / bladder
- Terminal hematuria in elderly male → bladder carcinoma until proven otherwise

Cretinism

- Infantile hypothyroidism
- Infant with developmental delay, poor feeding, constipation, and coarse facial features
- Untreated → irreversible mental retardation
- Prolonged neonatal jaundice - Often the first sign
- Characteristic facies - Coarse facial features, Puffy face, Macroglossia, Depressed nasal bridge
- Hypotonia - “Floppy baby”
- Umbilical hernia - Very common MCQ clue
- Newborn screening - ↑ TSH, ↓ T4
- Treatment - Levothyroxine immediately

Ultra-High-Yield One-Liners for Cretinism

- “Most common preventable cause of mental retardation” → congenital hypothyroidism
- “Prolonged neonatal jaundice + macroglossia” → cretinism
- “Best screening test” → TSH
- “Treatment must start before 2 weeks” → levothyroxine
- “Umbilical hernia + coarse facies” → cretinism

Myxedema

- Middle-aged or elderly patient with fatigue, cold intolerance, weight gain, and puffy face.
- “Elderly woman with known hypothyroidism presents in winter with hypothermia, altered mental status, bradycardia, and hypotension.”
- Non-pitting edema (VERY high-yield)
- Puffy face
- Periorbital swelling
- Expressionless, mask-like face
- Loss of lateral eyebrows
- Coarse, dry skin
- Hoarse voice
- Bradycardia
- Constipation
- Proximal muscle weakness
- Delayed relaxation of reflexes
- ↑ TSH
- ↓ T4

Hashimoto’s Thyroiditis

- Middle-aged woman with painless goiter, weight gain, cold intolerance, and fatigue.
- Painless, firm goiter (VERY high-yield)
- Diffuse enlargement
- Firm or rubbery
- Hypothyroid symptoms
- Transient hyperthyroid phase (“Hashitoxicosis”) - “Patient initially has palpitations and weight loss, later develops hypothyroidism.”

- Associated autoimmune diseases - Type 1 diabetes, Addison disease, Pernicious anemia, Vitiligo, SLE
- Anti-TPO (most sensitive)
- Anti-thyroglobulin
- Hurthle cells (oncocytic cells)

Common MCQ Traps / Differentials
- Graves disease - Painless. Hyperthyroid, ophthalmopathy
- Subacute thyroiditis - Painful thyroid, ↑ ESR
- Multinodular goiter - Nodular, usually euthyroid
- Thyroid carcinoma - Hard solitary nodule

Grave's Disease
- Young or middle-aged woman with weight loss despite increased appetite, palpitations, heat intolerance, and diffuse goiter.
- Hyperthyroid symptoms
- Graves ophthalmopathy (pathognomonic)
- Proptosis / exophthalmos
- Lid retraction
- Lid lag
- Eye involvement does not occur in other causes of hyperthyroidism
- Diffuse, painless goiter
- Soft, symmetrically enlarged thyroid
- Thyroid bruit (very high-yield)
- Pretibial myxedema
- Autoimmune background
- TSH receptor antibodies (TRAb / TSI) → diagnostic
- Diffuse increased uptake of radioactive iodine (distinguishes from thyroiditis)

Cushing Syndrome
- Middle-aged patient with progressive weight gain, central obesity, round "moon" face, and proximal muscle weakness.
- Moon face
- Buffalo hump
- Truncal obesity
- Thin limbs
- Purple (violaceous) striae (>1 cm, abdomen/thighs)
- Thin, fragile skin
- Easy bruising
- Poor wound healing
- Proximal myopathy (difficulty climbing stairs, getting up from chair)
- Hypertension
- Diabetes / impaired glucose tolerance
- Menstrual irregularities / amenorrhea

- Hirsutism (women)
- ↓ libido, impotence (men)
- “Purple striae + proximal muscle weakness” → Cushing syndrome
- “Most common cause” → exogenous steroids
- “Buffalo hump + moon face” → Cushing
- “Low-dose dexamethasone for screening”
- “Hypokalemia + hypertension” → ectopic ACTH

Cushing Disease

- “Most common endogenous cause of Cushing syndrome” → Cushing disease
- “ACTH-dependent cortisol excess” → Cushing disease
- “High-dose dexamethasone suppresses cortisol” → Cushing disease
- “Pituitary adenoma secreting ACTH”
- “Transsphenoidal surgery is definitive treatment

Chlamydia Treatment Exam comparison (very high-yield)

- Ceftriaxone - First line
- Gentamicin - Alternative in resistance
- Doxycycline - Chlamydia only
- Fluoroquinolones (ofloxacin) - Not used (resistance)
- Macrolides alone - Not effective

Drug-Induced AKI MCQs (very common)

- Aminoglycosides - ATN
- Amphotericin B - ATN
- Radiocontrast - ATN
- NSAIDs - Prerenal
- ACE inhibitors - Prerenal
- Penicillins - AIN
- PPIs - AIN

Acute Interstitial Nephritis (Classic Triad)

- Fever + rash + eosinophilia
- Urine: eosinophils
- Cause: drugs (penicillin, NSAIDs, PPIs)
- 📌 MCQ clue: AKI after antibiotics + rash

ATN MCQs

- Causes: ischemia, nephrotoxins
- Urine: muddy brown granular casts
- FeNa >2%
- Recovery has polyuric phase

Rhabdomyolysis-Related AKI

- ↑ CK
- Dark urine
- blood on dipstick but no RBCs
- Causes: crush injury, statins, seizures

Indications for Dialysis (AEIOU)

- Acidosis (refractory)
- Electrolytes (hyperkalemia)
- Intoxications
- Overload (pulmonary edema)
- Uremia (encephalopathy, pericarditis)

Contrast-Induced AKI

- Onset: 24–72 hrs after contrast
- Prevention: IV fluids
- Risk ↑ in diabetes, CKD

AKI in Special Situations

- Post-op AKI → prerenal common
- ICU patient with sepsis → ATN
- Elderly male with LUTS + anuria → postrenal

One-line exam pearls for CKD

- Child + edema + steroid response = MCD (Minimal Change Disease)
- Adult + HIV = FSGS
- Nephrotic + malignancy = membranous
- Nephrotic → hypercoagulable
- Maltese cross = lipiduria
- Crescents are seen in nephritic syndromes, specifically in rapidly progressive glomerulonephritis (RPGN).

Common Causes by Age

- Children - Minimal Change Disease (MCD)
- Adults - FSGS
- Diabetics - Diabetic nephropathy

One-line MCQs

- Asthma + eosinophilia → Churg-Strauss
- Purpura + abdominal pain + hematuria → HSP
- IgA deposition → HSP
- ANCA-associated → Churg-Strauss

Churg–Strauss Syndrome (EGPA)

- Asthma
- Eosinophilia
- Sinusitis
- +p-ANCA (MPO)
- EGPA = vasculitis with possible renal involvement, not a primary renal disease

Henoch–Schönlein Purpura (IgA Vasculitis)
- IgA nephropathy–like picture
- Hematuria ± proteinuria
- RPGN in severe cases
- Palpable purpura (legs/buttocks)
- Abdominal pain
- Arthralgia
- Child after URI
- IgA deposition in mesangium
- HSP = IgA vasculitis with renal disease

Wegener granulomatosis
- now called Granulomatosis with Polyangiitis, GPA
- Causes rapidly progressive glomerulonephritis (RPGN)
- Renal involvement is common and severe
- Kidney disease often determines prognosis
- Hematuria
- Proteinuria
- RBC casts
- Pauci-immune crescentic GN
- MCQ clue: ENT + lung + kidney involvement
- c-ANCA (PR3-ANCA) positive
- Pauci-immune on IF (little/no immune deposition)
- Classic triad - ENT + lung + kidney involvement
- Upper respiratory tract - Chronic sinusitis, Nasal ulcers, Saddle-nose deformity
- Lungs - Cavitating nodules, Hemoptysis
- Kidneys - RPGN

Hashimoto's Thyroiditis
- Anti thyroid peroxidase antibodies positive
- Anti thyroglobulin antibodies positive
- Hurthle cells

Grave’s Disease
- TSH receptor antibodies (TRAb)
- Exophthalmos (proptosis)
- Pretibial myxedema

Papillary Carcinoma of thyroid

- Psammoma bodies
- Orphan Annie eye nuclei

Follicular carcinoma of thyroid

- Familial types associated with MEN-2 syndromes
- Serum calcitonin is raised but hypocalcemia is not prominent

D. Common Breast Pathologies - Differential Diagnosis

Condition	Age	Clinical Features	Imaging	Management
FIBROADENOMA (Benign)	15-35 years	• Breast mouse (highly mobile) • Firm, rubbery • Smooth, well-defined • Non-tender • 1-3 cm size	• USG: Well-defined, oval, homogeneous • Mammography: Round, circumscribed • FNAC: Benign epithelial cells	• <3 cm: Observation • >3 cm, growing, or symptomatic: Excision • Giant fibroadenoma (>5 cm): Excision
FIBROCYSTIC DISEASE (Benign)	30-50 years	• Cyclical mastalgia • Multiple lumps • Bilateral • Fluctuant, tender • Worse premenstrually	• USG: Multiple cysts • Mammography: Dense tissue, cysts • FNAC: Cyst fluid (straw-colored)	• Reassurance • NSAIDs, Evening primrose oil • Aspiration of symptomatic cysts • Danazol (severe cases) • Avoid caffeine
BREAST ABSCESS (Infection)	Lactational: 20-40 Non-lactational: Any age	• Painful, red, hot swelling • Fever • Fluctuant • Nipple discharge (purulent)	• USG: Hypoechoic collection, thick wall • Clinical diagnosis	• Antibiotics (flucloxacillin/amoxicillin-clavulanate) • Drainage: Needle aspiration or I&D • Continue breastfeeding • Treat underlying duct ectasia/periductal mastitis
FAT NECROSIS (Benign)	40-60 years	• History of trauma • Firm, irregular lump • Skin dimpling possible • Can mimic cancer	• Mammography: Oil cyst, calcification • USG: Variable appearance • CNB: Fat necrosis, no malignancy	• Reassurance • Excision if uncertain diagnosis
PHYLLODES TUMOR (Borderline)	40-50 years	• Rapidly growing lump • Large (>5 cm) • Firm • Resembles fibroadenoma but larger	• USG: Large, heterogeneous • Mammography: Large, well-defined • CNB: Stromal hypercellularity	• Wide local excision (1 cm margin) • No axillary dissection • Mastectomy if large • Monitor for recurrence
INVASIVE DUCTAL CARCINOMA (Malignant - 80%)	>50 years	• Hard, irregular lump • Fixed • Skin dimpling • Nipple retraction • Axillary nodes	• Mammography: Spiculated mass, microcalcifications • USG: Hypoechoic, irregular, shadowing • CNB: Invasive carcinoma, receptor status	• Surgery: BCS or mastectomy + axillary staging • Adjuvant chemotherapy • Radiotherapy • Hormonal therapy (ER+) • Targeted therapy (HER2+)
INVASIVE LOBULAR CARCINOMA (Malignant - 10-15%)	>50 years	• Diffuse thickening (not always lump) • Bilateral (20-30%) • Less distinct clinically	• Mammography: Often subtle • MRI: Better detection • CNB: Invasive lobular pattern	• Similar to IDC • Often ER/PR positive • Mastectomy more common (multifocal)
DUCTAL CARCINOMA IN SITU (DCIS) (Pre-invasive)	50-60 years	• Often asymptomatic • Nipple discharge (rare) • Palpable mass (if large)	• Mammography: Clustered microcalcifications • USG: Often normal • CNB: DCIS, no invasion	• BCS + radiotherapy • Mastectomy (extensive/multifocal) • No axillary dissection • Hormonal therapy (ER+)
PAGET'S DISEASE OF NIPPLE (Malignant)	50-60 years	• Eczematous nipple rash • Erosion, crusting • Nipple discharge • ± Underlying mass	• Mammography: Underlying DCIS/IDC • Nipple biopsy: Paget cells	• Mastectomy (usually) • Treat underlying cancer • Axillary staging if invasive

Clinical Scenarios Commonly Tested for blood pH abnormalities

- DKA → Kussmaul breathing
- COPD exacerbation → CO_2 retention
- Panic attack → tingling fingers
- Infant with pyloric stenosis → vomiting → alkalosis
- Septic shock → lactic acidosis
- Chronic diarrhea → normal anion gap acidosis
- High altitude → respiratory alkalosis

Causes of High Anion Gap Metabolic Acidosis (MUDPILES / GOLDMARK):

- DKA
- Lactic acidosis (shock, sepsis, hypoxia)
- Renal failure
- Methanol/ethylene glycol
- Salicylate poisoning

Normal Anion Gap (Hyperchloremic) Metabolic Acidosis Causes

- Diarrhea
- RTA
- Saline infusion

Clinical Findings of CKD

- The child with AKI may have altered mental status and convulsions due to advanced uremia or hypertensive encephalopathy.
- Breathing may be rapid and deep from acidosis
- There may be peripheral or pulmonary edema.
- History of fluid or blood loss with severe dehydration (ATN)
- Edema, hematuria and hypertension (GN)
- Dysentery, pallor, petechiae (HUS)
- Sudden passage of dark red urine, pallor and jaundice (intravascular hemolysis e.g. malaria)
- History of interrupted urinary stream, palpable bladder (PUVS)
- Abdominal/ flanks colic, hematuria, dysuria, Urinary tract calculi)
- Absolute anuria suggests urinary tract obstruction, ATN bilateral renal vein thrombosis, severe GN or vasculitis
- Nonoliguric renal failure is seen in renal failure due to nephrotoxins. (e.g. Aminoglycosides, radiocontrast agents
- AKI is sometimes superimposed on chronic kidney disease, growth retardation, renal osteodystrophy, anemia (CKD) and small shrunken kidney on ultrasound normocytic ,normochromic and suggest CKD

MCUG

- MCUG, or Micturating Cystourethrogram, is a special X-ray test - It is diagnostic test in posterior urethral valves and vesicoureteral reflux.