Urology Edited Pastpapers Collection 020 +021

**Includes: 020,019,018 final exams, past questions collected by 018

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Sources: Slides, AMBOSS, MedScape, Dossier,AAST, AUA, FirstAid, Campbell

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Urology Final Edited Collected PPs:

Prostate:

Q1. Diagnosis of prostate cancer is confirmed by:

a. MRI.
b. CT scan with IV contrast.
c. TRUS (Transrectal ultrasound)
d. Urine cytology.
e. Core needle biopsy.

Ans: E ✓

Q2. Hashem is a 70 years old, retired policeman. He had long-standing BPH. He was presented to JUH urology clinic with severe Rt testicular pain for 3 days. Scrotal US showed enlarged Rt testicular and epididymis size. On physical, he has a high-grade fever, Rt side scrotal swelling, redness, hotness, and tenderness, best management?

a. Percutaneous drainage
b. Surgical excision and drainage
c. Observation
d. Discharge on pain-killers
e. Admission for IV antibiotics

Ans: E ✓

DDx: Epididymitis ⟶ TX: Abx

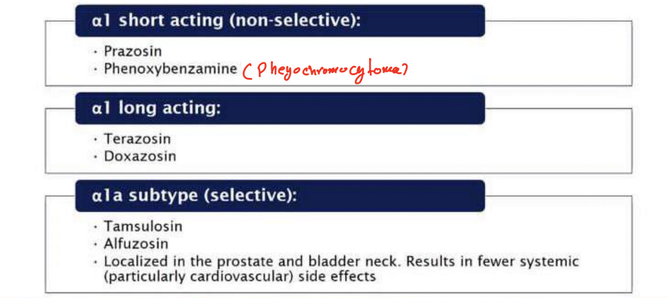
why not Torsion?:

- Gradual
- BPH ⟶ obstruction ⟶ Ascending UTI

Q3. Which of the following is a uro-selective a adrenergic blockers:

a. none
b. terazosin
c. Doxazosin
d. sildenafil
e. tamsulosin

Ans: E ✓



α1 short acting (non-selective):

- Prazosin
- Phenoxybenzamine (Pheyochromocytoma)

α1 long acting:

- Terazosin
- Doxazosin

α1a subtype (selective):

- Tamsulosin
- Alfuzosin
- Localized in the prostate and bladder neck. Results in fewer systemic (particularly cardiovascular) side effects

Q4. Psa normal, RDE no nodules, repeated psa= same number, what to do?

a. Observe yearly
b. TURP
c. Transrectal U/S
d. CT or pelvis and Abdomen Multiparametric
e. MRI+ Biopsy
Ans: A ✓

No Red flags
Continue Screening.

Q5. One of these isn't used in the treatment of BPH:

a. Alpha 1 blockers
b. Phosphodiesterase 5 inhibitor
c. Lifestyle modification
d. TURP
e. Radical prostatectomy → for Prostate Cancer
Ans: E ✓

↑

Q6. 50-year-old patient, PSA was 12 ng/ml, no hard nodules on DRE, PSA was repeated after 6 weeks with the same result, most appropriate next step:

a. KUB
b. Multiparametric MRI
c. CT without contrast
d. CT cystoscopy → Painless Hematuria
Ans: B ✓

Algorithm: ↑PSA → Repeat → Still ↑? → MRI → Biopsy.
→ Normal → Resume Screening.

Q7. Which of the following is not a routine test in diagnosing benign prostatic hyperplasia ?

a. Transrectal ultrasound ✓ (Used)
b. Digital rectal examination ✓ → Routine
c. Urodynamic studies ✓ → (Not routine, used in case of Neuro-dysfunction → Diagnostic value
d. Cystoscopy ✓ (Not routine, but used when Painless Hematuria) → Diagnostic value
e. Urine cytology → No diagnostic value

Ans: E ✓

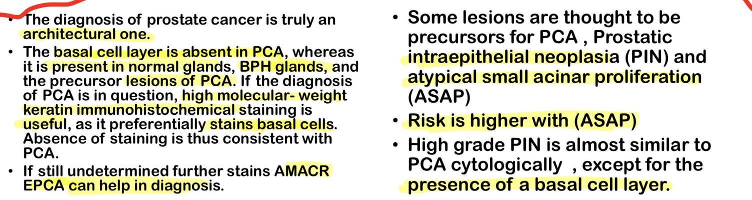
Q8. A 62-year-old male presents with complaints of difficulty urinating and a weak stream. On digital rectal examination (DRE), a nodular mass is detected. His prostate-specific antigen (PSA) level is found to be 6 ng/mL. Urine analysis shows no evidence of bacteria or infection. What is the most appropriate next step ?

a. Prescribe alpha-blockers to alleviate urinary symptoms .
b. Perform a prostatectomy to remove the nodular mass .
c. Prescribe antibiotics and follow up . ✗
d. Perform a guided biopsy of the nodular mass ✓

Ans: D ✓

Q9. Not a risk factor of prostate cancer?

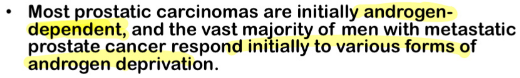
Ans: BPH. ✓



- The diagnosis of prostate cancer is truly an architectural one.
- The basal cell layer is absent in PCA, whereas it is present in normal glands, BPH glands, and the precursor lesions of PCA. If the diagnosis of PCA is in question, high molecular- weight keratin immunohistochemical staining is useful, as it preferentially stains basal cells. Absence of staining is thus consistent with PCA.
- If still undetermined further stains AMACR EPCA can help in diagnosis.
- Some lesions are thought to be precursors for PCA , Prostatic intraepithelial neoplasia (PIN) and atypical small acinar proliferation (ASAP)
- Risk is higher with (ASAP)
- High grade PIN is almost similar to PCA cytologically , except for the presence of a basal cell layer.

Q10. Patient with metastatic prostate cancer, best thing to do?

✓ **Ans:** Start him on anti- androgen therapy (hormonal).



- Most prostatic carcinomas are initially androgen-dependent, and the vast majority of men with metastatic prostate cancer respond initially to various forms of androgen deprivation.

① Localized → Radical Prostatectomy, ② Metastasized + chemo ③ Palliative → TURP

Q11. Prostate blood supply:

Ans: inferior vesical. ✓

Q12. Patient of LUTS and signs of BPH, stable with no deterioration of renal function, MANS? –

Ans: Start him on alpha-blocker ✓

Q13. Patient with BPH with deteriorating renal function, MANS? –

Ans: TURP. ✓

Answer diff. due to diff. Renal function

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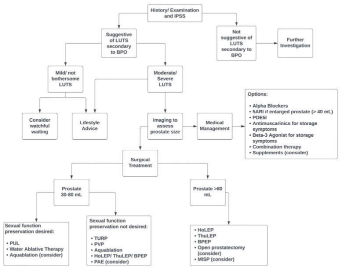

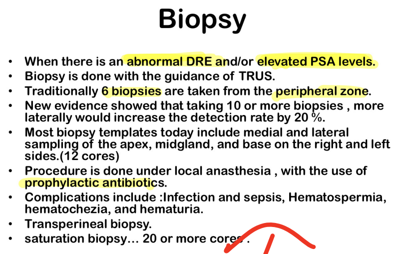

Biopsy

- When there is an abnormal DRE and/or elevated PSA levels.
- Biopsy is done with the guidance of TRUS.
- Traditionally 6 biopsies are taken from the peripheral zone.
- New evidence showed that taking 10 or more biopsies , more laterally would increase the detection rate by 20 %.
- Most biopsy templates today include medial and lateral sampling of the apex, midgland, and base on the right and left sides.(12 cores)
- Procedure is done under local anasthesia , with the use of prophylactic antibiotics.
- Complications include :Infection and sepsis, Hematospermia, hematochezia, and hematuria.
- Transperineal biopsy.
- saturation biopsy… 20 or more cores .

Q14. Patient with hard prostate on DRE, best thing to do? –

Ans: TRUS biopsy. ✓

Q15. Purpose of digital rectal exam for men with LUTS –

Ans: looking for prostate nodularity. ✓

Q16. BPH with elevated creatinine, chronic urine retention, to ER multiple times:

Ans: do TURP. ✓

Q17. Not part of IPSS (international prostate symptom score):

Ans: incontinence. ✓

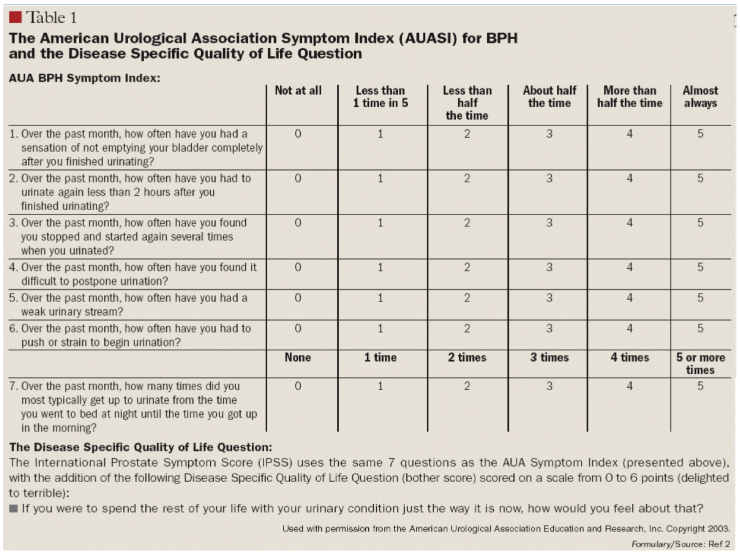

Table 1

The American Urological Association Symptom Index (AUASI) for BPH and the Disease Specific Quality of Life Question

AUA BPH Symptom Index:

	Not at all	Less than 1 time in 5	Less than half the time	About half the time	More than half the time	Almost always
1. Over the past month, how often have you had a sensation of not emptying your bladder completely after you finished urinating?	0	1	2	3	4	5
2. Over the past month, how often have you had to urinate again less than 2 hours after you finished urinating?	0	1	2	3	4	5
3. Over the past month, how often have you found you stopped and started again several times when you urinated?	0	1	2	3	4	5
4. Over the past month, how often have you found it difficult to postpone urination?	0	1	2	3	4	5
5. Over the past month, how often have you had a weak urinary stream?	0	1	2	3	4	5
6. Over the past month, how often have you had to push or strain to begin urination?	0	1	2	3	4	5
	None	**1 time**	**2 times**	**3 times**	**4 times**	**5 or more times**
7. Over the past month, how many times did you most typically get up to urinate from the time you went to bed at night until the time you got up in the morning?	0	1	2	3	4	5

The Disease Specific Quality of Life Question:

The International Prostate Symptom Score (IPSS) uses the same 7 questions as the AUA Symptom Index (presented above), with the addition of the following Disease Specific Quality of Life Question (bother score) scored on a scale from 0 to 6 points (delighted to terrible):

■ If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that?

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Formulary/Source: Ref 2

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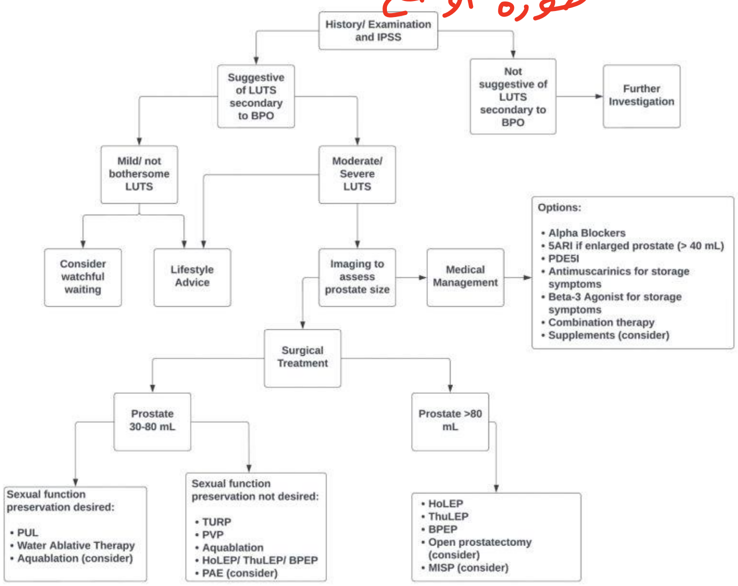


Q18. From which zone does BPH originate ?

a. Periurethral
b. Central
c. Transitional
d. Peripheral

Ans: A+C ??? (I think C only) ?

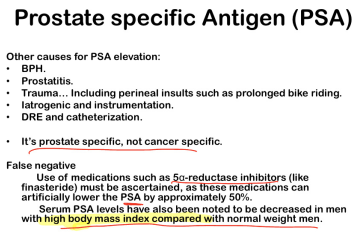
Q19. Concerning chronic urinary retention all of the following are true except :

Ans: Kidney function is always normal ✓

Q20. What is PSA(prostate specific antigen) specific for?

a. prostate CA
b. prostatitis
c. BPH
d. none of the above

Ans: D PSA is Prostate - Specific



Prostate specific Antigen (PSA)

Other causes for PSA elevation:

- BPH.
- Prostatitis.
- Trauma… Including perineal insults such as prolonged bike riding.
- Iatrogenic and instrumentation.
- DRE and catheterization.

- It's prostate specific, not cancer specific.

False negative

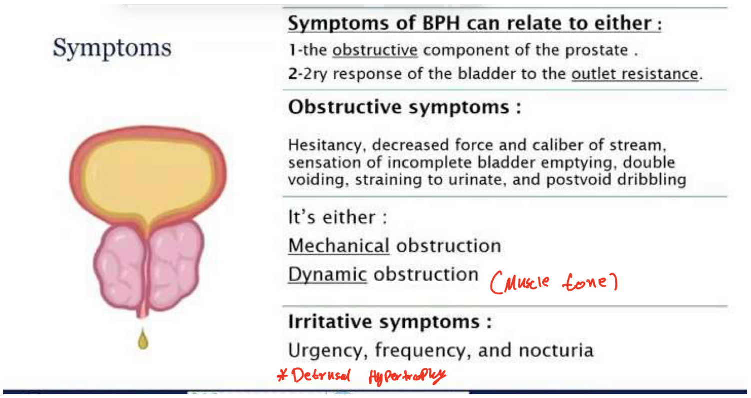
Use of medications such as 5α-reductase inhibitors (like finasteride) must be ascertained, as these medications can artificially lower the PSA by approximately 50%.

Serum PSA levels have also been noted to be decreased in men with high body mass index compared with normal weight men.

Q21. All of the following are classical symptoms of BPH except:

a. Frequency
b. Urgency
c. nocturia
d. dysuria
e. weak stream flow

Ans: D is not in AUASI ✓



Symptoms

Symptoms of BPH can relate to either :

1-the obstructive component of the prostate .
2-2ry response of the bladder to the outlet resistance.

Obstructive symptoms :

Hesitancy, decreased force and caliber of stream, sensation of incomplete bladder emptying, double voiding, straining to urinate, and postvoid dribbling

It's either :

Mechanical obstruction

Dynamic obstruction (Muscle tone)

Irritative symptoms :

Urgency, frequency, and nocturia

*Detrusal HyPertroPhy

Q22. .Ureteral obstruction: except?

a. it may cause hematuria
b. may result in increased BUN and renal damage
c. it is commonly due to a ureteric calculus
d. usually relieved by open surgical procedure
e. it is commonly associated with infection behind level of obstruction

Ans: ?

Q23. Drug that proved to prevent urinary retention in BPH is:

a. finastraide
b. Tamsu

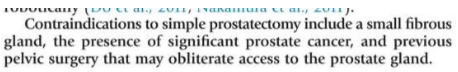
Ans: A

5- α-reductase Inhibitors

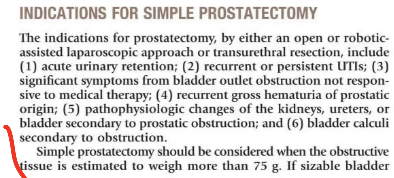
- They are used to prevent BPH progression rather than acute symptom treatment
- 6 months therapy is required to see the maximum effects on prostate size (20 % reduction) and symptomatic improvement
- There are 2 forms (**isoenzymes**) of 5-α-reductase:
  - **Type I:** extraprostatic: in liver and skin
  - **Type II:** prostatic

Q24. One is not an indication for prostatectomy:

a. Overflow incontinence ✓
b. Residual urine >1OOcc
c. Uremia ✓
d. Hydronephrosis ✓
e. Flow meter <9cc\min



Contraindications to simple prostatectomy include a small fibrous gland, the presence of significant prostate cancer, and previous pelvic surgery that may obliterate access to the prostate gland.



INDICATIONS FOR SIMPLE PROSTATECTOMY

The indications for prostatectomy, by either an open or robotic-assisted laparoscopic approach or transurethral resection, include (1) acute urinary retention; (2) recurrent or persistent UTIs; (3) significant symptoms from bladder outlet obstruction not responsive to medical therapy; (4) recurrent gross hematuria of prostatic origin; (5) pathophysiologic changes of the kidneys, ureters, or bladder secondary to prostatic obstruction; and (6) bladder calculi secondary to obstruction.

Simple prostatectomy should be considered when the obstructive tissue is estimated to weigh more than 75 g. If sizable bladder

→ Campbell text book

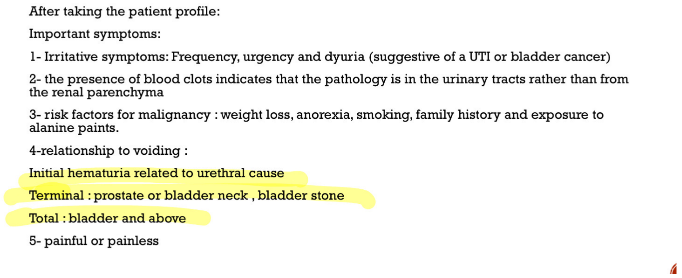
Ans: ? E? , OR ??

Q25. BPH will have all except?

a. Poor stream
b. Dripping
c. Frequency
d. Hesitancy
e. Loin pain

Ans: E ✓

Q3. Terminal hematuria (blood after you end urination)
a. Bladder calculi
b. Kidney stones
c. Urethral strictures
d. Prostate or bladder neck inflammation
Ans: D ✓



After taking the patient profile:

Important symptoms:

1- Irritative symptoms: Frequency, urgency and dyuria (suggestive of a UTI or bladder cancer)

2- the presence of blood clots indicates that the pathology is in the urinary tracts rather than from the renal parenchyma

3- risk factors for malignancy : weight loss, anorexia, smoking, family history and exposure to alanine paints.

4-relationship to voiding :

Initial hematuria related to urethral cause

Terminal : prostate or bladder neck , bladder stone

Total : bladder and above

5- painful or painless

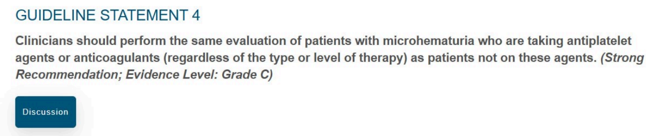
Q4. All present with hematuria except:
a. Prostate Ca ✗ can cause Hematuria
b. Bladder instability (urgency, frequency, Nocturia, but no hematuria)
c.Stones ✗
d.Hemorrhagic cystitis ✗
Ans: **B** (bladder instability = neurogenic, overactivity …) ✓

Q5. Most common cause of hematuria in patients aged 50 and above:
Ans: Bladder Ca ✓

Q6. Hematuria vs hemoglobinuria:
Ans: Erythrocytes on microscope ✓

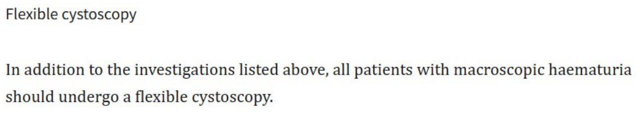
Q7. Presentation of intermittent, painless gross hematuria
a. Bladder Injury
b. Uretheral Injury
c. Bladder Cancer
d. Ureteral Stone
Ans: C ✓

Q8. a patient complains of red urine, on U/A he had a large number of RBCs, he is medically free and bla bla bla, which of the following management options is incorrect:
a. Don't do cystoscopy if he's on anticoagulants ✗ Almost always cystoscopy
b. Do urine cytology.
c. Do urine cystoscopy even if his CT results were normal ? (sth like that)
d. No need for cystoscopy if his cytology results were negative.
Ans: A ✓



GUIDELINE STATEMENT 4

Clinicians should perform the same evaluation of patients with microhematuria who are taking antiplatelet agents or anticoagulants (regardless of the type or level of therapy) as patients not on these agents. *(Strong Recommendation; Evidence Level: Grade C)*

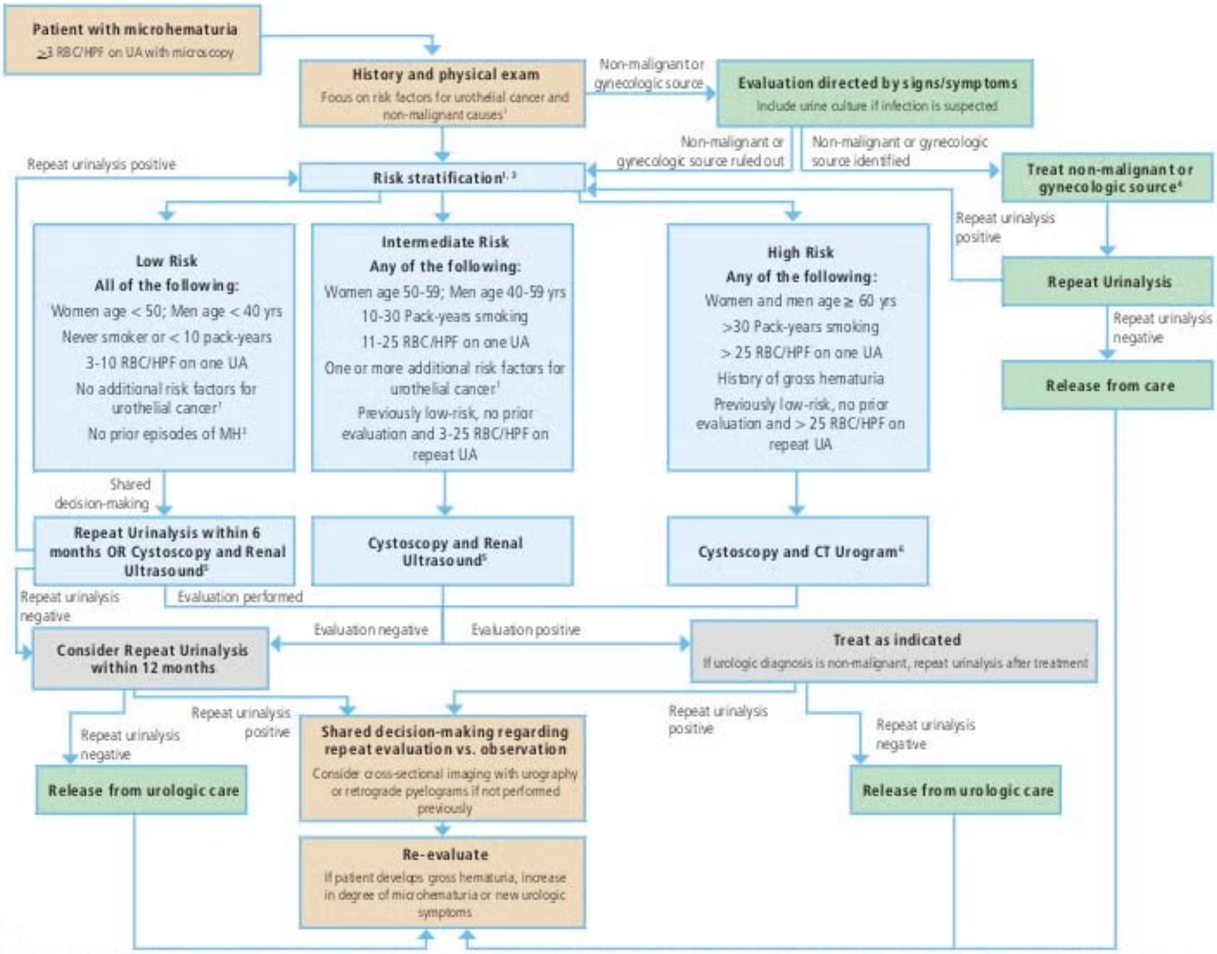


Flexible cystoscopy

In addition to the investigations listed above, all patients with macroscopic haematuria should undergo a flexible cystoscopy.

Q9. A 63-year-old male presented with painless gross hematuria for 3 months duration. He describes having urinary frequency and urgency but no dysuria. Urine analysis revealed no bacteria with >3 RBCs per HPF. Which of the following is wrong regarding the management of this patient:
a.CT urography should be ordered
b.Cystoscopy should be performed even if the cytology is negative
c.Give antibiotics and follow up after 2 weeks (No evidence of infection)
d.Order urine cytology
Ans: C ✓

Microhematuria Evaluation Algorithm



1. Main risk factors for urothelial cancer are those in the AUA risk stratification system (age, male sex, smoking, degree of microhematuria and history of gross hematuria). Additional risk factors for urothelial carcinoma include but are not limited to irritative lower urinary tract voiding symptoms, history of cyclophosphamide or ifosfamide chemotherapy, family history of urothelial carcinoma or Lynch Syndrome, occupational exposures to benzene chemicals or aromatic amines, history of chronic indwelling foreign body in the urinary tract
2. If medical renal disease is suspected, consider nephrologic evaluation, but pursue concurrent risk-based urological evaluation
3. Patients may be low-risk at first presentation with microhematuria, but may only be considered intermediate- or high-risk if found to have persistent microhematuria
4. There are non-malignant and gynecologic sources of hematuria that do not require treatment and/or may confound the diagnosis of MH. Clinicians can consider catheterized urine specimen in women with vaginal atrophy or pelvic organ prolapse. Clinicians must use careful judgment and patient engagement to decide whether to pursue MH evaluation in the setting of chronic conditions that do not require treatment, such as the aforementioned gynecologic conditions, non-obstructing stones or BPH.
5. Clinician may perform cross-sectional imaging with urography or retrograde pyelograms if hematuria persists after negative renal ultrasound
6. MR Urogram or Non-contrast imaging plus retrograde pyelograms if contraindications to CT Urogram

Q8. Which radiotracer is ideally suited for imaging renal scaring?

a. 99mTc-MAG3 ✗

b. 99mTc-DTPA ✗

c.99mtc-sulfer colloid ✗ (Liver, spleen)

d. 67 a-citrate ✗

e. 99mTc-DMSA

Ans: E ✓

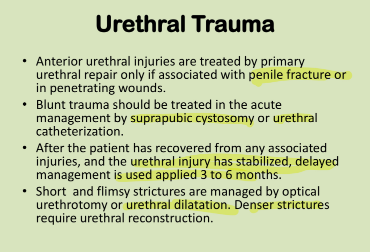
Q9. Treatment of choice of one small stricture in bulbar urethra:

A. Optical urethrotomy

b. Meatal dilatation

C. Urethroplasty

Ans: A ✓



Urethral Trauma

- Anterior urethral injuries are treated by primary urethral repair only if associated with penile fracture or in penetrating wounds.
- Blunt trauma should be treated in the acute management by suprapubic cystosomy or urethral catheterization.
- After the patient has recovered from any associated injuries, and the urethral injury has stabilized, delayed management is used applied 3 to 6 months.
- Short and flimsy strictures are managed by optical urethrotomy or urethral dilatation. Denser strictures require urethral reconstruction.

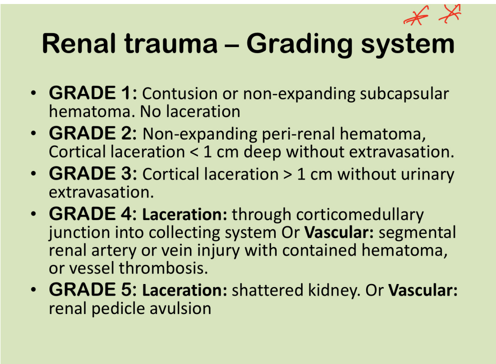
Q10..Superficial kidney laceration:

a. grade I

b. grade II

c. grade III

Ans: B ✓



Renal trauma – Grading system

- **GRADE 1:** Contusion or non-expanding subcapsular hematoma. No laceration
- **GRADE 2:** Non-expanding peri-renal hematoma, Cortical laceration < 1 cm deep without extravasation.
- **GRADE 3:** Cortical laceration > 1 cm without urinary extravasation.
- **GRADE 4: Laceration:** through corticomedullary junction into collecting system Or **Vascular:** segmental renal artery or vein injury with contained hematoma, or vessel thrombosis.
- **GRADE 5: Laceration:** shattered kidney. Or **Vascular:** renal pedicle avulsion

Q11. Shattered kidney, according to WHO this is classified as a renal injury:

a. Grade I

b. Grade II

c. Grade III

d. Grade IV

e. Grade V

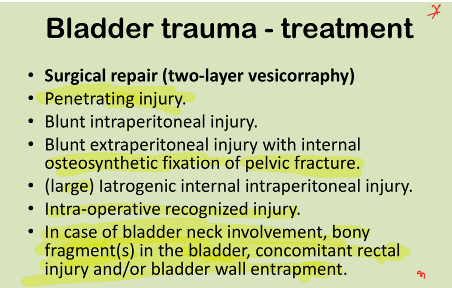
Ans: E ✓

Q12. A patient presented with intraperitoneal bladder injury , management is :

a. Correct the injury (surgery)

b. Observation

c. Indwelling catheterization**Ans:** A ✓

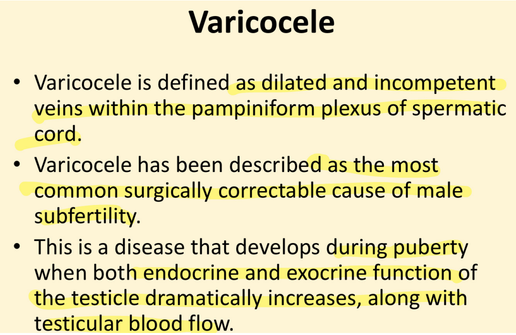


Bladder trauma - treatment

- **Surgical repair (two-layer vesicorraphy)**
- Penetrating injury.
- Blunt intraperitoneal injury.
- Blunt extraperitoneal injury with internal osteosynthetic fixation of pelvic fracture.
- (large) Iatrogenic internal intraperitoneal injury.
- Intra-operative recognized injury.
- In case of bladder neck involvement, bony fragment(s) in the bladder, concomitant rectal injury and/or bladder wall entrapment.

Infertility

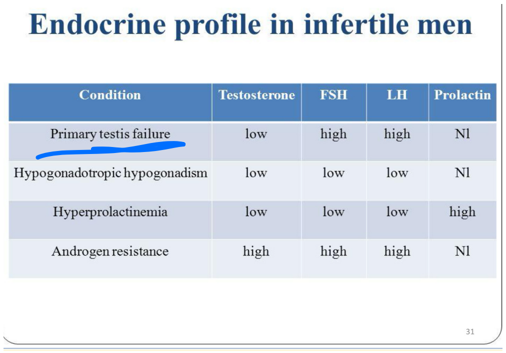
Q1. The commonest treatable cause of male infertility is:
a. Varicocele.
b. Obstructed verumontanum.
c. Testicular atrophy.
d. Testicular tuberculosis.
e. Vasectomy.
Ans: A



Varicocele

- Varicocele is defined as dilated and incompetent veins within the pampiniform plexus of spermatic cord.
- Varicocele has been described as the most common surgically correctable cause of male subfertility.
- This is a disease that develops during puberty when both endocrine and exocrine function of the testicle dramatically increases, along with testicular blood flow.

Q2. 30 years old man with azoospermia, normal LH and FSH. He is most likely suffering from:
a. Testicular failure.
b. Testicular absence.
c. Obstructive infertility.
d. Post mumps testicular atrophy.
e. Testicular neoplasia.
Ans: C ✓



Endocrine profile in infertile men

Condition	Testosterone	FSH	LH	Prolactin
Primary testis failure	low	high	high	Nl
Hypogonadotropic hypogonadism	low	low	low	Nl
Hyperprolactinemia	low	low	low	high
Androgen resistance	high	high	high	Nl

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Q3. One of these conditions is a reversible cause of male infertility:
a. varicocele
b.congenital loss of vas deferens
Ans: A ✓

Q4. A 30-year-old male has been experiencing infertility issues. After consulting with a physician, it is discovered that he has been using exogenous testosterone for muscle enhancement for the past two years. What's the pathophysiology behind his infertility?

a.Suppression of pituitary FSH and LH release
b.Inhibition of GnRH release
c.Increased sperm production beyond the normal range
d.Increased conversion of testosterone to estrogen
e.Exogenous testosterone causes formation of antisperm antibodies

Ans: A ✓

Q5. Not a risk factor for male infertility?
Ans: Race. ✓

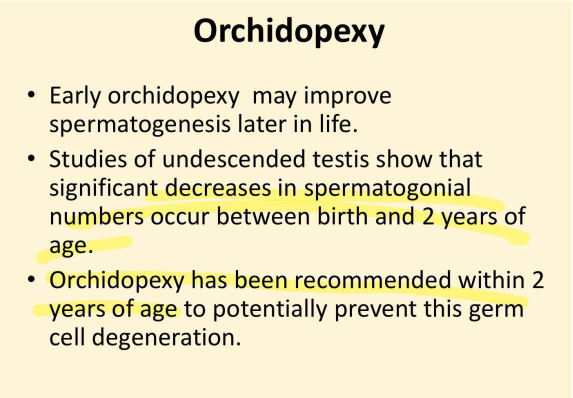
Q6. Infertility?
Ans: Failure to conceive ✓ in 1 year of unprotected sexual intercourse.

Q7. Most volume of semen is from:
Ans: Seminal vesicles ✓

Q8. 2 month old child was presented to your clinic with unilateral inguinal testis, nothing was abnormal other than this, what to do ?

a. Orchidectomy
b. Conservative management with orchidopexy at 2 years old
c. Orchidopexy before the age of 18 months
d. Neoadjvunat hormonal therapy with orchidopexy before 12 months
e. Observation

Ans: C ✓



Orchidopexy

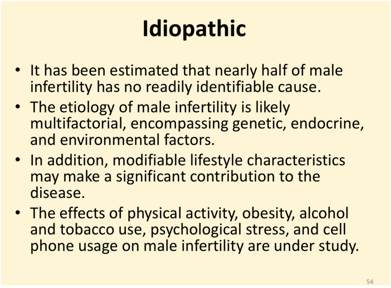
- Early orchidopexy may improve spermatogenesis later in life.
- Studies of undescended testis show that significant decreases in spermatogonial numbers occur between birth and 2 years of age.
- Orchidopexy has been recommended within 2 years of age to potentially prevent this germ cell degeneration.

Q9. A man presents with azospermia (count of 5 million/ml). In addition to measuring testosterone, which of the following is the routine initial investigation:
a. Prolactin only
b. FSH only
c. FSH, LH& prolactin
d. FSH and thyroid
Ans: C

Q10. Male with azospermia ..high FSH LH and low testosterone, the next step:
a. extraction from testis
b. testicular U/S
c. MRI head
Ans: B

↳ Primary failure

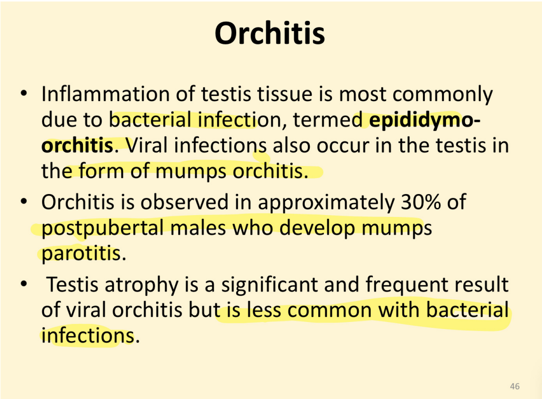
Q11. Most common cause of primary infertility:
a. Mumps orchitis
b. Bacteria! orchitis
c. Undescended testicle
d. idiopathic hypogonadism
Ans: D



Idiopathic

- It has been estimated that nearly half of male infertility has no readily identifiable cause.
- The etiology of male infertility is likely multifactorial, encompassing genetic, endocrine, and environmental factors.
- In addition, modifiable lifestyle characteristics may make a significant contribution to the disease.
- The effects of physical activity, obesity, alcohol and tobacco use, psychological stress, and cell phone usage on male infertility are under study.

Q12. Mumps orchitis all except:
a. Rare before puberty
b.Usually unilateral
c. Never lead to atrophy of testis.
d. Can be' bilateral
Ans: C



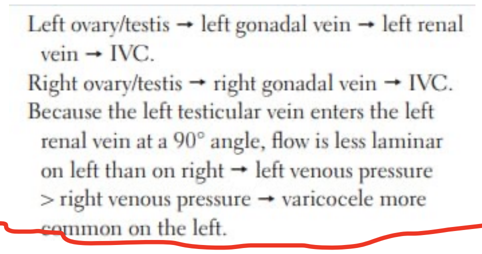
Orchitis

- Inflammation of testis tissue is most commonly due to bacterial infection, termed **epididymo-orchitis.** Viral infections also occur in the testis in the form of mumps orchitis.
- Orchitis is observed in approximately 30% of postpubertal males who develop mumps parotitis.
- Testis atrophy is a significant and frequent result of viral orchitis but is less common with bacterial infections.

Q5. Testicular torsion all true except:
a. History of abdominal pain
b. Doppler US is needed to diagnosis.

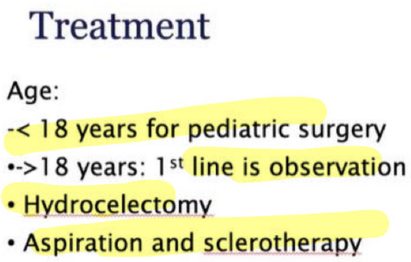
Ans: B

Q6. Choose the correct answer regarding the drainage of testicular veins
a. Left gonadal vein into left renal vein then IVC, while the right gonadal vein goes directly to IVC.
b. Both to IVC.
c.Right gonadal vein into left renal vein then IVC, while the left gonadal vein goes directly to IVC.
d.Common iliac vein.
Ans: A ✓


Left ovary/testis → left gonadal vein → left renal vein → IVC.
Right ovary/testis → right gonadal vein → IVC.
Because the left testicular vein enters the left renal vein at a 90° angle, flow is less laminar on left than on right → left venous pressure > right venous pressure → varicocele more common on the left.

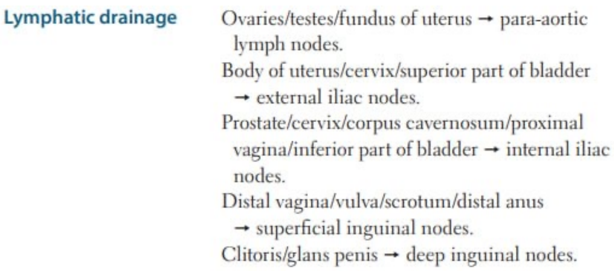
Q7. One of these combinations is incorrect
a.cryptorchidism -- orchidopexy
b.Varicocele – ligation
c.Spermatocele – spermatocelectomy
d. Hydrocele – Orchiectomy
Ans: D ✓

only if indicated


Treatment

Age:
-< 18 years for pediatric surgery
•->18 years: 1st line is observation
- Hydrocelectomy
- Aspiration and sclerotherapy

Q8. The testicles drain into :
a.Paraaortic lymph nodes
b.Popliteal lymph nodes
c.Periumbilical lymph nodes
d.Internal iliac lymph nodes
e.External iliac lymph node
Ans: A ✓

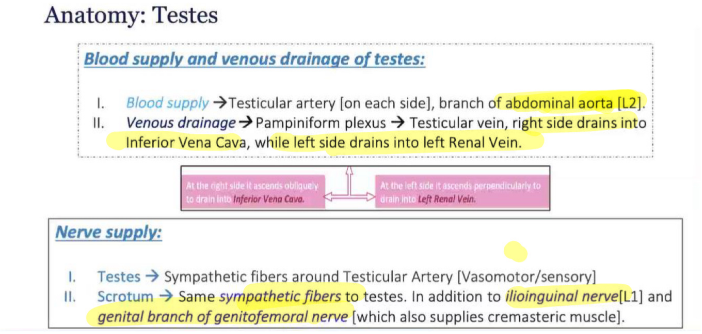

Lymphatic drainage

Ovaries/testes/fundus of uterus → para-aortic lymph nodes.
Body of uterus/cervix/superior part of bladder → external iliac nodes.
Prostate/cervix/corpus cavernosum/proximal vagina/inferior part of bladder → internal iliac nodes.
Distal vagina/vulva/scrotum/distal anus → superficial inguinal nodes.
Clitoris/glans penis → deep inguinal nodes.

Q9. During a surgical procedure to ligate a varicocele, which nerve is at risk of injury due to its proximity to the surgical site?

a.Femoral nerve
b.Ilioinguinal nerve
c.External iliac nerve
d.Iliohypogastric nerve
e.Pudendal nerve

Ans: B ✓



Anatomy: Testes

Blood supply and venous drainage of testes:

I. *Blood supply* →Testicular artery [on each side], branch of abdominal aorta [L2].
II. *Venous drainage* → Pampiniform plexus → Testicular vein, right side drains into Inferior Vena Cava, while left side drains into left Renal Vein.

At the right side it ascends obliquely to drain into *Inferior Vena Cava.*

At the left side it ascends perpendicularly to drain into *Left Renal Vein.*

Nerve supply:

I. Testes → Sympathetic fibers around Testicular Artery [Vasomotor/sensory]
II. Scrotum → Same *sympathetic fibers* to testes. In addition to *ilioinguinal nerve*[L1] and *genital branch of genitofemoral nerve* [which also supplies cremasteric muscle].

Q10. Which of the following conditions and treatments are mismatched?

a.Hydrocele – hydrocelectomy
b.Varicocele – testicular vein ligation
c.Testicular torsion – manual detorsion (Reserved only when OR is inaccessible)
d.Undescended testis – orchidopexy

Ans: C ✓

Q11. A patient presented to ER with testicular torsion , your management is:

a. Doppler U/S
b. Surgical exploration
c. Pelvis CT to visualize testis
d. Conservative management

Ans: B ✓

Q12.' When testicular torsion is suspected, which of the following should be done

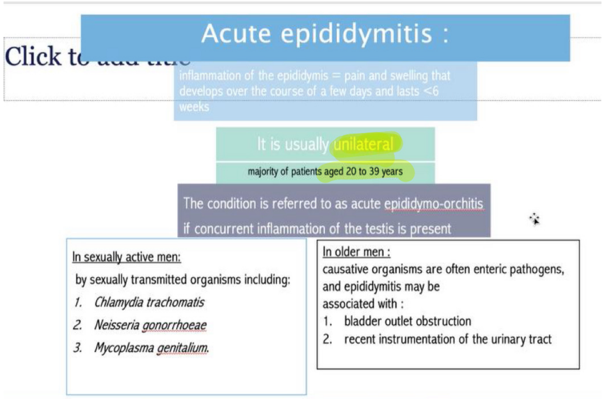
a. wait 24 hour and then explore the symptomatic side only ✗
b. wait 24 hour and then explore the symptomatic and asymptomatic side ✗
c. immediate exploration of the symptomatic side only ✗ contralateral exploration is always done to Prevent future Torsion
d. immediate exploration of the symptomatic side and asymptomatic side
e. No surgical exploration should be done until torsion is confirmed by doppler US ✗

Ans: D ✓

Time is testicle
the more you
wait = More damage

Q13. Testicular artery:
a. from aorta above superior mesenteric artery
b. from aorta under renal artery
Ans: B ✓

Q14. Epididymitis all true except: :
a. There is usually no pain
b. Hyperemia of scrotum
Ans: A ✓



Click to

Acute epididymitis :

inflammation of the epididymis = pain and swelling that develops over the course of a few days and lasts <6 weeks

It is usually unilateral

majority of patients aged 20 to 39 years

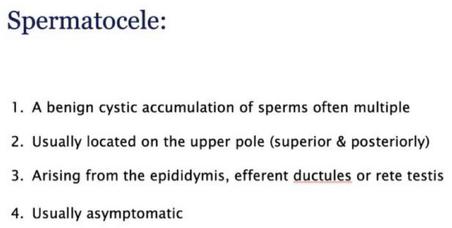
The condition is referred to as acute epididymo-orchitis if concurrent inflammation of the testis is present

In sexually active men:
by sexually transmitted organisms including:
1. *Chlamydia trachomatis*
2. *Neisseria gonorrhoeae*
3. *Mycoplasma genitalium.*

In older men :
causative organisms are often enteric pathogens, and epididymitis may be associated with :
1. bladder outlet obstruction
2. recent instrumentation of the urinary tract

Q15. Wrong about Spermatocele:
a. Retention cyst that contain sperm
b. Usually occur in children ✗
Ans: B ✓

Hydrocele usually occurs in children

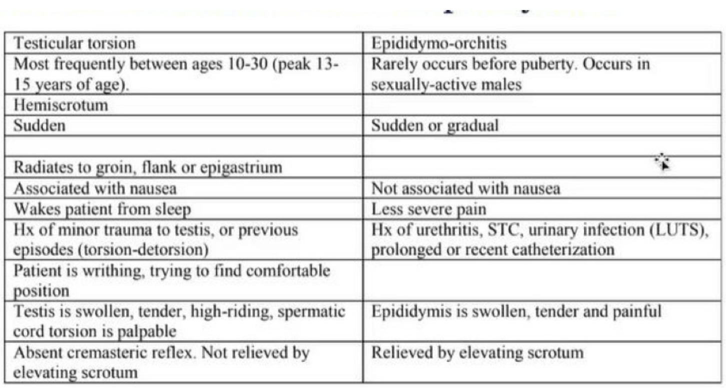


Spermatocele:

1. A benign cystic accumulation of sperms often multiple
2. Usually located on the upper pole (superior & posteriorly)
3. Arising from the epididymis, efferent ductules or rete testis
4. Usually asymptomatic

Q16.30yr old male pt present with hard unilateral testicular mass most likely?
a. Seminoma
b hydrocele. ✗
c. Varicocele ✗
Ans: A ✓

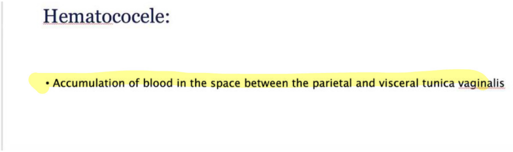
Q17. One is not found in testicular torsion?
a. Elevate testis
b. Vomiting
c. High fever
d. Onset is very sudden.
e. Age from l0 yr-puberty
Ans: C ✓



Testicular torsion	Epididymo-orchitis
Most frequently between ages 10-30 (peak 13-15 years of age).	Rarely occurs before puberty. Occurs in sexually-active males
Hemiscrotum	
Sudden	Sudden or gradual
Radiates to groin, flank or epigastrium	
Associated with nausea	Not associated with nausea
Wakes patient from sleep	Less severe pain
Hx of minor trauma to testis, or previous episodes (torsion-detorsion)	Hx of urethritis, STC, urinary infection (LUTS), prolonged or recent catheterization
Patient is writhing, trying to find comfortable position	
Testis is swollen, tender, high-riding, spermatic cord torsion is palpable	Epididymis is swollen, tender and painful
Absent cremasteric reflex. Not relieved by elevating scrotum	Relieved by elevating scrotum

Hydrocele too

Q18. Hematocele located in:
Ans: tunica vagainalis ✓

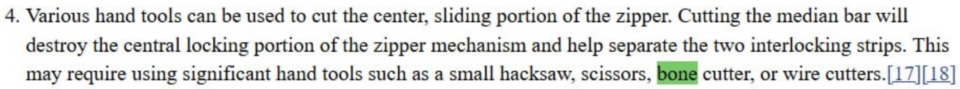

Hematococele:

- Accumulation of blood in the space between the parietal and visceral tunica vaginalis

Q19. Child with ruptured testis what to do?
Ans: Orchiectomy. ✓

Q20. Child has ruptured testis. What to do?
Ans: Orchiectomy ✓

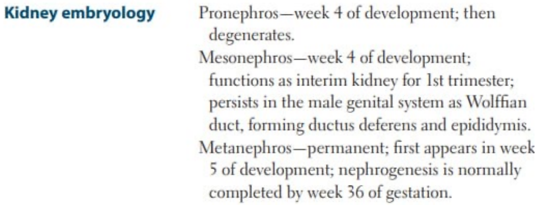
Q21. fore skin in zipper:
Ans: bone cutter ✓


4. Various hand tools can be used to cut the center, sliding portion of the zipper. Cutting the median bar will destroy the central locking portion of the zipper mechanism and help separate the two interlocking strips. This may require using significant hand tools such as a small hacksaw, scissors, bone cutter, or wire cutters.[17][18]

Q22. Main blood supply of the testis is?
Ans: Internal spermatic artery. ✓

Q23. Not present in the spermatic cord???
Ans:???/

Q24. If you suspect testicular torsion:
Ans: exploration. ✓


Kidney embryology

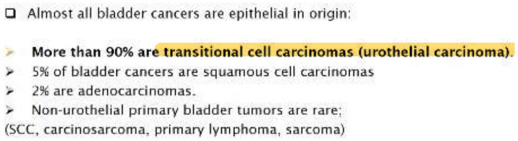
Pronephros—week 4 of development; then degenerates.
Mesonephros—week 4 of development; functions as interim kidney for 1st trimester; persists in the male genital system as Wolffian duct, forming ductus deferens and epididymis.
Metanephros—permanent; first appears in week 5 of development; nephrogenesis is normally completed by week 36 of gestation.

Q25. Vas and epididymis are derived from –
Ans: Wolffian duct ✓

Q26. Cremasteric muscle is supplied by :
Ans: genital branch of genitofemoral. ✓

Bladder Cancer

Q1. The mc histologic bladder ca cell type is:
a. small cell
b. urothelial
c. adenosarcoma
d. leiomyosarcoma
e. squamous
Ans: B ✓

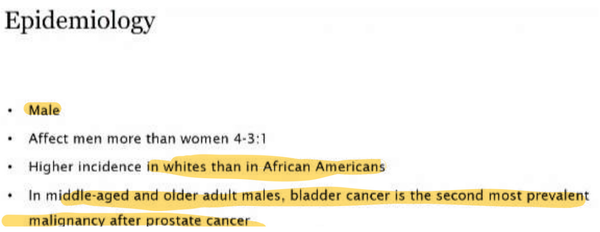


☐ Almost all bladder cancers are epithelial in origin:

- **More than 90% are transitional cell carcinomas (urothelial carcinoma).**
- 5% of bladder cancers are squamous cell carcinomas
- 2% are adenocarcinomas.
- Non-urothelial primary bladder tumors are rare;

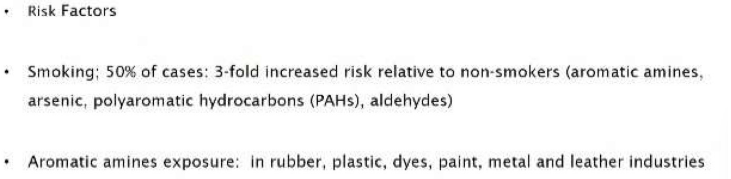
(SCC, carcinosarcoma, primary lymphoma, sarcoma)

Q2. Which of the following is not a high-risk factor in urothelial cancer in microscopic hematuria:
a. Age younger than 40 years.
b. Previous urologic surgery.
c. UTI
d. Smoking.
e. History of pelvic radiation.
Ans: A ✓



Epidemiology

- Male
- Affect men more than women 4-3:1
- Higher incidence in whites than in African Americans
- In middle-aged and older adult males, bladder cancer is the second most prevalent malignancy after prostate cancer



- Risk Factors
- Smoking; 50% of cases: 3-fold increased risk relative to non-smokers (aromatic amines, arsenic, polyaromatic hydrocarbons (PAHs), aldehydes)
- Aromatic amines exposure: in rubber, plastic, dyes, paint, metal and leather industries

Q3. What important information is gained from pelvic bimanual examination that cannot be obtained from radiologic evaluation?
a. Invasion of bladder cancer into perivesical fat. ✗
b. Presence of bladder calculi. 🫣
c. Presence of bladder mass. ✗
d. Mobility/fixation of pelvic organs.
e. Presence of associated pathologic lesion in female adnexal structures ✗

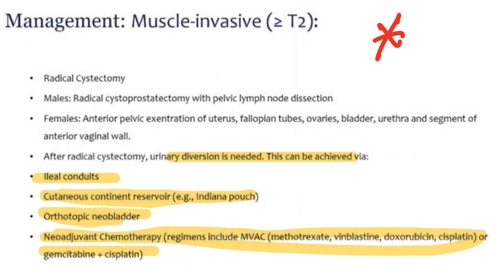
Ans: D ✓

Q4. Most common presentation in CIS (carcinoma in situ):
a. line painless gross hematuria
b. irritative symptoms
Ans: B ✓

*Gross Hematuria is hallmark of Papillary Ca.

* = = = less common in CIS

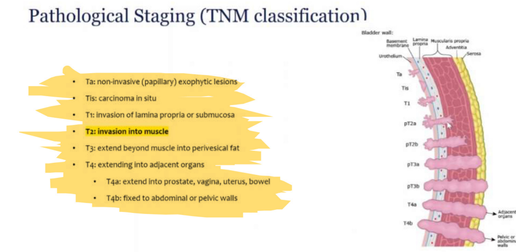
Q5. Patient presented with muscle-invasive transitional cell carcinoma of bladder , the Most appropriate management is : → T2
a. TURBT
b. Radical cystectomy
c. Chemotherapy
Ans: B



Management: Muscle-invasive (≥ T2):

*

- Radical Cystectomy
- Males: Radical cystoprostatectomy with pelvic lymph node dissection
- Females: Anterior pelvic exentration of uterus, fallopian tubes, ovaries, bladder, urethra and segment of anterior vaginal wall.
- After radical cystectomy, urinary diversion is needed. This can be achieved via:
- Ileal conduits
- Cutaneous continent reservoir (e.g., Indiana pouch)
- Orthotopic neobladder
- Neoadjuvant Chemotherapy (regimens include MVAC (methotrexate, vinblastine, doxorubicin, cisplatin) or gemcitabine + cisplatin)

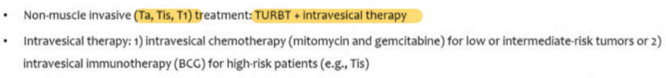


Pathological Staging (TNM classification)

- Ta: non-invasive (papillary) exophytic lesions
- Tis: carcinoma in situ
- T1: invasion of lamina propria or submucosa
- **T2: invasion into muscle**
- T3: extend beyond muscle into perivesical fat
- T4: extending into adjacent organs
    - T4a: extend into prostate, vagina, uterus, bowel
    - T4b: fixed to abdominal or pelvic walls

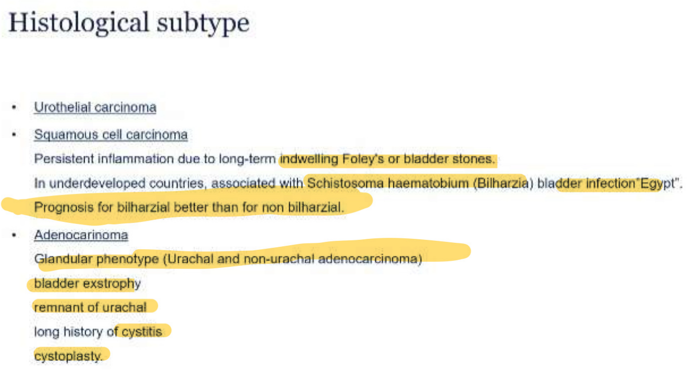
Q6. Papillary transitional cell Bladder CA, didn't invade muscle, what is the management
a. simple cystectomy ✗
b. radical cystectomy ✗
c. systemic chemotharpy ✗
d. follow up after 4-6 weeks cystoscopy
e. no follow up ✗
Ans: D ✓

> T2



- Non-muscle invasive (Ta, Tis, T1) treatment: TURBT + intravesical therapy
- Intravesical therapy: 1) intravesical chemotherapy (mitomycin and gemcitabine) for low or intermediate-risk tumors or 2) intravesical immunotherapy (BCG) for high-risk patients (e.g., Tis)

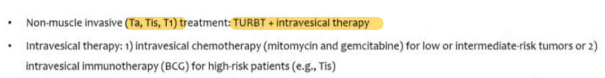
Q7. In areas where Schistosomiasis is endemic, the most common type of bladder cancer is:
a. TCC ✗
b. SCC
c. adenocarcinoma ✗
Ans: B ✓



Histological subtype

- Urothelial carcinoma
- Squamous cell carcinoma
  Persistent inflammation due to long-term indwelling Foley's or bladder stones.
  In underdeveloped countries, associated with Schistosoma haematobium (Bilharzia) bladder infection"Egypt".
  Prognosis for bilharzial better than for non bilharzial.
- Adenocarinoma
  Glandular phenotype (Urachal and non-urachal adenocarcinoma)
  bladder exstrophy
  remnant of urachal
  long history of cystitis
  cystoplasty.

Q8.treatment for carcinoma in situ of bladder ca?
A. Radical cystectomy
B. Partial Cystectomy.
C. Intravescival chemotherapy
D. IV chemotherapy.
Ans: C ✓



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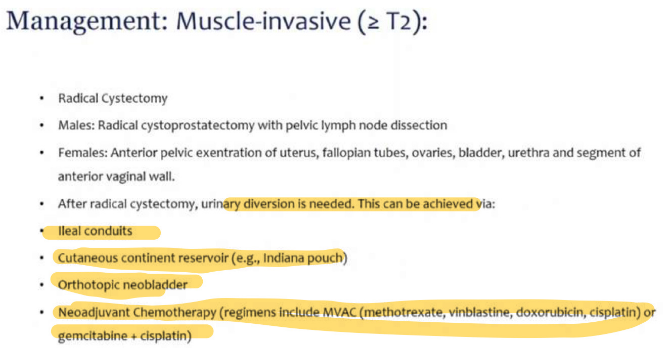
Q9. Treatment of bladder adenocarcinoma:
Ans: Cystectomy

- **Treatment of non-urothelial carcinomas** (squamous, adenocarcinoma) is mainly surgical.

Q10. T2N0M0 bladder CA:
Ans: radical cystectomy



Management: Muscle-invasive (≥ T2):

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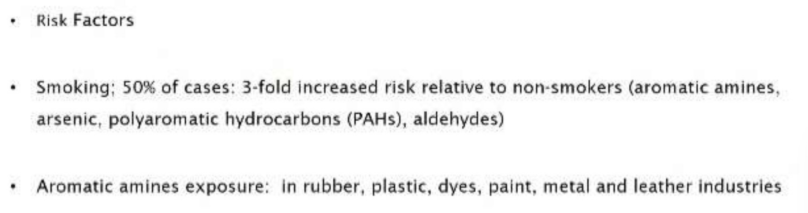
- Neoadjuvant Chemotherapy (regimens include MVAC (methotrexate, vinblastine, doxorubicin, cisplatin) or gemcitabine + cisplatin)

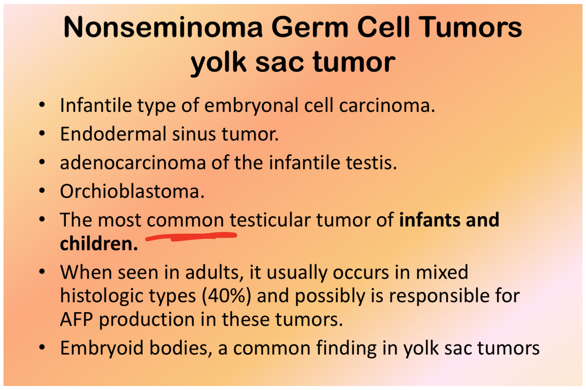
Q11. The most common risk factor in transitional cell carcinoma of bladder:
Ans: Smoking



- Risk Factors
- Smoking; 50% of cases: 3-fold increased risk relative to non-smokers (aromatic amines, arsenic, polyaromatic hydrocarbons (PAHs), aldehydes)
- Aromatic amines exposure: in rubber, plastic, dyes, paint, metal and leather industries

Testicular Tumors

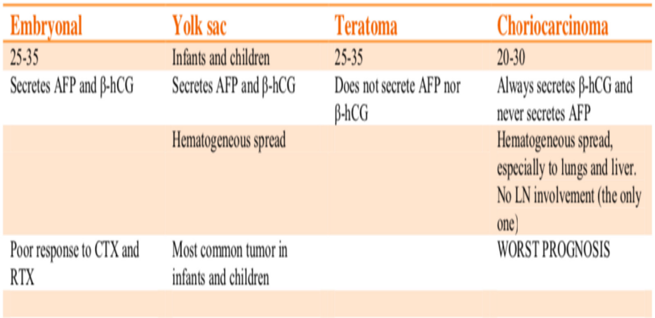
Q1. The most common testicular tumor in infants and children is:
a. Choriocarcinoma
b. Teratocarcinoma
c. Yolk sac tumor
d. Embryonal cell carcinoma
e. Seminoma
Ans: C ✓



Nonseminoma Germ Cell Tumors
yolk sac tumor

- Infantile type of embryonal cell carcinoma.
- Endodermal sinus tumor.
- adenocarcinoma of the infantile testis.
- Orchioblastoma.
- The most common testicular tumor of **infants and children.**
- When seen in adults, it usually occurs in mixed histologic types (40%) and possibly is responsible for AFP production in these tumors.
- Embryoid bodies, a common finding in yolk sac tumors

Q2. Which of the following germ cell tumors is most likely to spread hematogenously?
a. Choriocarcinoma.
b. Seminoma.
c. Immature teratoma.
d. Embryonal carcinoma.
e. Teratoma with malignant transformation.
Ans: A ✓

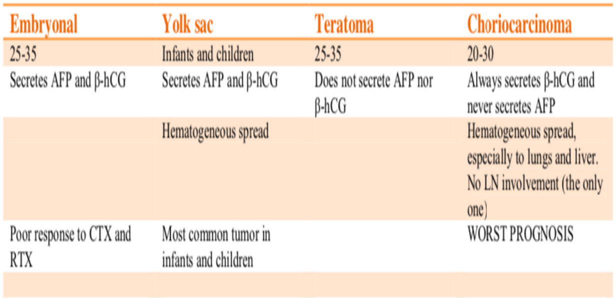


Embryonal	Yolk sac	Teratoma	Choriocarcinoma
25-35	Infants and children	25-35	20-30
Secretes AFP and β-hCG	Secretes AFP and β-hCG	Does not secrete AFP nor β-hCG	Always secretes β-hCG and never secretes AFP
	Hematogeneous spread		Hematogeneous spread, especially to lungs and liver. No LN involvement (the only one)
Poor response to CTX and RTX	Most common tumor in infants and children		WORST PROGNOSIS

Q3. Old man with testicular mass would have what kind of Tumor?
a. Seminoma
b. Lymphoma → M/c in old >60
Ans: B ✓

* Remeber Seminoma is The most common Germ cell Tumor

Q8. Choriocarcinoma metastasizes through?
a.Peritoneal seeding
b.Hematogenous spread
c.Lymphatic spread
d.Direct invasion into adjacent organs
Ans: B ✓



Embryonal	Yolk sac	Teratoma	Choriocarcinoma
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Poor response to CTX and RTX	Most common tumor in infants and children		WORST PROGNOSIS

Q9. Most common type of testicular cancer?
Ans: mixed (mostly)

* Men >60 → Lymphoma

? * Men > 30 → Seminoma

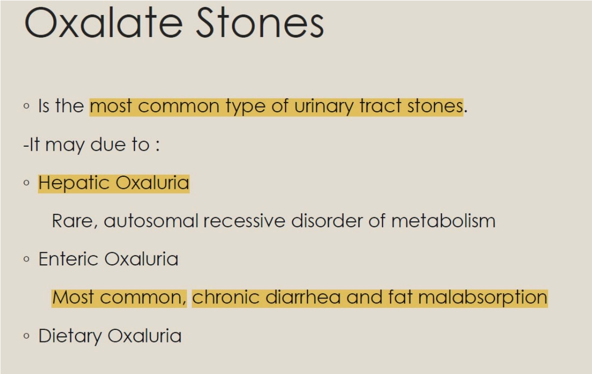
*overall M/c Testicular tumor is seminoma

Amboss

Q10. Most common testicular tumor in adults is?
Ans: Seminoma. ?

Q11. Most aggressive germ tumor:
Ans: choriocarcinoma ✓

Q4. Most common renal & uretral stones are :
a. Uric acid stones
b. Ca++ oxalate stones
c. Struvite stones
d. Cysteine stones (M/c in children)
e. Indinavir stones
Ans: B ✓


Oxalate Stones

- Is the most common type of urinary tract stones.

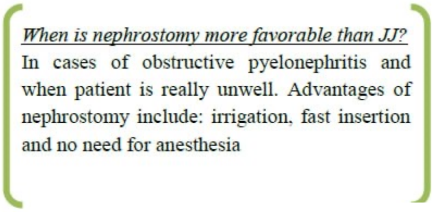
-It may due to :

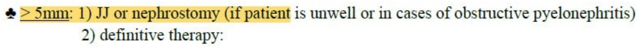
- Hepatic Oxaluria

  Rare, autosomal recessive disorder of metabolism
- Enteric Oxaluria

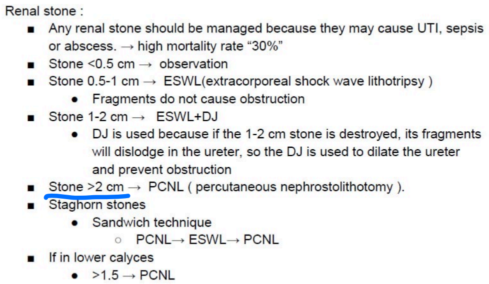
  Most common, chronic diarrhea and fat malabsorption
- Dietary Oxaluria

Q5.A patient presented to ER with obstructive pyelonephritis, a CT without contrast was done and revealed : 7mm ureteral stone &hydronephrosis, what to do ?
a. nephrostomy tube
b. urgent uretroscopy
c. Double – J insertion
d. Medical expulsion therapy
Ans: A ✓


When is nephrostomy more favorable than JJ?
In cases of obstructive pyelonephritis and when patient is really unwell. Advantages of nephrostomy include: irrigation, fast insertion and no need for anesthesia


♣ > 5mm: 1) JJ or nephrostomy (if patient is unwell or in cases of obstructive pyelonephritis)
2) definitive therapy:

Q6. The management of renal stone (2.7cm) is
a. PCNL
b. Double – J & ESWL
c. ESWL alone
d. Observation
Ans: A ✓


Renal stone :

- Any renal stone should be managed because they may cause UTI, sepsis or abscess. → high mortality rate "30%"
- Stone <0.5 cm → observation
- Stone 0.5-1 cm → ESWL(extracorporeal shock wave lithotripsy)
  - Fragments do not cause obstruction
- Stone 1-2 cm → ESWL+DJ
  - DJ is used because if the 1-2 cm stone is destroyed, its fragments will dislodge in the ureter, so the DJ is used to dilate the ureter and prevent obstruction
- Stone >2 cm → PCNL (percutaneous nephrostolithotomy).
- Staghorn stones
  - Sandwich technique
    - PCNL→ ESWL→ PCNL
- If in lower calyces
  - >1.5 → PCNL

Q7.Which type of stones is not visible onKUB:
a.uric acid (Radiolucent)
b.cystine
c.calcium phosphate
Ans: A ✓

* Indinavir (Drug induced) stone is also not seen on KUB
↓
Radiolucent

Q15.All of these are correct when it comes to treating a 1 cm distal ureteric stone except
a.PCNL
b.ESWL
c.Rigid ureteroscope with pneumatic Lithotripsy
d.Cystolitholapaxy
e.Laprascopic sth.
Ans: A or E مختلف عليها ???

Q16.Diagnostic study for stones:
Ans: non enhanced helical CT scan ✓

Q17.Most common stone composition? –
Ans: Calcium oxalate. ✓ Mentioned

Q18. Treatment of a stone in the renal pelvicalyceal system measuring 3 cm is :
Ans: PCNL. ✓ Mentioned

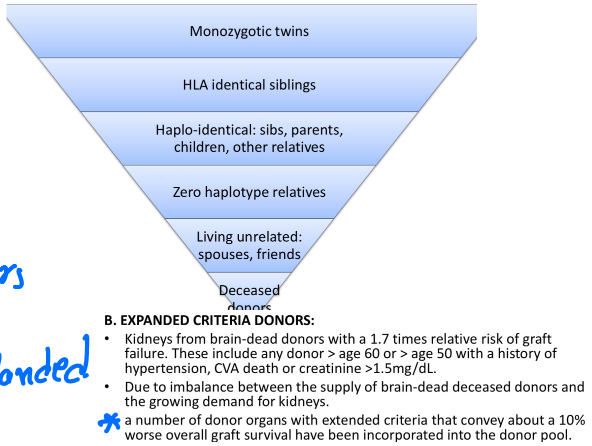
Q19. Not indication of extracorporeal lithotripsy –
Ans: renal stone larger than 2 cm ✓ → Anything >2 → other Modalities

Q20. Abnormality mostly seen in uric acid stones:
Ans: Aciduria ✓ Mentioned

Kidney Transplant

Q1. Kidney transplant survival rates are poorest for which donor categories?
a. Parents.
b. Expanded criteria deceased donors.
c. Siblings.
d. Standard criteria deceased donors.
e. Spouse
Ans: B ✓ * Living > Deceased donors

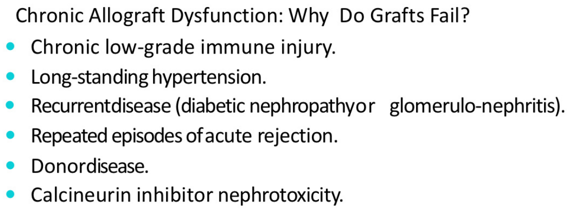
* std. criteria deceased > Expanded



B. EXPANDED CRITERIA DONORS:

- Kidneys from brain-dead donors with a 1.7 times relative risk of graft failure. These include any donor > age 60 or > age 50 with a history of hypertension, CVA death or creatinine >1.5mg/dL.
- Due to imbalance between the supply of brain-dead deceased donors and the growing demand for kidneys.
- * a number of donor organs with extended criteria that convey about a 10% worse overall graft survival have been incorporated into the donor pool.

Q2. Not cause of chronic renal transplant rejection:
a. candida albican
b. Recurrent acute rejections
c. Small immune trauma
d. Persistent HTN
e. Persistent comorbidity (DM,,,,)
Ans: A ✓

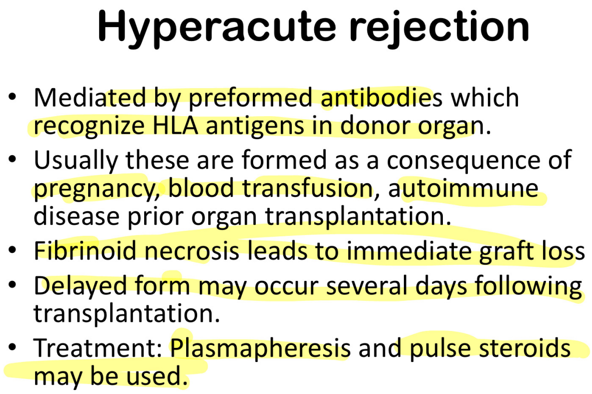


Chronic Allograft Dysfunction: Why Do Grafts Fail?

- Chronic low-grade immune injury.
- Long-standing hypertension.
- Recurrentdisease (diabetic nephropathyor glomerulo-nephritis).
- Repeated episodes ofacute rejection.
- Donordisease.
- Calcineurin inhibitor nephrotoxicity.

Q3. About renal transplant hyperacute rejection .. true
a. caused by preformed antibodies
b. happens during 3-5 days
c. we can predict it by measuring something
Ans: A (Not sure)

A - true
B- Partially true, but he didn't ask about Delayed
C - ? Can be Predicted with crossmatch but not by Measuring.



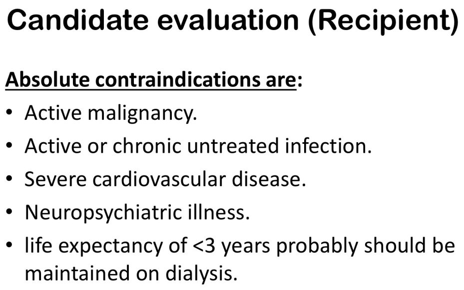
Hyperacute rejection

- Mediated by preformed antibodies which recognize HLA antigens in donor organ.
- Usually these are formed as a consequence of pregnancy, blood transfusion, autoimmune disease prior organ transplantation.
- Fibrinoid necrosis leads to immediate graft loss
- Delayed form may occur several days following transplantation.
- Treatment: Plasmapheresis and pulse steroids may be used.

Q4. One of these is NOT an absolute contraindication to renal transplantation:

a. Past transplant with graft failure.
b.Life expectancy <2 years.
c.Neuropsychiatric illness.
d.Active malignancy

Ans: A ✓



Candidate evaluation (Recipient)

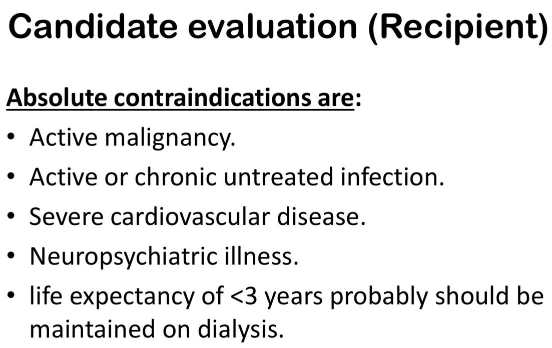
Absolute contraindications are:

- Active malignancy.
- Active or chronic untreated infection.
- Severe cardiovascular disease.
- Neuropsychiatric illness.
- life expectancy of <3 years probably should be maintained on dialysis.

Q5. Which of the following is not an absolute contraindication for renal transplantation ?

a.Expected life expectancy less than 10 years
b.Active malignancy
c.Parkinson's disease
d.Persistent substance abuse (eventually lead to →
e.Refractory congestive heart failure

Ans: A ✓



Candidate evaluation (Recipient)

Absolute contraindications are:

- Active malignancy.
- Active or chronic untreated infection.
- Severe cardiovascular disease.
- Neuropsychiatric illness.
- life expectancy of <3 years probably should be maintained on dialysis.

Q5. In patient with primary nocturnal enuresis, the MOA of Minirin (Desmopressin):

a. Relaxation of bladder at night

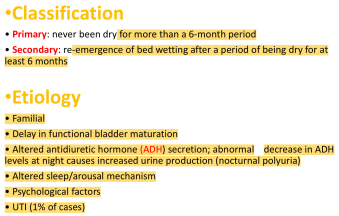
b. Increases bladder capacity

c. Decreases urine output

Ans: C ✓

* Decreased ADH at night is one of the etiological factors causing Nocturnal Emesis

* So we give ADH analogue to Preserve ADH levels

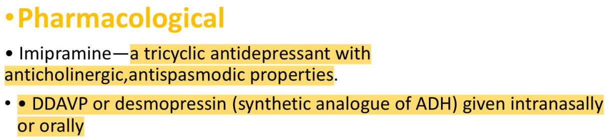


•Classification

- **Primary**: never been dry for more than a 6-month period
- **Secondary**: re-emergence of bed wetting after a period of being dry for at least 6 months

•Etiology

- Familial
- Delay in functional bladder maturation
- Altered antidiuretic hormone (ADH) secretion; abnormal decrease in ADH levels at night causes increased urine production (nocturnal polyuria)
- Altered sleep/arousal mechanism
- Psychological factors
- UTI (1% of cases)



•Pharmacological

- Imipramine—a tricyclic antidepressant with anticholinergic,antispasmodic properties.
- • DDAVP or desmopressin (synthetic analogue of ADH) given intranasally or orally

Q6. a 16-Year-Old MALE, LUTS, the most important test to do ??

a. Urine Analysis

b. uroflowmetry

Ans: A ✓

Q7. One is not caused by vesicourethral reflux:

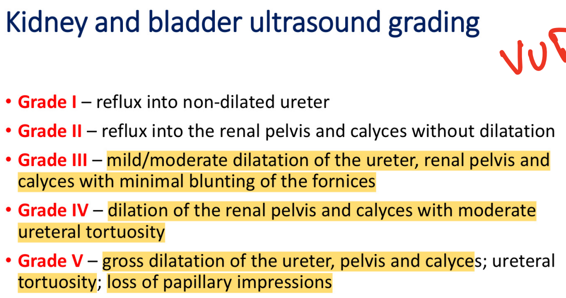
a. Cortical scaring

b. Dilated ureter

c. Dilated pelvicalyceal system

d. Urothelial neoplasm.

Ans: D ✓



Kidney and bladder ultrasound grading

VUR

- **Grade I** – reflux into non-dilated ureter
- **Grade II** – reflux into the renal pelvis and calyces without dilatation
- **Grade III** – mild/moderate dilatation of the ureter, renal pelvis and calyces with minimal blunting of the fornices
- **Grade IV** – dilation of the renal pelvis and calyces with moderate ureteral tortuosity
- **Grade V** – gross dilatation of the ureter, pelvis and calyces; ureteral tortuosity; loss of papillary impressions

Q8. One of these is not a complication of cryptorchidism:

a. Impotence

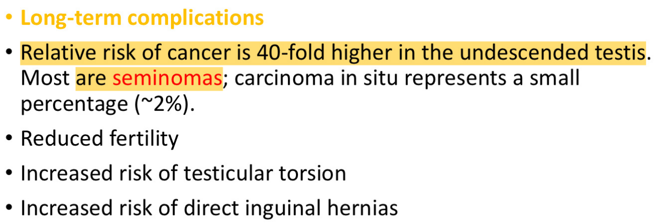
b.Testicular tumor

c.Testicular torsion

d.Inguinal hernia

e.infertility

Ans: A ✓



- Long-term complications
- Relative risk of cancer is 40-fold higher in the undescended testis. Most are seminomas; carcinoma in situ represents a small percentage (~2%).
- Reduced fertility
- Increased risk of testicular torsion
- Increased risk of direct inguinal hernias

Incontinence and Urodynamics

***Reviewing this topic from other resources is advised (AMBOSS..etc)**

Q1. The most likely cause of continuous incontinence:

urge incont.

a. Detrusor hyperreflexia.

b. Noncompliant bladder.

feces in urine

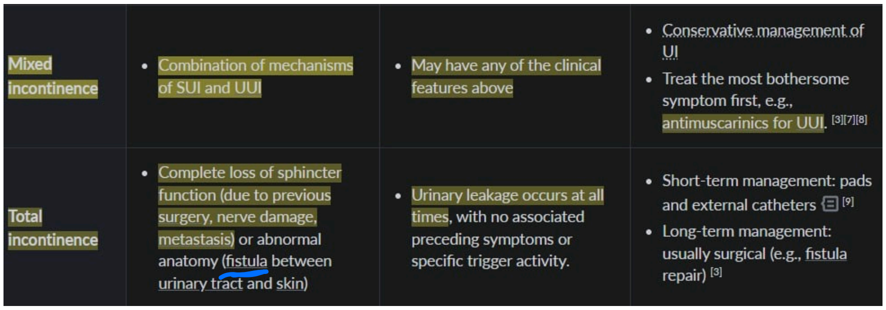
c. Enterovesical fistula.

d. Vesicovaginal fistula.

stress incont.

e. Sphincteric incompetence

Ans: D ✓



Mixed incontinence	Combination of mechanisms of SUI and UUI	May have any of the clinical features above	Conservative management of UI Treat the most bothersome symptom first, e.g., antimuscarinics for UUI. [3][7][8]
Total incontinence	Complete loss of sphincter function (due to previous surgery, nerve damage, metastasis) or abnormal anatomy (fistula between urinary tract and skin)	Urinary leakage occurs at all times, with no associated preceding symptoms or specific trigger activity.	Short-term management: pads and external catheters [9] Long-term management: usually surgical (e.g., fistula repair) [3]

Q2. Overactive bladder applies to:

Associated with urge incont.

a. over flow urinary incontinence

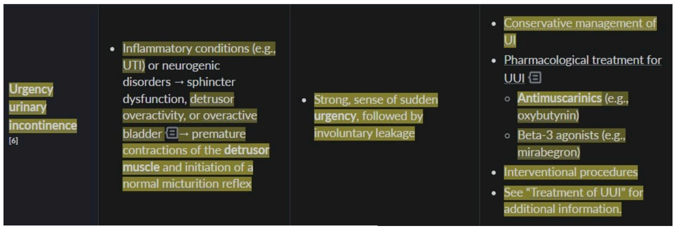
b. urinary retention

c. urgency

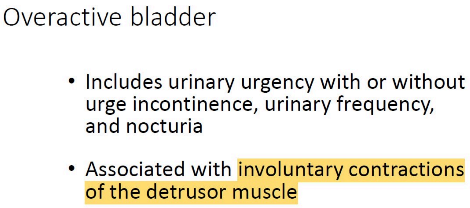
d. Frequency

e. stress incontinence

Ans: C



Urgency urinary incontinence [6]	Inflammatory conditions (e.g., UTI) or neurogenic disorders → sphincter dysfunction, detrusor overactivity, or overactive bladder → premature contractions of the **detrusor muscle** and initiation of a normal micturition reflex	Strong, sense of sudden **urgency**, followed by involuntary leakage	Conservative management of UI Pharmacological treatment for UUI ○ **Antimuscarinics** (e.g., oxybutynin) ○ Beta-3 agonists (e.g., mirabegron) Interventional procedures See "Treatment of UUI" for additional information.



Overactive bladder

- Includes urinary urgency with or without urge incontinence, urinary frequency, and nocturia
- Associated with involuntary contractions of the detrusor muscle

Q3. Patient with neurogenic bladder (overactive) which of the following is not part of his workup

a. Serum creatinine

b. Urine culture

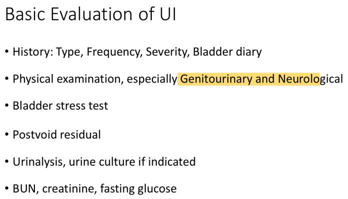
c. Urine analysis

d. Cystoscopy

e. U/S for tract from ureter and post void volume

Ans: D ✓

*cystoscopy not a part of initial workup unless Hematuria ... etc



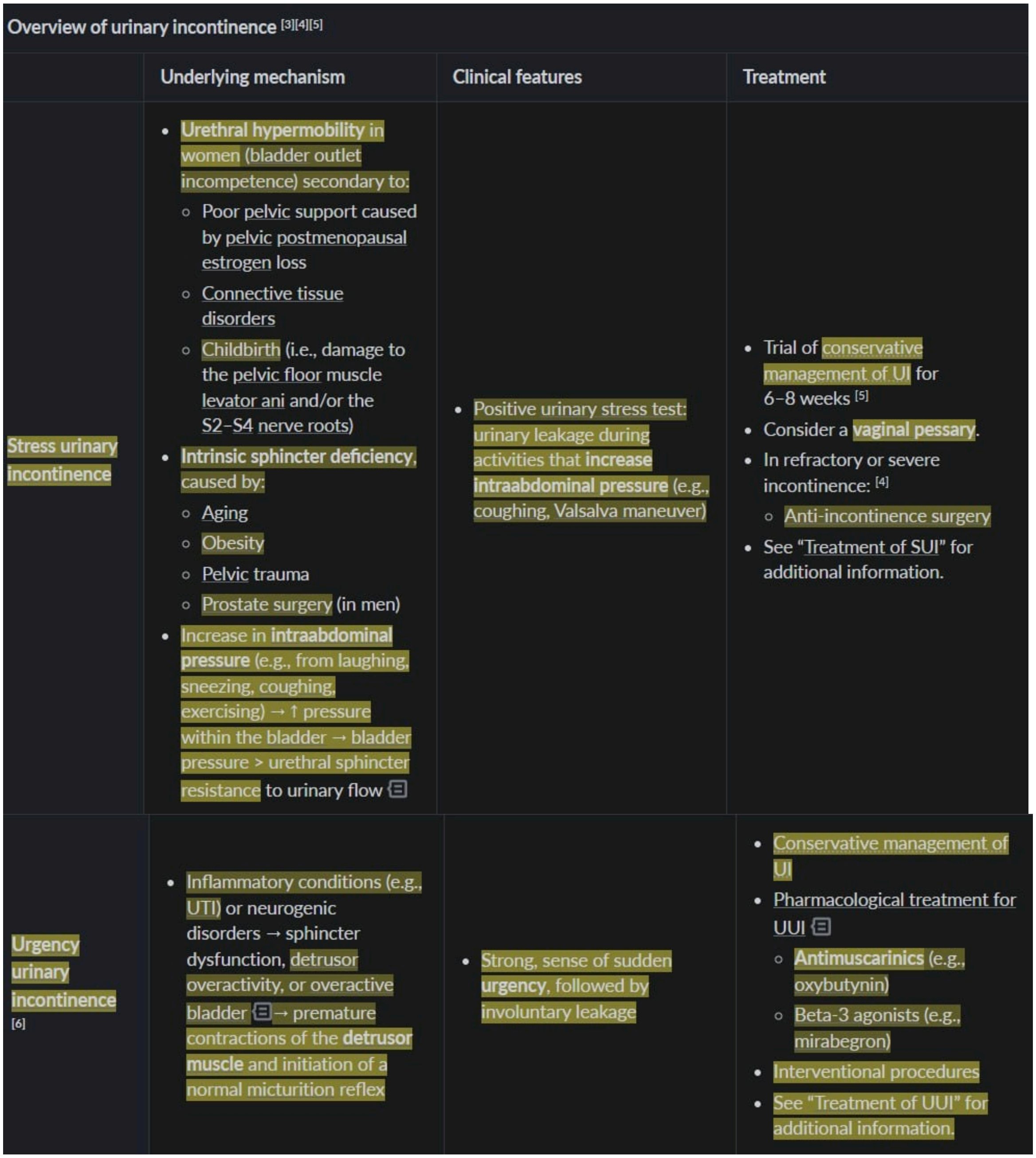
Basic Evaluation of UI

- History: Type, Frequency, Severity, Bladder diary
- Physical examination, especially Genitourinary and Neurological
- Bladder stress test
- Postvoid residual
- Urinalysis, urine culture if indicated
- BUN, creatinine, fasting glucose

Q12. Classical symptom of neurogenic bladder:
Ans: frequency/urgency

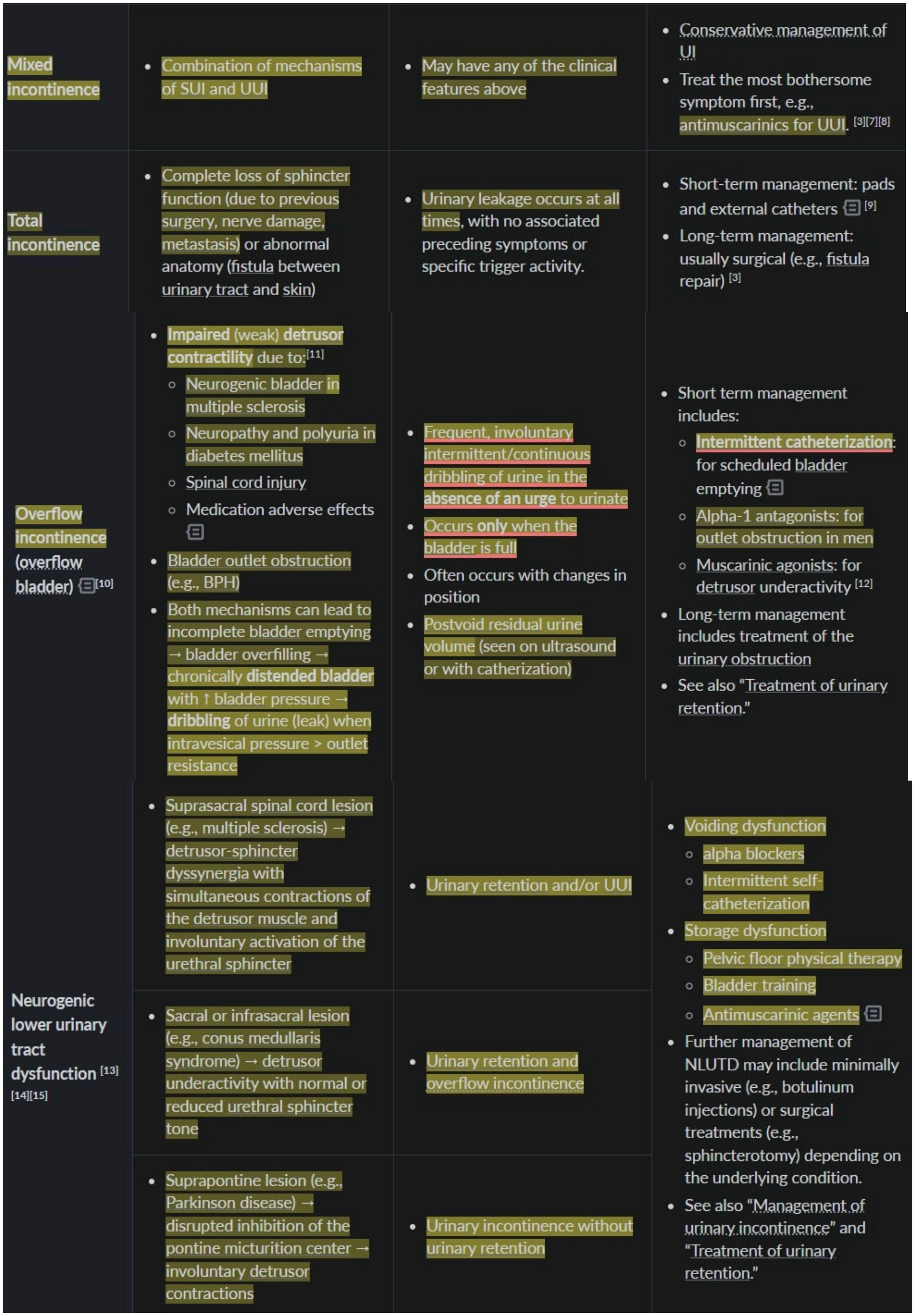
Q13: Not a risk factor of stress incontinence –
Ans: Recurrent UTI. ✓

Q14. Easy case about stress incontinence (Cough , sneeze



Overview of urinary incontinence [3][4][5]

	Underlying mechanism	Clinical features	Treatment
Stress urinary incontinence	• Urethral hypermobility in women (bladder outlet incompetence) secondary to: ◦ Poor pelvic support caused by pelvic postmenopausal estrogen loss ◦ Connective tissue disorders ◦ Childbirth (i.e., damage to the pelvic floor muscle levator ani and/or the S2–S4 nerve roots) • Intrinsic sphincter deficiency, caused by: ◦ Aging ◦ Obesity ◦ Pelvic trauma ◦ Prostate surgery (in men) • Increase in intraabdominal pressure (e.g., from laughing, sneezing, coughing, exercising) → ↑ pressure within the bladder → bladder pressure > urethral sphincter resistance to urinary flow	• Positive urinary stress test: urinary leakage during activities that increase intraabdominal pressure (e.g., coughing, Valsalva maneuver)	• Trial of conservative management of UI for 6–8 weeks [5] • Consider a vaginal pessary. • In refractory or severe incontinence: [4] ◦ Anti-incontinence surgery • See "Treatment of SUI" for additional information.
Urgency urinary incontinence [6]	• Inflammatory conditions (e.g., UTI) or neurogenic disorders → sphincter dysfunction, detrusor overactivity, or overactive bladder → premature contractions of the detrusor muscle and initiation of a normal micturition reflex	• Strong, sense of sudden urgency, followed by involuntary leakage	• Conservative management of UI • Pharmacological treatment for UUI ◦ Antimuscarinics (e.g., oxybutynin) ◦ Beta-3 agonists (e.g., mirabegron) • Interventional procedures • See "Treatment of UUI" for additional information.



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Total incontinence	- Complete loss of sphincter function (due to previous surgery, nerve damage, metastasis) or abnormal anatomy (fistula between urinary tract and skin)	- Urinary leakage occurs at all times, with no associated preceding symptoms or specific trigger activity.	- Short-term management: pads and external catheters [9] - Long-term management: usually surgical (e.g., fistula repair) [3]

Overflow incontinence (overflow bladder) [10]	- **Impaired** (weak) **detrusor contractility** due to:[11]
	  ◦ Neurogenic bladder in multiple sclerosis
	  ◦ Neuropathy and polyuria in diabetes mellitus
	  ◦ Spinal cord injury
	  ◦ Medication adverse effects
	- Bladder outlet obstruction (e.g., BPH)
	- Both mechanisms can lead to incomplete bladder emptying → bladder overfilling → chronically **distended bladder** with ↑ bladder pressure → **dribbling** of urine (leak) when intravesical pressure > outlet resistance
		- Frequent, involuntary intermittent/continuous dribbling of urine in the **absence of an urge** to urinate
		- Occurs **only** when the bladder is full
		- Often occurs with changes in position
		- Postvoid residual urine volume (seen on ultrasound or with catherization)
			- Short term management includes:
			  ◦ **Intermittent catheterization**: for scheduled bladder emptying
			  ◦ Alpha-1 antagonists: for outlet obstruction in men
			  ◦ Muscarinic agonists: for detrusor underactivity [12]
			- Long-term management includes treatment of the urinary obstruction
			- See also "Treatment of urinary retention."

Neurogenic lower urinary tract dysfunction [13] [14][15]	- Suprasacral spinal cord lesion (e.g., multiple sclerosis) → detrusor-sphincter dyssynergia with simultaneous contractions of the detrusor muscle and involuntary activation of the urethral sphincter	- Urinary retention and/or UUI	- Voiding dysfunction
			  ◦ alpha blockers
			  ◦ Intermittent self-catheterization
			- Storage dysfunction
			  ◦ Pelvic floor physical therapy
			  ◦ Bladder training
			  ◦ Antimuscarinic agents
			- Further management of NLUTD may include minimally invasive (e.g., botulinum injections) or surgical treatments (e.g., sphincterotomy) depending on the underlying condition.
			- See also "Management of urinary incontinence" and "Treatment of urinary retention."

	- Sacral or infrasacral lesion (e.g., conus medullaris syndrome) → detrusor underactivity with normal or reduced urethral sphincter tone	- Urinary retention and overflow incontinence	
	- Suprapontine lesion (e.g., Parkinson disease) → disrupted inhibition of the pontine micturition center → involuntary detrusor contractions	- Urinary incontinence without urinary retention	

Q9. Which of the following modalities is the preferred to reveal the anatomic features of
Urogenital TB:
a. Ultrasound
b. CT
c. IVU
d. Retrograde pyelogram
e. MRI
Ans: c googles says it's the gold standard. ✓ ↳ Dossier says that too.

Q10. Most common cause of cloudy urine –
Ans: Bacterial cystitis(?) ??

Q11. Acute pyelonephritis
Ans: fever, chills, loin pain ✓

Q12. Not urease-producing bacteria?
Ans: E. coli. ✓ ↳ Pseudomonas, Proteus

Q12. Indication for admission of chronic retention:
Ans: UTI, post obstructive diuresis. ✓

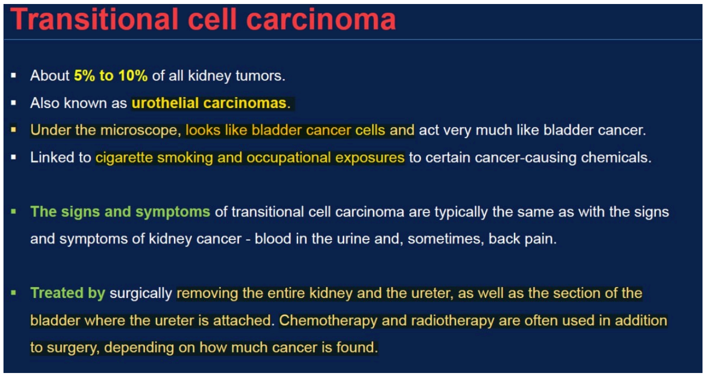
Q13. Easy question about prostatitis what to do?
Ans: IV abx?? ?? oral abx is enough but not sure.
↳ unless Pt is Toxic

Q14. Most common presentation for UTI:
Ans: painful urination ✓

Renal Tumors

Q1.14-In the treatment of renal cancers, in contrast to radical nephrectomy, partial nephrectomy has which of the following advantages ?
a.Reduced risk of infection
b.Decreased postoperative pain
c.Nephron preserving
d.Faster recovery time
Ans: C ✓

Q2. common site of upper urinary tract urothelial cancer is:
a. Renal pelvis &calyces
b. PUJ
c. Upper ureter
d. Mid ureter
e. Lower ureter
Ans: A ✓

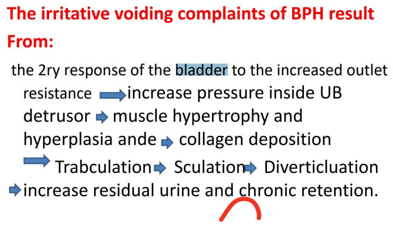


Transitional cell carcinoma

- About 5% to 10% of all kidney tumors.
- Also known as urothelial carcinomas.
- Under the microscope, looks like bladder cancer cells and act very much like bladder cancer.
- Linked to cigarette smoking and occupational exposures to certain cancer-causing chemicals.
- The signs and symptoms of transitional cell carcinoma are typically the same as with the signs and symptoms of kidney cancer - blood in the urine and, sometimes, back pain.
- Treated by surgically removing the entire kidney and the ureter, as well as the section of the bladder where the ureter is attached. Chemotherapy and radiotherapy are often used in addition to surgery, depending on how much cancer is found.

Q3.. The best method to evaluate real mass is:
a. CT with contrast
b. CT without contrast
c. KUB
d. IVU
Ans: A ✓ Per AUA guidelines

Intro to Uro (First 3 Lecs) + Misc.


The irritative voiding complaints of BPH result From:

the 2ry response of the bladder to the increased outlet resistance → increase pressure inside UB detrusor → muscle hypertrophy and hyperplasia ande → collagen deposition → Trabculation → Sculation → Diverticluation → increase residual urine and chronic retention.

Q1. What are the typical symptoms associated with bladder diverticulum ?
a.Hematuria and flank pain
b.Dysuria and urinary frequency
c.Urinary retention and suprapubic discomfort (irritative symptoms)
d.Incontinence and urethral discharge
Ans: C ✓

Q2-In the context of urinary symptoms, what is meant by the term "hesitancy ?"
a.Involuntary leakage of urine
b.Pain or discomfort during urination
c.Difficulty initiating urination
d.Frequent urination at night
Ans: C ✓

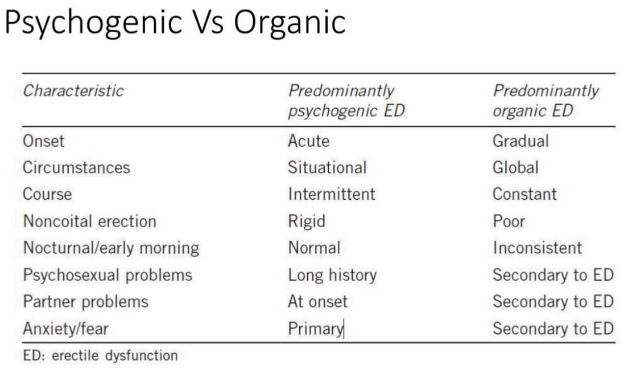

- **Hesitancy: delay and defficulty in initiating urination.**

Q3. What is the physiology of ejaculation vs. erection?
a.Both are under sympathetic control
b.Both are under parasympathetic control
c.Erection is under sympathetic control, while ejaculation is under parasympathetic control
d.Erection is under parasympathetic control, while ejaculation is under sympathetic control
Ans: D ✓

Q4. All of these are consistent with a psychogenic cause of erectile dysfunction except

a.Sudden Onset
b.Young
c.Normal morning erection
d.Erection to a visual stimuli
e. Gradual onset and continuous.

Ans: E ✓



Psychogenic Vs Organic

Characteristic	*Predominantly psychogenic ED*	*Predominantly organic ED*
Onset	Acute	Gradual
Circumstances	Situational	Global
Course	Intermittent	Constant
Noncoital erection	Rigid	Poor
Nocturnal/early morning	Normal	Inconsistent
Psychosexual problems	Long history	Secondary to ED
Partner problems	At onset	Secondary to ED
Anxiety/fear	Primary	Secondary to ED

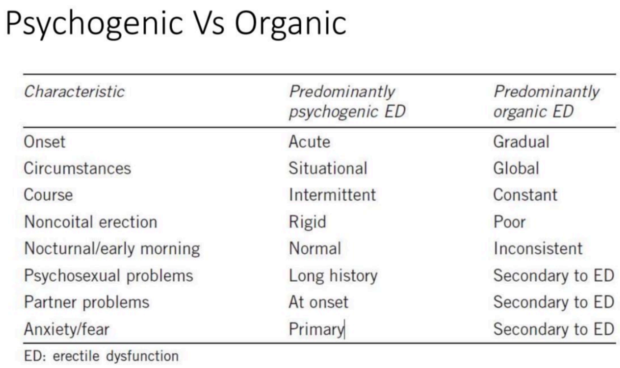
ED: erectile dysfunction

Q5. All of following associated with erectile dysfunction of psychological cause except:

a. Sudden onset
b. Young age
c. Erection in night
d. Presence of orgasm
e. Variety in symptoms

Ans: e not sure ?

* Google says Psych associated with Dysfunctional orgasm



Psychogenic Vs Organic

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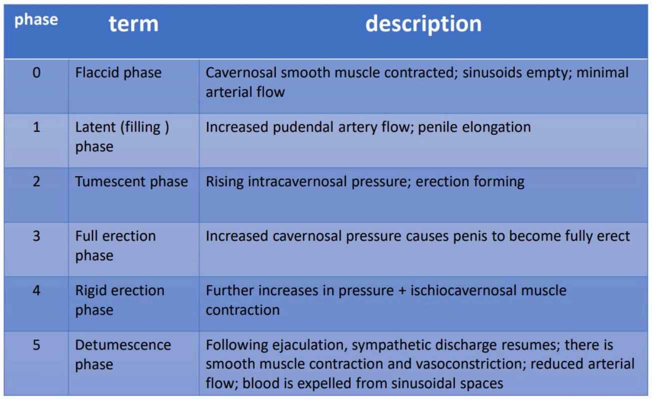
Noncoital erection	Rigid	Poor
Nocturnal/early morning	Normal	Inconsistent
Psychosexual problems	Long history	Secondary to ED
Partner problems	At onset	Secondary to ED
Anxiety/fear	Primary	Secondary to ED

ED: erectile dysfunction

Q6. During a rigid erection, one of the following is not correct:

a. corporal pressure increase (to several 100mm of mercury)
b. sinusoidal relaxation
c. Dilation of arteries and arterioles.
d. subtunical venous compression reducing venous outflow
e. Relaxation of ischio-cavernosus muscles

Ans: E ✓

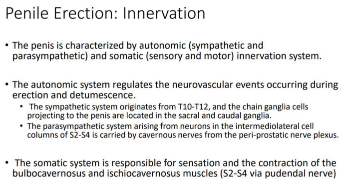


phase	term	description
0	Flaccid phase	Cavernosal smooth muscle contracted; sinusoids empty; minimal arterial flow
1	Latent (filling) phase	Increased pudendal artery flow; penile elongation
2	Tumescent phase	Rising intracavernosal pressure; erection forming
3	Full erection phase	Increased cavernosal pressure causes penis to become fully erect
4	Rigid erection phase	Further increases in pressure + ischiocavernosal muscle contraction
5	Detumescence phase	Following ejaculation, sympathetic discharge resumes; there is smooth muscle contraction and vasoconstriction; reduced arterial flow; blood is expelled from sinusoidal spaces

Q7. With which of the following diseases is priapism most commonly associated?

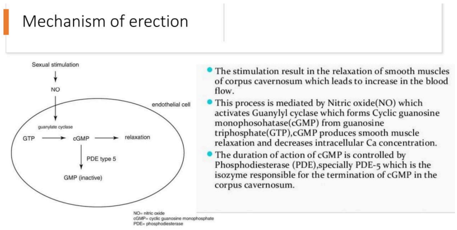
a. Sickle cell anemia.
b. Leukemia.
c. organic depression.
d. Parkinson disease.
e. Peyronie disease.

Ans: A ✓



Penile Erection: Innervation

- The penis is characterized by autonomic (sympathetic and parasympathetic) and somatic (sensory and motor) innervation system.
- The autonomic system regulates the neurovascular events occurring during erection and detumescence.
  - The sympathetic system originates from T10-T12, and the chain ganglia cells projecting to the penis are located in the sacral and caudal ganglia.
  - The parasympathetic system arising from neurons in the intermediolateral cell columns of S2-S4 is carried by cavernous nerves from the peri-prostatic nerve plexus.
- The somatic system is responsible for sensation and the contraction of the bulbocavernosus and ischiocavernosus muscles (S2-S4 via pudendal nerve)



Mechanism of erection

NO= nitric oxide
cGMP= cyclic guanosine monophosphate
PDE= phosphodiesterase

- The stimulation result in the relaxation of smooth muscles of corpus cavernosum which leads to increase in the blood flow.
- This process is mediated by Nitric oxide(NO) which activates Guanylyl cyclase which forms Cyclic guanosine monophosohatase(cGMP) from guanosine triphosphate(GTP),cGMP produces smooth muscle relaxation and decreases intracellular Ca concentration.
- The duration of action of cGMP is controlled by Phosphodiesterase (PDE),specially PDE-5 which is the isozyme responsible for the termination of cGMP in the corpus cavernosum.

Q8. Wong about physiology of erection:

a. Penis is supplied by sympathetic and parasympathetic
b. Sympathetic is for ejaculation and parasympathetic for erection
c. NO by nitric oxide synthase from L-Arginine decrease Ca+ leading to muscle
relaxation + increase blood flowPDE5
d. cGMP produced from PDE5 inhibitor lead to end of erection

Ans: D ✓

Q9. The most common cause of erectile dysfunction is :

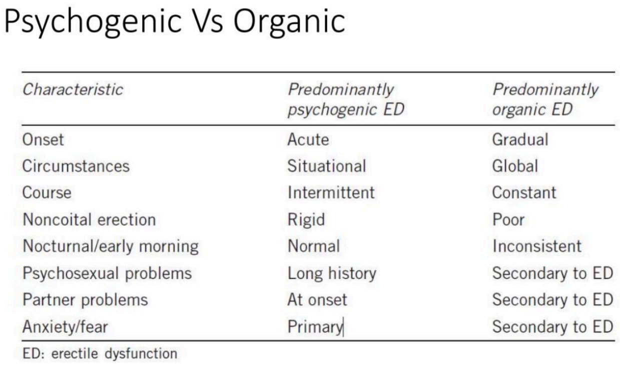
a. Psychological
b. DM
c. Vascular
d. Neurological

Ans: A X ?? Probably vascular

Q10. Organic coz of erectile dysfunction true except:

a. sudden onset
b. DM
c. peripheral vascular disease
d. inability to sustained erection in?

Ans: A most likely ✓



Psychogenic Vs Organic

Characteristic	*Predominantly psychogenic ED*	*Predominantly organic ED*
Onset	Acute	Gradual
Circumstances	Situational	Global
Course	Intermittent	Constant
Noncoital erection	Rigid	Poor
Nocturnal/early morning	Normal	Inconsistent
Psychosexual problems	Long history	Secondary to ED
Partner problems	At onset	Secondary to ED
Anxiety/fear	Primary	Secondary to ED

ED: erectile dysfunction

Q16. Kidney weight:
a. 1200gm
b. 600gm
c. 300gm
d. 150gm
e. 50gm
Ans: D (81-160) ✓

Q17. Acute tubular necrosis diuretic phase, most dangerous
a. hypernatremia
b. hyponatremia
c. hypomagnesemia
d. hypokalemia
e. hyperkalemia
Ans: D ✓

الرخش من وين

Q18. Most common cause of Chronic testicular pain (orchalgia) is (محذوف)
a. distal ureter stone
b. hydrocele
Ans: both cause it

Q19. Most common source of RENIN is?
a. Kidney
b. Liver
c. Lung
Ans: A ✓

Q20. Female with HTN of 2 years duration. treated with diuretics, BP 150\90 .. Na 135 ...K 2.7 .. Cr 0.8 ..she has:

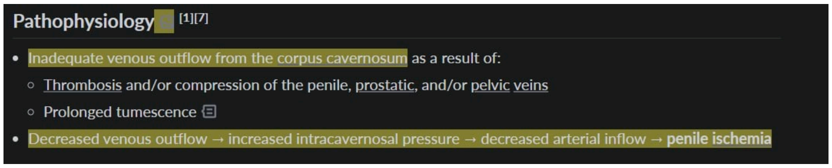
a. essential HTN
b. hyper aldosteronemia
c. syndromes ...

Ans: A or B ????

Q21. One is false about priapism:

a. Glans not affected
b. Corpus cavernosum not affected
c. Corpus spongiosurn not affected
D. Acute emergency

Ans: B



Pathophysiology [1][7]

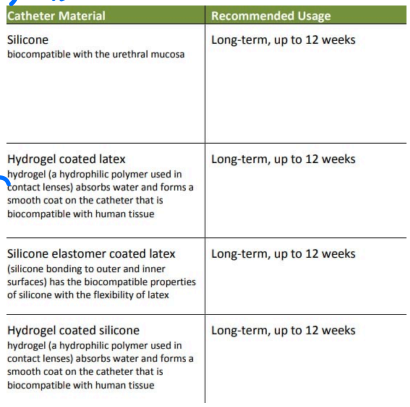
- Inadequate venous outflow from the corpus cavernosum as a result of:
  - Thrombosis and/or compression of the penile, prostatic, and/or pelvic veins
  - Prolonged tumescence
- Decreased venous outflow → increased intracavernosal pressure → decreased arterial inflow → **penile ischemia**

Q22. Narrowest part of ureter:

A. Pelviureteic junction
b. uretrovesical junction
c. Where it passes the pelvic brim
d where it passes the ischial spine

Ans: B ✓

Don't Memorize



Catheter Material	Recommended Usage
Silicone biocompatible with the urethral mucosa	Long-term, up to 12 weeks
Hydrogel coated latex hydrogel (a hydrophilic polymer used in contact lenses) absorbs water and forms a smooth coat on the catheter that is biocompatible with human tissue	Long-term, up to 12 weeks
Silicone elastomer coated latex (silicone bonding to outer and inner surfaces) has the biocompatible properties of silicone with the flexibility of latex	Long-term, up to 12 weeks
Hydrogel coated silicone hydrogel (a hydrophilic polymer used in contact lenses) absorbs water and forms a smooth coat on the catheter that is biocompatible with human tissue	Long-term, up to 12 weeks

Q25. For long term cathetarization we use:

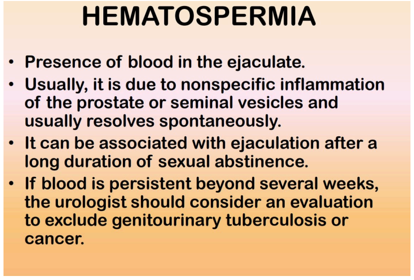
a. Silicon catheter
b. dacron
c. rubber

Not Important Just for clarification

Ans: A ✓

Q24. Mcc of hemospermia?

Ans:????



HEMATOSPERMIA

- Presence of blood in the ejaculate.
- Usually, it is due to nonspecific inflammation of the prostate or seminal vesicles and usually resolves spontaneously.
- It can be associated with ejaculation after a long duration of sexual abstinence.
- If blood is persistent beyond several weeks, the urologist should consider an evaluation to exclude genitourinary tuberculosis or cancer.

O20 Final Urology

1. The most common histologic type of RCC?
   - A. Clear cell carcinoma
   - B. Papillary
   - C. Chromophobic

Renal Tumors

Answer: A

2. Not affecting fertility:

infertelity

   - A. Testicular torsion
   - B. Undescended testis
   - C. Trauma
   - D. Epididymal cyst

Answer: D

3. 56 years old patient present with hematuria, no bacterial growth in culture, which is wrong?
   - A. Give antibiotics for 2 weeks and then repeat the test
   - B. Do cystoscopy even if urine cytology was negative
   - C. Do cystoscopy even if CT was Normal

Hematurea

Answer: A

4. False about physiology of sperms:
   - A. Sympathetic innervation for ejection, parasympathetic for ejaculation
   - B. NO (nitrous oxide) increases cGMP and cause relaxation of muscles

infertility

Answer: A

5. All are presentations of testicular cancer except:
   - A. Acute pain
   - B. Scrotal swelling
   - C. Erectile dysfunction
   - D. Scrotal heaveness
   - E. Symptoms related to metastasis

Testicular Tumors

Answer: C

6. Mismatched
   - A. Hydrocele- hydrocelectomy
   - B. Varicocele -ligation
   - C. Sprematocele- spermatocelectomy
   - D. Epididymo orchitis- incision and drainage
   - E. Testicular torsion-immediate surgical exploration

Benign Scrotal Bathologies

Answer: D

7. 6mm stone complicated by pyelonephritis, next step?

A. Antibiotic and double J insertion
B. ESWL
C. Open surgery
D. Ureteroscopy with pneumatic lithotripsy
E. Ureteroscopy with laser lithotripsy

UTI

Answer: A

8. The most common Renal stones?

A. Uric acid stones
B. Calcium oxalate
C. Cystine
D. Calcium phosphate

Stones

Answer: B

9. The most common treatable cause of infertility?

A. Varicocele

infertelity

10. One of the following is an absolute contraindication for renal transplant:

A. Life expectancy <10 years
B. Neuropsychiatric illness
C. Mild cardiovascular disease
D. Treated malignancy

transplant.

Answer: B

11. Which of the following is not used in routine screening for BPH?

A. Ultrasound and postvoidal residual volume
B. Urine analysis
C. Urine culture
D. Multi-planer MRI

BPH

Answer: D

12. Patient presented with LUTS, previously diagnosed with BPH, prostate volume is 60cc , PVR= 70ml, normal creatinine levels , how do you manage this patient?

A. Alpha blocker
B. 5-alpha reductase inhibitor
C. TURBT

?.?- BPH

Answer: A vs B

13. Mismatched:

A. Bladder injury- cystography

Trauma

B. Urethral injury- retrograde urethrography
C. Renal injury - Triphasic CT scan
D. Scrotal injury- CT scan

General Trauma

Answer: D

14. Which one of the following is a definition of PSA density?

infertily Prostate cancer

A. Ratio of free/total PSA
B. Ratio total/free PSA
C. Rate of change of serum PSA over the time.
D. The ratio of PSA to gland volume.

Answer: D

Anatomy of Penis

15. Testicular artery origin:
A. From abdominal aorta below level of renal artery.

16. A patient complains from continuous incontenence that occures in all positions, what is the most likely diagnosis?
A. Enterovesical fistula
B. Vesicovaginal fistula
C. Stress incontinence
D. Urge incontinence

incontinace

Answer: B

17. A patient presents with hematuria and the CT scan shows 4 cm renal pelvic mass, urine cytology showed high grade urothelial carcinoma, what is the best modality of treatment?

??

A. Partial nephrectomy
B. Radical nephrectomy
C. Excision of the tumor with preservation of the kidney
D. Radical nephrectomy with bladder cuff

Renal tumors

Answer: D