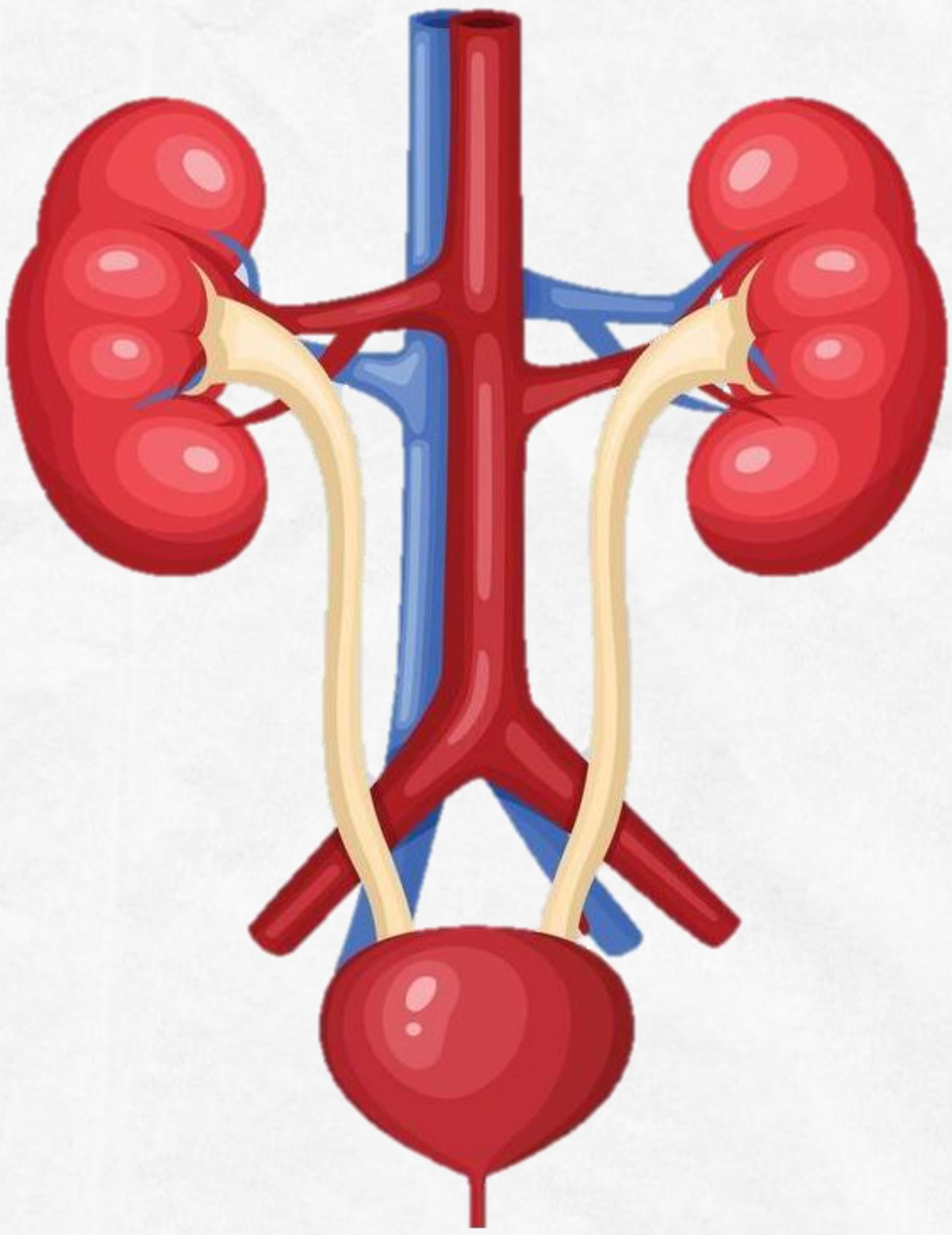
Urology

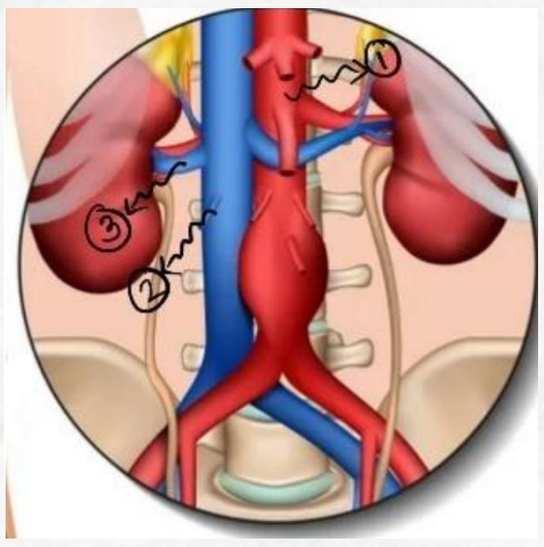


MiniOSCE - Past papers

Done by: Malek Abu Rahma

Introduction 1&2

1. What are the labeled structures in this image of the abdominal vessels?



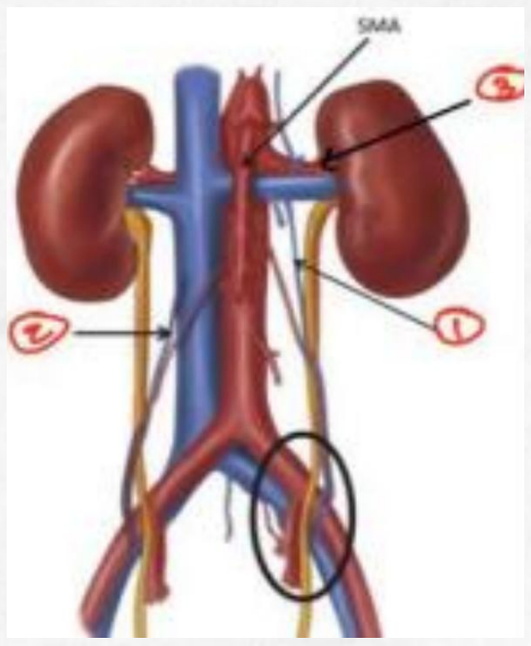
ANSWER:

1. Abdominal aorta

2. Rt. gonadal vein

3. Rt. renal vein

2. Abdominal vessels.



ANSWER:

1. Left gonadal vein

2. Right gonadal vein

3. Left renal artery

3. 70-year-old smoker with hematuria:

Most likely diagnosis

Malignancy (bladder cancer, RCC)

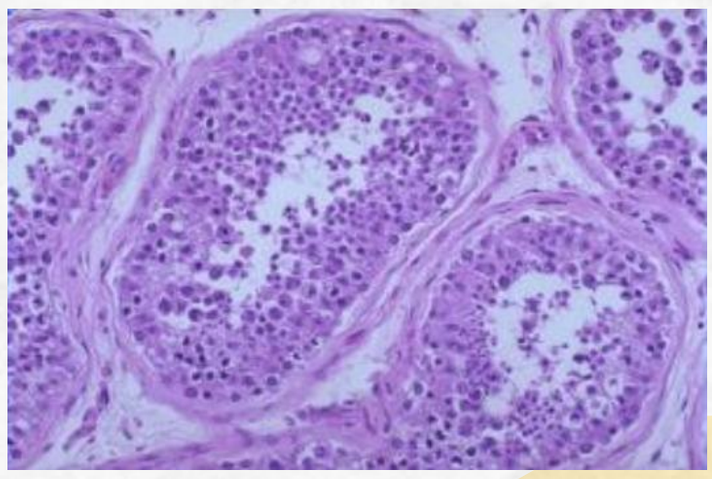
Imaging

Abdominopelvic multiphase contrast CT

Most specific test for bleeding

Microscopy

4. Three cell lines in the testis



ANSWER:

Sertoli cells

Leydig cells

Germ cells

Introduction 1&2

5.

A. What is the structure labeled as (1) in this image?

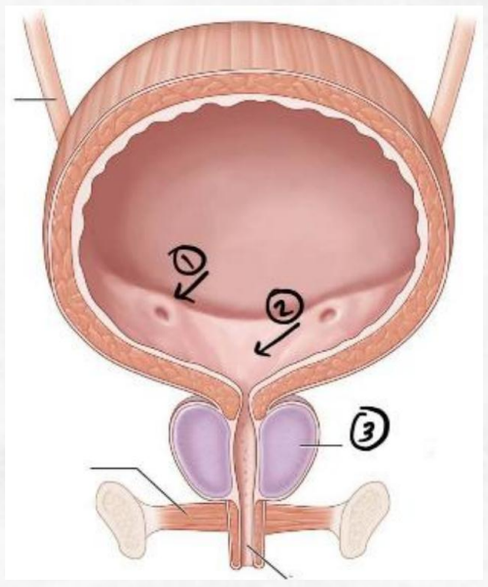
Ureteric orifice

B. What is the structure labeled as (2) in this image?

Trigone

C. What is the main arterial supply of this organ (3)?

Inferior vesical artery



6.

A. Zone related to tumor (prostate cancer)?

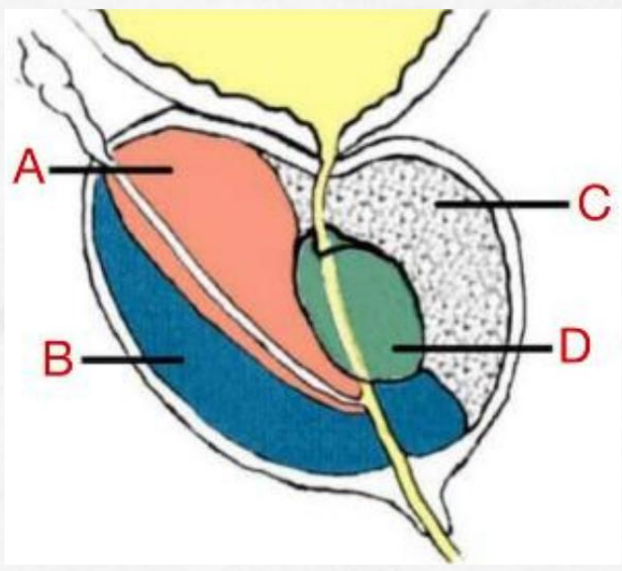
Peripheral zone (B)

B. Zone related to BPH.

Transitional zone (D)

C. Zone near the ejaculatory ducts?

Central zone (A)



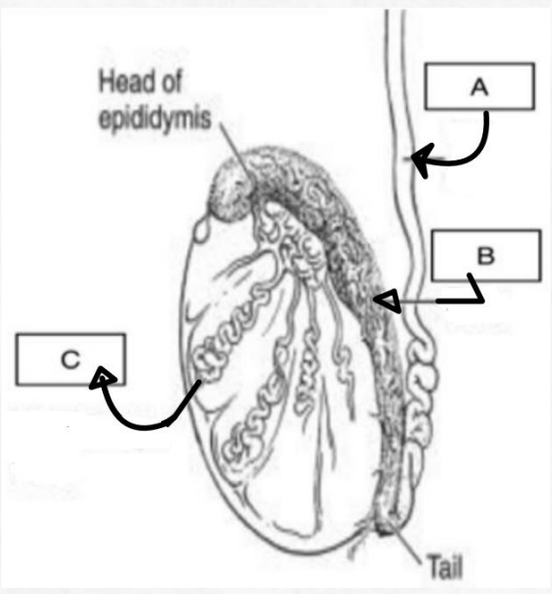
7. What are the labeled structures?

ANSWER:

A. Vas deferens

B. Body of the epididymis

C. Lobules / seminiferous tubules



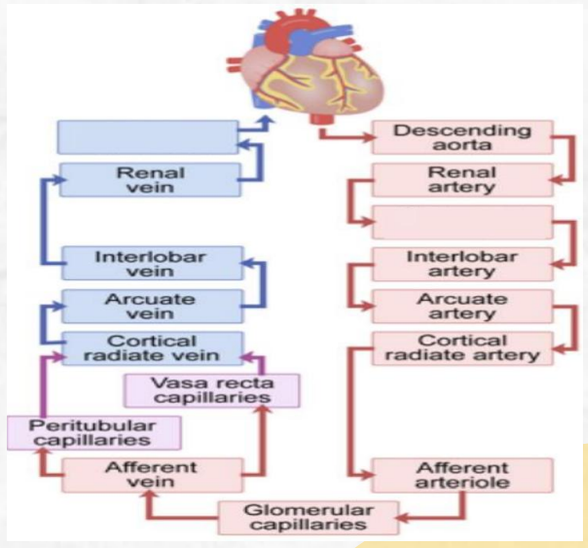
8. What are the missing arteries/veins?

ANSWER:

1) Segmental artery

2) Efferent artery

3) Inferior vena cava (IVC)



Introduction 1&2

9. Write 3 physical examinations of the kidney

ANSWER:

1) Bimanual kidney exam

2) Ballottement kidney exam

3) Costovertebral angle (CV) tenderness

10. Write the medical term for each of the following:

A. Strong sudden desire for urination:

Urgency

B. Difficulty in the initiation of urination:

Hesitancy

C. Passage of air in urine.

Pneumaturia

11. When you do a DRE, what three findings do you look for in the prostate?

ANSWER:

1) Nodularity

2) Symmetry

3) Consistency

12. Embryological stages of kidney (in order)?

ANSWER:

Pronephrones; Mesonephrones; Metanephrones.

Introduction 1&2

13. Write three differential diagnoses for flank pain

ANSWER:

1) Pyelonephritis

2) Renal cell carcinoma (RCC)

3) Kidney stones

14. Write three inguinal canal contents you see in surgery

ANSWER:

1) Vas deferens

2) Testicular artery

3) Pampiniform plexus

15. Injury to which nerve during pelvic surgery is responsible for thigh adduction?

ANSWER: Obturator nerve

Anatomy of Penis, Physiology of Erection and Impotence + Erectile Dysfunction

16. Definitions:

A. Erectile dysfunction?

Persistent inability to attain and/or maintain an erection sufficient for satisfactory sexual performance

B. Penile fracture?

Traumatic rupture of the tunica albuginea of the corpora cavernosa, usually occurring during vigorous sexual intercourse or manipulation, typically accompanied by a cracking sound, immediate detumescence, swelling, and pain

C. Priapism

Prolonged penile erection lasting >4 hours, unrelated to or persisting beyond sexual stimulation, due to dysregulation of penile blood inflow/outflow.

Ischemic (low-flow): most common, urologic emergency.

Non-ischemic (high-flow): usually post-trauma, less painful, not an emergency.

17.

A. What is the condition defined as a persistent inability to attain and/or maintain an erection sufficient for satisfactory sexual performance?

Erectile dysfunction

B. What is the condition defined as a traumatic rupture of the tunica albuginea of the corpora cavernosa, usually occurring during vigorous sexual intercourse or manipulation, typically accompanied by a cracking sound, immediate detumescence, swelling, and pain?

Penile fracture

C. What is the condition defined as a prolonged penile erection lasting more than 4 hours, unrelated to or persisting beyond sexual stimulation?

Priapism

18.

A. Belong to which group?

PDE5Is

B. The one Absolute contraindications?

Concomitant use of nitrates and potent hypotensive agents

C. The surgical intervention refractory erectile dysfunction?

Penile prosthesis implantation (PPI)

Anatomy of Penis, Physiology of Erection and Impotence + Erectile Dysfunction

19. Three ways to treat erectile dysfunction:

ANSWER:

1- Psychosexual therapy.

2- Medical: PDE-5 inhibitors; Dopamine receptor agonist; Intraurethral PGE1; Testosterone replacement (for hypogonadism).

3- Devices: Vacuum erection device; Penile prosthesis.

20. Patient with erectile dysfunction—write three medical conditions you shouldask about in history:

ANSWER:

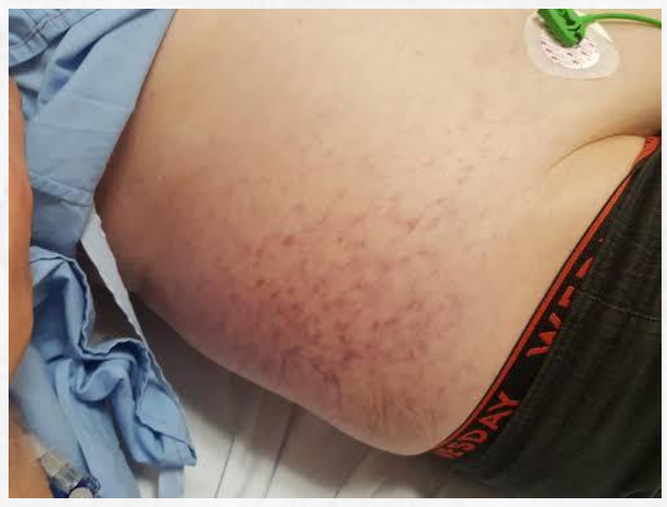
1- Medical illness (DM, HTN, peripheral vascular disease)

2- Penile or pelvic surgery

3- Radiotherapy.

Genitourinary Trauma

21. Patient after trauma he had flank pain & gross hematuria, he's Hemodynamically stable



A. Name of the sign?

Grey turner sign

B. Best Imaging modality?

CT scan with IV contrast with delayed phase

C. If the patient became Hemodynamically unstable despite of resuscitation what to do?

Immediate surgical / interventional control of bleeding & Angiographic embolization

22. History of a patient with grade 4 renal trauma:

A. What is your management?

Bed rest and conservative treatment

B. Name 2 late complications:

Urinoma; Abscess; Arteriovenous fistula.

23. Radiological image of choice in each of the following injuries:

A. Kidney?

CT scan with IV contrast with delayed phase

B. Bladder?

Cystography (conventional or CT-cystography)

C. Urethra?

Retrograde urethrography

Hematuria

24. Urological malignancies presenting with hematuria Three examples:

ANSWER:
Renal cell carcinoma (RCC)
Bladder cancer
Prostate cancer

25. 70-year-old smoker with hematuria:

Most likely diagnosis
Malignancy (bladder cancer, RCC)
Imaging
Abdominopelvic multiphase contrast CT
Most specific test for bleeding
Microscopy

26. Elderly patient with intermittent painless hematuria, give the most likely diagnosis.

ANSWER:
Transitional cell carcinoma of the urinary tract.

27. Causes of terminal hematuria.

ANSWER:
Bladder neck inflammation; Prostate inflammation

Renal Tumors

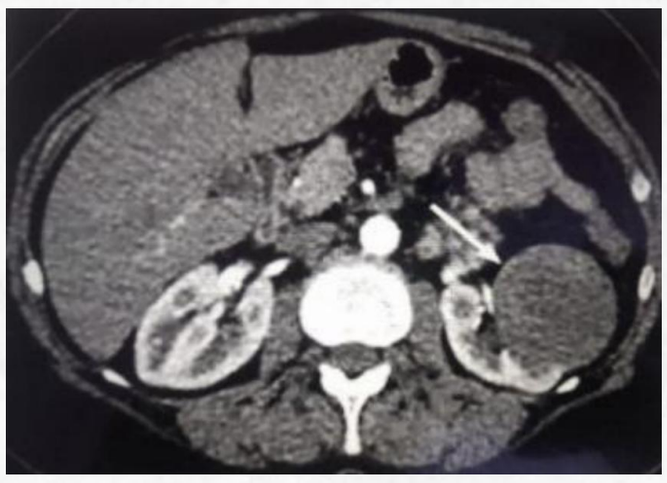
28. Abdominal axial MRI with contrast showing enhancement of a 3 cm renal mass.

A. Diagnosis?

Renal cell carcinoma

B. Treatment?

Partial nephrectomy



29.

A. What is most likely the diagnosis?

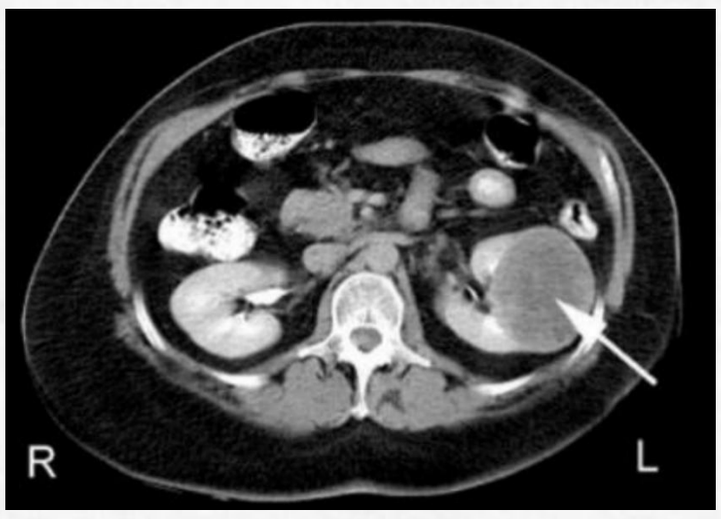
RCC

B. What is the treatment?

Radical nephrectomy+/- adrenal gland removal

C. What is the name of the classifications for cysts?

Bosniak classification



30. Patient with painless mass and hematuria:

A. Diagnosis?

RCC

B. Treatment?

Radical nephrectomy

C. Classification for renal cysts?

Bosniak classification system.

31. Write three examples of benign renal tumors:

ANSWER:

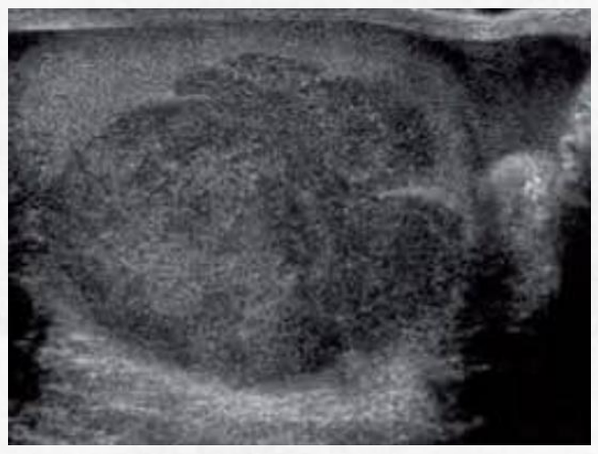
1- Angiomyolipoma

2- Oncocytoma

3- Hemangiomas.

Testicular Tumors

32. A 30-year-old man presents with a painless testicular mass. Solid in exam, U/S appearance:



A. What is the most likely diagnosis?

Testicular cancer

B. What blood test should be done before surgery?

Serum tumor markers: AFP (alpha-fetoprotein), ß-hCG (betahuman chorionic gonadotropin), and LDH

C. Name the Gold standard surgery?

Radical inguinal orchiectomy

33. Which of the following does not have laser ablation as a part of management

ANSWER:

Testicular tumor

34. Write three main markers for testicular cancer:

ANSWER:

AFP

HCG

LDH.

35. What is the clinical presentation of testicular tumor:

ANSWER:

Painless testicular mass/enlargement (most common).

Scrotal heaviness or dull ache.

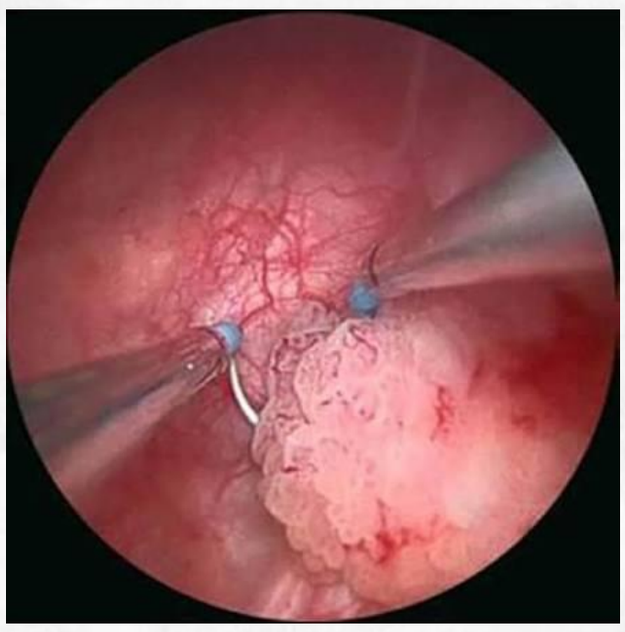
Occasionally acute pain (due to hemorrhage or infarction within tumor).

Symptoms of metastasis: back pain (retroperitoneal nodes), cough/hemoptysis (lung mets).

Hormonal manifestations: gynecomastia, precocious puberty in children

Bladder Tumors

36. Upon cystoscopy, you observe a suspicious bladder lesion.



A. What is the next step in management?

Transurethral resection of the bladder tumor (TURBT)

With biopsy for staging

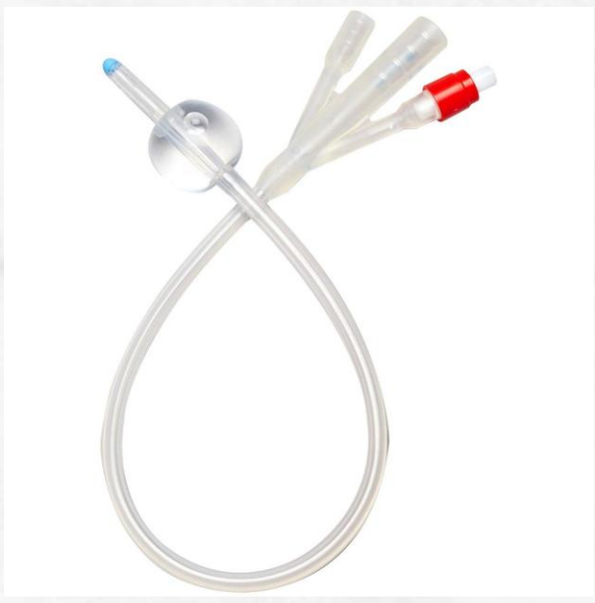
B. Name the most common histological subtypes of bladder cancer.

Transitional (urothelial) cell carcinoma

C. What type of catheter is used postoperatively?

Three-way urinary catheter

37.



A. What is the name of this catheter?

Three way catheter

B. What is the main usage?

Irrigation & Aspiration

C. What is the complication that happens due to usage of glycine fluid in TURP surgery?

TUR syndrome

38. 70-year-old smoker with hematuria:

A. Most diagnoses?

Malignancy (bladder CA, RCC)

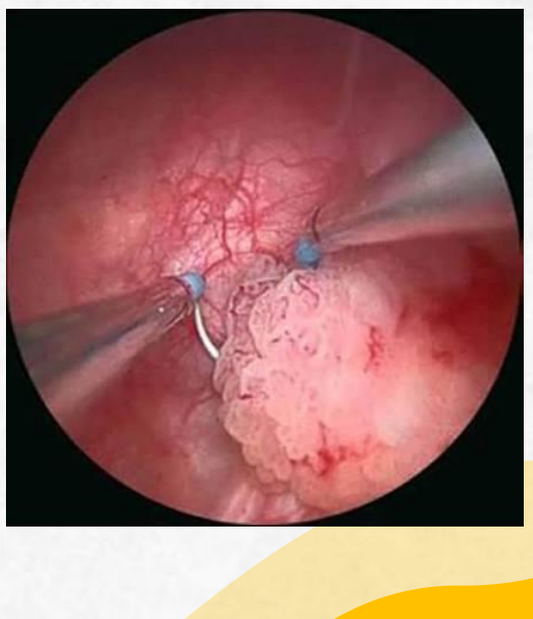
B. imaging modality?

Abdominopelvic multiphase contrasted CT scan

C. The most specific test for bleeding

Microscopy

39. Upon cystoscopy you saw this appearance:



A. Next step?

TURBT and biopsy for staging

B. Name the two most common histological subtypes of bladder cancer?

Transitional (urothelial) cell carcinoma; Squamous cell carcinoma.

Bladder Tumors

40. Three common histological types of bladder cancer?

ANSWER:

1) Transitional cell carcinoma (TCC)

2) Squamous cell carcinoma (SCC)

3) Adenocarcinoma

Neurogenic Bladder & Urodynamics

41.

A. What is the type of incontinence defined as involuntary leakage of urine coincident with a sensation of urinary urgency?

Urge incontinence

B. What is the type of incontinence defined as involuntary leakage of urine during coughing, crying?

Stress incontinence

C. What is the type of incontinence defined as involuntary leakage of urine in patients with benign prostatic hyperplasia (BPH)?

Overflow incontinence

42. Female Patient, Urine leakage with coughing

A. What is the type of incontinence?

Stress incontinence

B. What is the cause?

Pelvic floor muscle weakness

C. What exercise for?

Kegel exercise

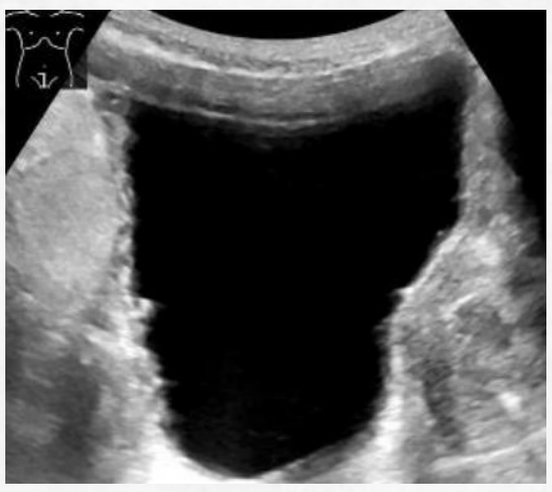
43. A patient develops excessive urine output after catheterization.

A. What is the name of this condition?

Post-obstructive diuresis

B. What type of urinary incontinence is associated with this situation?

Overflow urinary incontinence



Benign Scrotal Pathologies

44. Hx of sudden testicular pain

A. Diagnosis?

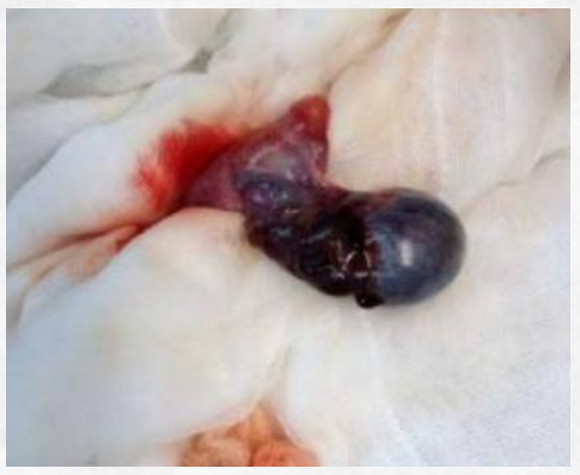
Testicular Torsion

B. Most dangerous complication of this condition?

Infertility

C. Treatment?

Detorsion and orchidopexy plus fixation of the contralateral testicle



45. A baby presented with hemiscrotal swelling - see Pediatric Urology entry (hydrocele):

A. Diagnosis?

Communicating hydrocele

B. Give two other ddx for hemiscrotal swelling in general?

Testicular cancer; Hematocele; Testicular torsion

46. Three differential diagnoses for hemiscrotal swelling:

ANSWER:

Hydrocele

Hematocele

Testicular torsion

47. 25-year-old male with unilateral acute testicular pain—write three ddx:

ANSWER:

Testicular torsion; Varicocele; Epididymitis

Other DDx:

Torsion of testicular appendage

Inguinal hernia (incarcerated/strangulated)

Trauma / testicular rupture

Orchitis (mumps orchitis, viral)

Referred pain (From renal colic (ureteric stone) or retroperitoneal pathology)

Tumor with hemorrhage (rare)

Benign Scrotal Pathologies

48. Image of swollen scrotum with 'bag of worms':

A. diagnosis?

Varicocele.

B. one indication for surgery other than infertility?

Severe pain

49. Hx of sudden testicular pain:

A. What's your diagnosis?

Testicular torsion

B. How do you confirm your diagnosis?

Surgical exploration

C. How do you treat?

Detorsion and orchidopexy plus fixation of the contralateral testicle

Male Infertility

50. Infertility case.

A. First thing done when he comes to clinic (Investigation)?

Semen analysis

B. Physical exam findings?

Testes: Bilateral, descended, normal size (15-25 mL), oval, firm, smooth, non-tender.

Epididymis & vas deferens: Palpable, smooth, non-tender, continuous.

51. A man presents with 1-year infertility. Semen analysis shows:

• Volume: 2 mL • Sperm count: 0

• Appearance: Cloudy • Motility: —. Shape: ___

A. What type of infertility does this patient have (primary or secondary)?

Primary infertility

B. What is the term for absence of sperm in semen?

Azoospermia.

C. What methods can be used for sperm retrieval?

TESA, TESE, MESE, PESA

52. Patient presented complaining of infertility with a 'bag of worms' appearance:

A. Diagnosis?

Varicocele

B. one other indication for surgery in addition to infertility to do the surgery?

Pain

C. Surgical management?

Vein ligation / Varicocelectomy

53. Three things you look at when you do a semen analysis?

ANSWER:

Semen volume

sperm concentration

sperm motility

sperm vitality

sperm morphology

Male Infertility

54. Case of male infertility:

A. Best initial test?

Semen analysis

B. The most common treatable cause of infertility?

Varicocele

C. Which hormone is responsible for spermatogenesis?

FSH

55. 60 Y/O complaining of impotence, name 3 ways of treatment.

1) Lifestyle & Risk factor modification

- **Weight loss, exercise, smoking & alcohol cessation.**
- **Optimize control of diabetes, hypertension, dyslipidemia.**
- **Psychosexual counseling if psychogenic component.**

2) Pharmacological: Oral PDE-5 inhibitors (sildenafil, tadalafil, vardenafil).

3) Devices & Surgery

o Intracavernosal injection (alprostadil, papaverine, phentolamine).

o Intraurethral alprostadil suppository.

56. Patient with sexual dysfunction:

A. What initial test you do for him?

Serum morning total testosterone level.

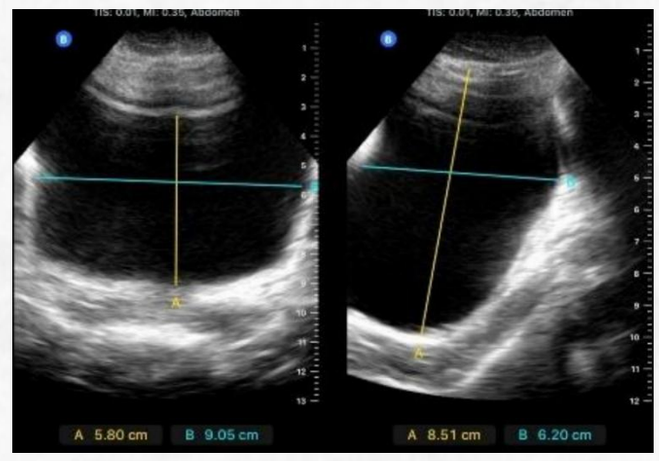
B. Give 3 normal findings you should see on PE for testicles?

1- Testes: Bilateral, descended, normal size (15-25 mL), oval, firm, smooth, non-tender.

2- Epididymis & vas deferens: Palpable, smooth, non-tender, continuous.

Benign Prostatic Hyperplasia (BPH)

57. A 70-year-old patient presents with inability to urinate for the past 2 days and very severe suprapubic pain



A. What is the name of this condition?

Acute urinary retention

B. What is the most common cause in elderly males?

Benign prostatic hyperplasia (BPH)

C. What is the first step in management in the emergency room?

Placement of a Foley catheter

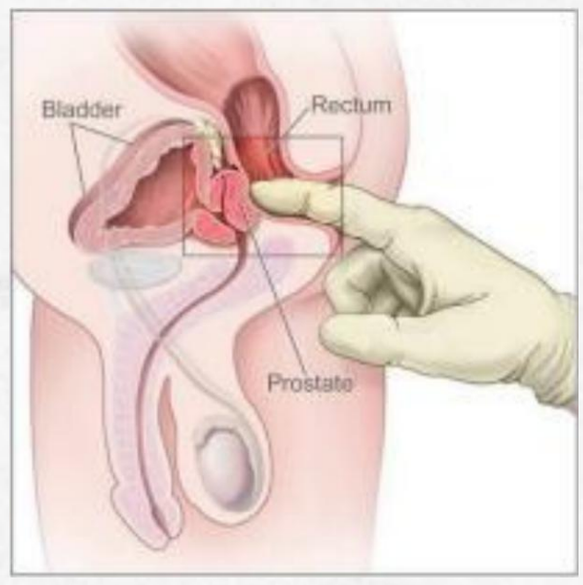
58. 68 Male with nocturia since 2 years.

A. Name of the exam?

per rectal examination

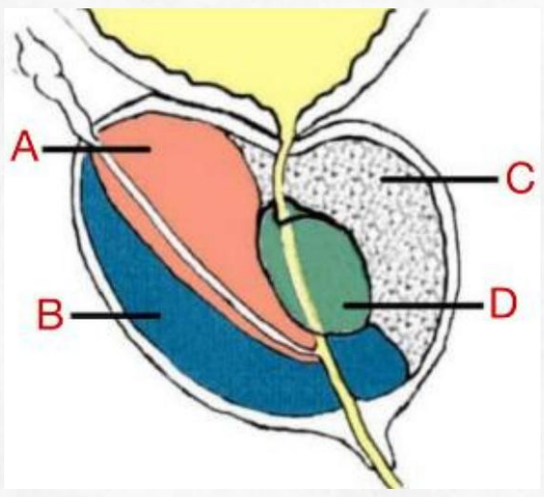
B. What is the cause of the symptoms?

BPH



59. Zone related to BPH.

Transitional zone (D)



60. Write three obstructive and three irritative symptoms of BPH:

Obstructive: Hesitancy; Post-void dribbling; Poor stream.

Irritative: Dysuria; Frequency; Urgency.

Prostate Cancer

61. Male with PSA 2,8 normal range for his age is less than 4,5

A. PSA stand for what?

Prostate specific antigen

B. Best imaging modality?

mpMRI

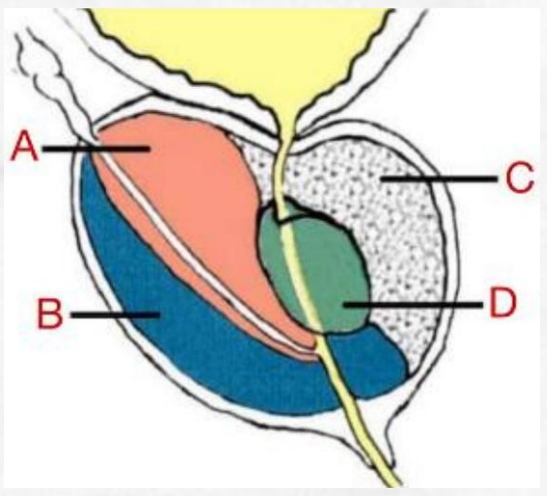
C. What exam would u do to him?

DRE

D. Best surgery if localized?

Surgery if localized: Radical prostatectomy.

62. Zone related to tumor (prostate cancer)?



Peripheral zone (B)

63. Treatment options for prostate cancer:

ANSWER:

Watchful waiting

Radical prostatectomy

Chemotherapy

Radiotherapy

64. prostate cancer:

A. What is the classification system?

Gleason grading system

B. What is the classification system for multi-parametric MRI?

PI-RADS

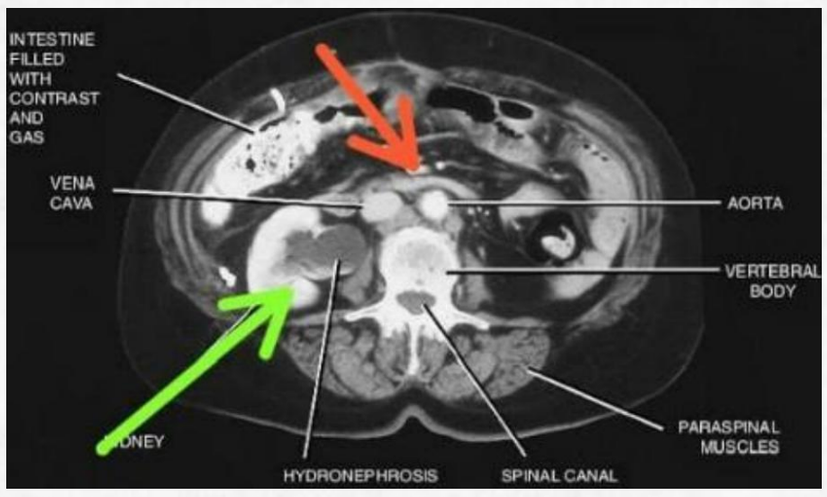
Urinary Stones

65. Three surgical treatment methods of Bladder stone:

Cystoscopy with laser/pneumatic lithotripsy
Percutaneous cystolitholapaxy
Open cystolithotomy.

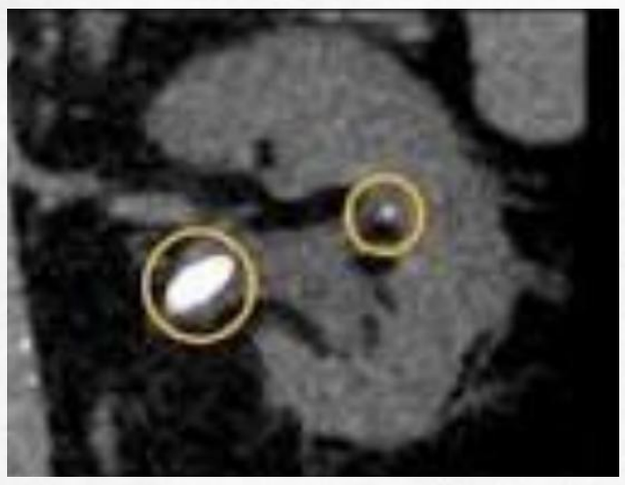
66.

A. What is the radiological sign in the green arrow?
uretronephrosis + pelvic dilation??
B. 1 differential.
Ureteral stone
C. which vessel (red arrow)?
Aorta



67. write two modalities for relieving the pressure on kidney:

ANSWER:
Nephrostomy
Double J (DJ) insertion

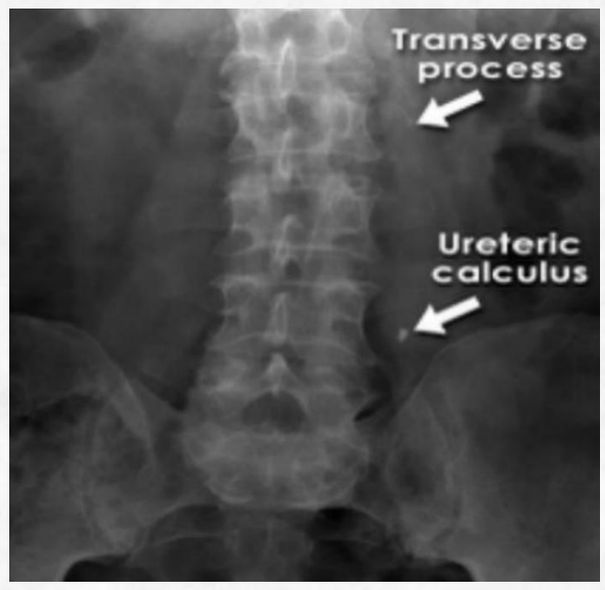


68. Three ways to manage ureteric stone:

ANSWER:
ESWL, PCNL, Ureteroscopy with laser treatment

Urinary Stones

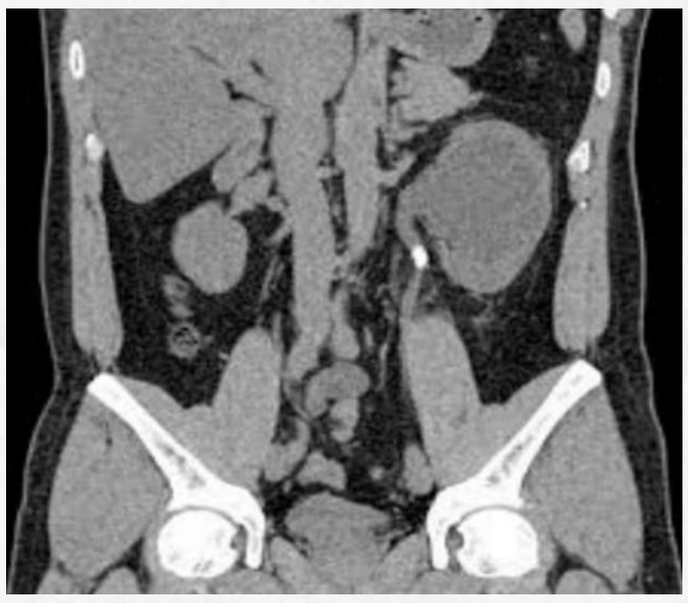
69. KUB X-ray showing a right ureteral stone—name two ways to relieve the obstruction:



ANSWER:

Double J insertion, Tube nephrostomy

70. The patient has flank pain and this CT:



A. what is the diagnosis?

Upper ureteric stone

B. Write two modalities to relieve the pressure on kidney?

DJ catheter insertion; Nephrostomy.

71. Lady with 12 mm obstructed stone in the proximal right ureter - management to do?

ANSWER:

Management as per ureteric stone protocols (e.g., DJ/nephrostomy/definitive stone management).

72. Treatment modalities for ureteric stones after double J insertion:

1. Extracorporeal Shock Wave Lithotripsy (ESWL)

o Non-invasive, good for stones <1-1.5 cm, especially in upper ureter

2. Ureteroscopy (URS) with lithotripsy o Rigid or flexible URS + laser lithotripsy.

o Suitable for mid and distal ureteric stones, or larger/multiple stones.

3. Percutaneous Nephrolithotomy (PCNL)

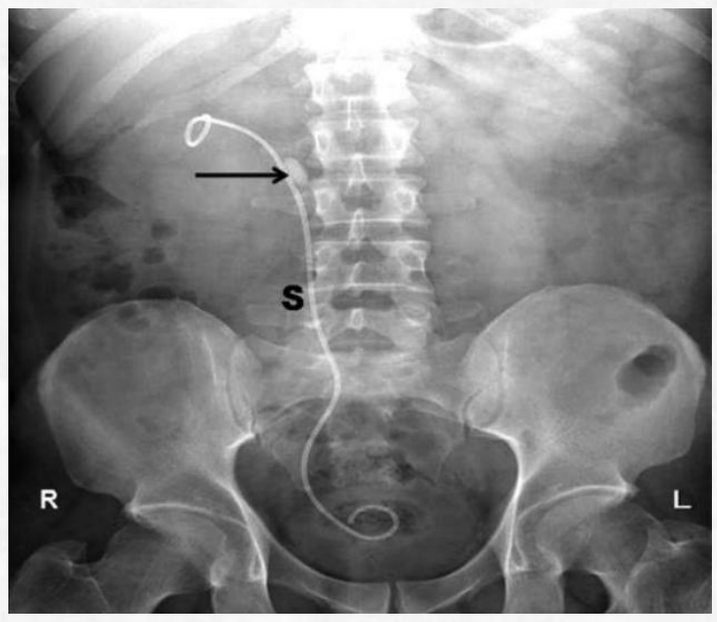
o Indicated for large proximal ureteric stones >2 cm) or when ESWL/URS fails.

4. Open/Laparoscopic ureterolithotomy

o Rare nowadays, reserved for very large, impacted stones when endoscopic/ESWL not feasible.

Urinary Stones

73. what is in pic



ANSWER:
DJ Catheter

Urinary Incontinence

74.

A. What is the type of incontinence defined as involuntary leakage of urine coincident with a sensation of urinary urgency?

Urge incontinence

B. What is the type of incontinence defined as involuntary leakage of urine during coughing, crying?

Stress incontinence

C. What is the type of incontinence defined as involuntary leakage of urine in patients with benign prostatic hyperplasia (BPH)?

Overflow incontinence

75.

A. What is the medical term for a strong, sudden desire to urinate?

Urgency

B. What is the medical term for difficulty in the initiation of urination?

Hesitancy

C. What is the medical term for passing urine multiple times during the night?

Nocturia

76. Female Patient, Urine leakage with coughing

A. What is the type of incontinence?

Stress incontinence

B. What is the cause?

Pelvic floor muscle weakness

C. What exercise for?

Kegel exercise

77. Write the medical term for each of the following:

A. Difficultly in the initiation of urination?

Hesitancy

B. Involuntary leak of urine of fall bladder in BPH patient?

Overflow incontinence

C. Multiple times of urination during night?

Nocturia

Urinary Incontinence

78. Definitions for:

A. Stress incontinence?

Refers to the involuntary leakage of urine with any activity that increases intra-abdominal pressure

B. Urge incontinence?

This occurs when a patient experiences involuntary leakage of urine coincident with sensation of urinary urgency

C. Overflow incontinence?

Occurs when the urinary volume within the bladder approaches and exceeds bladder capacity, resulting in an increase in intravesicle pressure greater than urethral outlet resistance.

Urinary Tract Infection

79. Define:

A. Xanthogranulomatous pyelonephritis?

A form of chronic bacterial infection of the kidney. The affected kidney is almost always hydronephrotic and obstructed, Characteristically, foamy lipid-laden histiocytes (xanthoma cells)

B. Emphysematous pyelonephritis?

Necrotizing infection characterized by the presence of gas within the renal parenchyma or perinephric tissue. About 80- 90% of patients have diabetes.

C. Pyonephrosis?

Pus and destruction of the renal parenchyma

80. Write the correct diagnosis for each definition:

A. Gas within the renal parenchyma?

Emphysematous pyelonephritis

B. Lipid laden macrophages?

Xanthogranulomatous pyelonephritis

C. Pus and destruction of the renal parenchyma?

Pyonephrosis

81. Patient complaining of passing gas with urine, with CT scan showing fistula between bladder and sigmoid colon, give 3 causes for pneumatiria?

1. Enterovesical (colovesical) fistula

From diverticulitis (most common), Crohn's disease, colorectal carcinoma, trauma, post-surgery.

2. Gas-forming urinary tract infection

Emphysematous cystitis or emphysematous pyelonephritis (commonly in diabetics).

3. Instrumentation of urinary tract

Recent catheterization, cystoscopy, TURP, or any endoscopic procedure introducing air

Pediatric Urology

82.

A. What is the diagnosis in a 7-yr old patient with inability to retract the foreskin over the glans?

Phimosis

B. What is the definitive treatment for this condition?

Circumcision

C. What is the medical term for ventral placement of the urethral meatus?

Hypospadias

83.

A. Diagnosis?

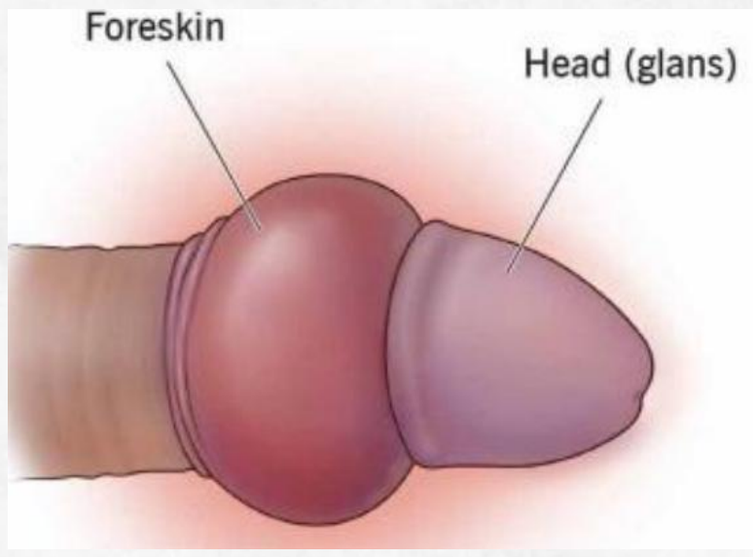
Paraphimosis

B. Definitive management.

Skin excision then circumcision

C. If untreated, 1 Complication?

Gland penis necrosis



84. Write Three complications of Vesicoureteral reflux (VUR)

UTI

Reflux nephropathy + hypertension

Progressive renal failure

85. Hx of sudden testicular pain

A. Diagnosis?

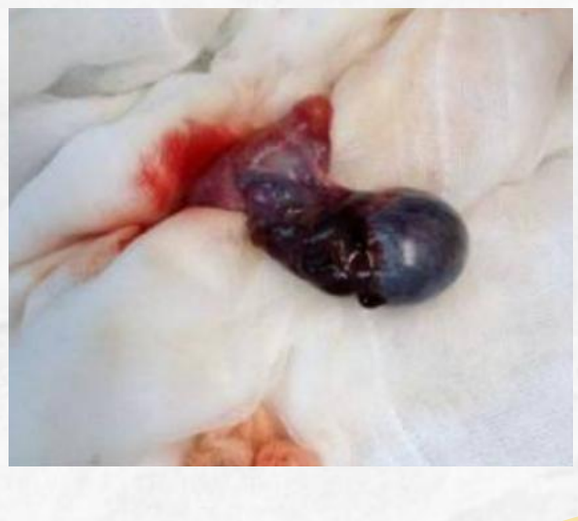
Testicular Torsion

B. Most dangerous complication of this condition?

Infertility

C. Treatment?

Detorsion and orchidopexy plus fixation of the contralateral testicle



Renal Transplantation

86. 3 Absolute contraindications to renal transplant (recipient)?

ANSWER:

1. Active infection

2. Active malignancy (except some superficial skin cancers)

3. Severe, untreatable comorbidity → not fit for surgery (e.g., end-stage cardiac/pulmonary/hepatic disease).

87. Give 3 absolute contraindications for kidney transplantation for recipient:

1. Active infection (systemic or local, e.g., sepsis, untreated tuberculosis, uncontrolled HIV).

2. Active malignancy (except some superficial skin cancers; usually need cancer-free interval).

3. Severe, untreatable comorbidity → not fit for surgery (e.g., end-stage cardiac/pulmonary/hepatic disease).

4. Severe uncontrolled psychiatric illness or active substance abuse (risk of non-adherence).

5. Uncorrectable bleeding diathesis.

6. High immunological risk (e.g., positive cross-match with donor, ongoing high anti-HLA antibodies).

لا تنسوني من صالح دعائكم

Malek Abu Rahma

The End
Good Luck シ