

1. Regarding acute kidney injury which is correct?
 - a) RIFLE criteria is measured in changes over 48 hours and AKIN over 7 days
 - b) Pre-renal is the most common cause of acute kidney failure in hospitalized patients
 - c) Renal impairment associated with cough and haemoptysis are associated with Goodpastures syndrome but not Wegners granulomatosis
 - d) Urea : creatinine ratio of >100:1 (mmo/L : mmol/L or umol/L ÷ 1000) indicates pre-renal failure

2. Which findings on urinalysis is **not** consistent with the likely diagnosis
 - a) Hyaline casts: pre-renal failure
 - b) Red cell casts: SLE
 - c) Fatty cells: Nephrotic syndrome
 - d) Brown granular casts: ATN

3. Which is the most common cause of Rhabdomyolysis in adults
 - a) Prescription Medications ie. HMG-CoA Reductase inhibitors or "Statins"
 - b) Drugs of abuse and alcohols
 - c) Trauma
 - d) Infection

4. Which is **not** true of Rhabdomyolysis
 - a) Hypocalcaemia is seen early and hypercalcaemia is a late complication
 - b) Myoglobin levels may return to normal in 1 to 6 hours despite having Rhabdo
 - c) Rhabdo should not affect coagulation profile
 - d) Legionella is the most common bacterial cause

5. Which is **least** compelling reason for emergency dialysis
 - a) Uremic syndrome
 - b) Hyperkalaemia
 - c) Pulmonary oedema
 - d) Acidosis

6. Which is correct regarding complications of chronic renal failure and dialysis
 - a) Subdural haematomas are not more frequent in dialysis patients
 - b) Renal transplant will reverse dialysis dementia
 - c) Mortality from cardiovascular disease is up to 3 times higher in dialysis patients
 - d) Parathyroidectomy can improve LV function in uremic cardiomyopathy

7. When should asymptomatic bacteriuria be treated with antibiotics
 - a) In pregnancy
 - b) In nursing home patients
 - c) In paediatric populations
 - d) Never

8. Which is **not** part of a qSOFA (quick sequential organ failure assessment) score to identify poor outcome associated with urosepsis
 - a) Altered conscious state
 - b) RR \geq 22
 - c) HR \geq 100
 - d) SBP \leq 100

9. Which is true of dipstick test of urine for testing for UTIs
 - a) A positive nitrite on dipstick is highly sensitive
 - b) Enterococcus causing UTI does not produce a positive nitrite on dipstick
 - c) In and out Catheterization to obtain urine for dipstick has an inherent risk of 10% of a secondary UTI due to the procedure
 - d) Cloudiness and Odor of urine can be predictive of an UTI

10. Which of the following conditions produces a nephrotic syndrome (not a nephritic syndrome)
 - a) Post-streptococcus Glomerulonephritis
 - b) Membranoproliferative Glomerulonephritis
 - c) IgA nephropathy
 - d) Rapidly progressive Glomerulonephritis

11. Regarding urinary retention which is **not** correct
 - a) There is a 20% recurrence within 6 months after an episode of urinary retention
 - b) Do not use routine prophylactic antibiotics for prevention of bacteriuria post IDC insertion
 - c) Post-obstructive diuresis should be monitored for at least 2 hours and urine output $>300\text{mL/h}$ is considered significant enough to warrant admission for IV fluids
 - d) α -adrenergic blockers (such as tamsulosin) can cause postural hypotension

12. Regarding scrotal infection/inflammation which is true
 - a) Idiopathic scrotal oedema affects children between 3 years and 9 years old and generally resolves spontaneously without the need for antibiotics
 - b) Fournier's Gangrene is usually caused by a single anaerobic bacterial organism
 - c) Hyperbaric oxygen improves mortality outcomes with Fournier's Gangrene
 - d) Isolated scrotal abscess should be routinely treated with antibiotics

13. Which is true of the penile disorder characteristic
- Majority of Phimosis should be definitively treated with circumcision
 - Penile hair tourniquet syndrome is a sign of child abuse
 - High flow priapism is painful, can cause ischaemia and in children are associated with sickle cell crisis
 - Peyronie's disease is associated with Dupuytren's contracture
14. Which fact is correct regarding Testicular torsion
- It has a bimodal age distribution peaking both perinatal and during puberty
 - It is usually associated with a preceding event such as trauma
 - Ultrasound has a sensitivity of more than 90%
 - Loss of Cremaster reflex sign has a poor sensitivity
15. Regarding testicular cancer which is correct
- If metastatic to the lung the radiological appearance is a diffuse pattern
 - Undescended testis has a lower risk of malignancy if it is intra-abdominal
 - Two common places of metastasis is abdomen and lung
 - In 99% of the time, testicular tumours are painless
16. Which is correct regarding urinary calculi
- Average age to develop first presentation of a renal calculi is 50 years old
 - <1% of renal calculi occur in children
 - Prevalence of composition: 50% are calcium, 25% are struvite, 25% are urate
 - 50% of renal calculi in children <16 years old are secondary to metabolic abnormalities
17. Regarding obstructed ureters secondary to renal calculi
- A rise in serum creatinine with unilateral renal colic always indicates a complete obstruction of the affected ureter
 - Completely obstructed ureters can cause irreversible damage if present for >1 month
 - 98% of stones <7mm will pass without intervention
 - Haematuria occurs in >95% of initial urine samples in renal colic
18. In imaging for ureteric stones, which is **not** an accurate percentage for its modality
- CT has a 96% positive predictive value for stone disease
 - 10% of stones are not radiopaque and thus cannot be seen on plain Xray KUB
 - If ultrasound picks up hydronephrosis, up to 22% of cases are not due to an obstructed stone
 - Ultrasound Sensitivity for hydronephrosis is 90% for stones <6mm

Answers

1. D (RIFLE over 7 days, AKIN over 48 hours, intrinsic renal is the most common type of failure in hospitalized patients, Wegners is associated with respiratory symptoms, Urea:creatinine >100:1 is pre-renal, 40-100:1 is normal or post-renal, <40:1 is intrinsic renal. LITFL Urea:creatinine ratio revised 21 May 2014)
2. D (red cells: acute GN may be secondary to SLE, brown granular casts: haemoglobinuria or myoglobinuria. Urinalysis DUNN RJ emergencymedicinemanual.com 2016)
3. B
4. C (Rhabdo can cause DIC, influenza and legionella most common viral and bacterial causes in Tintinalli 7th edition but a number of infections is stated in 8th edition)
5. A
6. D (subdural haematoma 10 times more frequent than general population, dialysis dementia cannot be reversed by dialysis and 2 to 4 year survival is 24%, mortality from CV disease is 10 to 30 times that of general population. Parathyroid hormone has been linked to decreased LV function in uremia and improvement after parathyroidectomy have been shown as per Tintinalli 7th edition but this passage omitted in Tintinalli 8th edition)
7. A (Tintinalli 8th edition: give artis only in pregnancy and immediately prior to invasive urinary procedures, asymptomatic bacteriuria is present in 10% of pregnant women, 40-50% in nursing home patients and up to 100% with IDC insitu for >1 month)
8. C (qSOFA as per sepsis 3 guidelines Feb 2016. qSOFA in www.mdcalc.com)
9. B (Nitrites on dipstick is >90% specific but only 50% sensitive, Enterococcus; Pseudomonas; and Acinetobacter do not convert nitrates to nitrites, In+Out catheter has a 1-2% risk of secondary UTI, cloudiness and odor of urine is not helpful in determining infection)
10. B (Nephritic GN: post-strep, IgA, rapidly progressive, goodpastures. Nephrotic: Minimal change disease, focal glomerular sclerosis, membranous and membranoproliferative. Renal disease - Glomerulonephritis DUNN RJ emergencymedicinemanual.com 2016)
11. C (Postobstructive diuresis should be monitored for at least 4 hours and significant output is considered to be >200mL/h needing IV fluid replacement and monitoring UEC bloods)
12. A (Fournier's gangrene is polymicrobial although anaerobes should be covered in treatment, the use of hyperbaric oxygen does not improve mortality, in immunocompetent individuals with isolated scrotal abscess without cellulitis antibiotics are rarely indicated)
13. D (Phimosis can be 70-90% effectively treated with topical steroids and it can avoid circumcision, penile hair tourniquet is not a sign of child abuse, high flow priapism is due to traumatic fistulae between the cavernosal artery and corpus cavernosum and is often painless and nonischaemic)
14. A (It usually occurs in the absence of a preceding event, Tintinalli 8th edition stated ultrasound sensitivity is about 83%, loss of cremaster reflex is about 99%)
15. C (10% of testicular tumours present as pain secondary to hemorrhage within the tumour, Undescended testes have a 20x increased risk of malignancy and if intra-abdominal has a 400x increased risk, Radiological appearance of lung metastasis is nodular if testicular and diffuse if prostatic. Scrotal Emergencies ALSO Carcinoma of the lung DUNN RJ emergencymedicinemanual.com 2016)

16. D (Average age is 30 and 1st presentation renal colic is unusual in ages >60 years old, 7% of renal colic occur in children, substance breakdown is: 80% calcium, 10% struvite, 10% urate)
17. B (other kidney increases efficiency to 185% of baseline so most patients will not have a rise in serum creatinine in unilateral complete ureteric obstruction, 98% of stone <5mm pass within 1 month; 60% pass if 5 to 7mm; 39% pass if >7mm, Haematuria present in about 85%)
18. D (Ultrasound Sensitivity for hydronephrosis is 75% for stones <6mm and 90% for stones >6mm)