

**CKD**

**MCQs**

- glomerular filtration rate at third stage renal failure:

**eGFR at CKD 3b : 30-44\*\*\*\***

- One of the following is considered a stage 4 chronic kidney disease in a patient who has a serum creatinine of 3.2 mg/dL

Select one:

- a. GFR 15
  - b. GFR 25**
  - c. GFR 40
  - d. GFR 60
  - e. GFR 90
- In which of the following clinical situations would an increase in serum Cr concentration be explained only by reduction in GFR ?
  - a ) Use of Trimethoprim in a patient with a urinary tract infection
  - b ) Increased levels of ketoacids in a patient with DKA
  - c ) Severe extracellular volume contraction in a patient with diarrhea xxxx**
  - d ) Use of Cimetidine in a patient with a peptic ulcer
  - e ) Carnitine ingestion for body building

**Severe extracellular volume contraction in a patient with diarrhea: This could lead to a reduction in GFR due to decreased renal perfusion, causing an increase in serum creatinine levels.**

- All the following are functions of kidney Except :

- (a). Excretion of waste products.
- (b). production of erythropoietin.
- (c). Metabolism of vitamin D
- (d). destruction of rennin.**
- (e). production of prostaglandins.

- What is the most significant factor leading to the development of anaemia in patients with chronic kidney disease?

- A. Reduced absorption of iron
- B. Increased erythropoietin resistance
- C. Reduced erythropoietin levels**
- D. Reduced erythropoiesis due to toxic effects of uraemia on bone marrow
- E. Blood loss due to capillary fragility and poor platelet function

- All the following are true about renal osteodystrophy Except :

- a. reduced conversion of 25 (OH)<sub>2</sub> D<sub>3</sub> to 1-25-(OH)<sub>2</sub> D<sub>3</sub>
- b. increased parathyroid hormone
- c. increased intestinal calcium absorption
- d. decreased osteoclastic activity**
- e. increased reabsorption of calcium from bone.

- Each one of the following is seen in renal osteodystrophy, except:

- A. Osteitis fibrosa cystica
- B. Primary hyperparathyroidism**
- C. High phosphate
- D. Low calcium
- E. Low vitamin D

**secondary hyperparathyroidism: due to low calcium, high phosphate and low vitamin D**

- **???? : cause of osteodystrophy at chronic renal failure**

- A 59-year-old man is evaluated during a follow-up visit for a 6-year history of end-stage kidney disease and a 20-year history of hypertension. He had a kidney transplant 3 months ago with an unremarkable postoperative course. Current medications are tacrolimus, mycophenolate mofetil, nifedipine, losartan, valganciclovir, and prednisone, 5 mg/d. On physical examination, temperature is 37.0 °C (98.6 °F), blood pressure is 165/95 mm Hg, pulse rate is 86/min, and respiration rate is 14/min. BMI is 28. There are no oral lesions. There is no jugular venous distention. Heart sounds are normal. The lungs are clear. The abdomen is nontender with no bruits. There is a well-healed scar in the right lower abdomen over the kidney allograft. There is 1+ peripheral edema. Laboratory studies are notable for a serum creatinine level of 1.0 mg/dL (88.4 pmol/L). Monitoring for which of the following complications is indicated in this patient? Select one:

- a. Hyperphosphatemia
- b. Hyperthyroidism
- c. Hypoparathyroidism
- d. New-onset diabetes mellitus and dyslipidemia
- e. Hyperparathyroidism

- True regarding management of chronic renal failure :

**we use calcitriol for treatment of hypocalcemia**

- Correct about calcium hemostasis :
  - a. Vitamin D deficiency causes Hypocalcemia + Hypophosphatemia
  - b. Vitamin D deficiency causes Hypocalcemia + Hyperphosphatemia**
  - c. Hyperparathyroidism causes metabolic acidosis
  - d. In primary hyperparathyroidism in primary PTH decreases 24 hour urine calcium
  - e. None of the above

Vitamin D deficiency does cause hypocalcemia (low calcium levels) due to decreased calcium absorption from the gut, and it typically leads to hyperphosphatemia (high phosphate levels) because of increased PTH secretion, which increases phosphate excretion.

- Hypocalcemia with increased serum phosphate is found in ONE of the following :

- a- hypoparathyroidism
- b- osteomalacia
- c- acute pancreatitis
- d- chronic renal failure**
- e- malabsorption

- All the following are found in chronic renal failure Except.

- a- hyperkalemia
- b- hyperurecemia
- c- hypophosphatemia**
- d- hypocalcemia
- e- Low serum erythropoietin

- Which one of the following would have been most likely to prevent the deterioration in renal function?

- A. Low dose dopamine
- B. Urinary acidification
- C. Intravenous fluids**
- D. Frusemide
- E. Mannitol

Collapse + ARF --> rhabdomyolysis - treat with IV fluids

Intravenous fluids are the most important management step in the prevent of rhabdomyolysis in such patients

- what is the best way to differentiate between acute and chronic renal failure?

- A. 24 hr creatinine
- B. Urinary albumin
- C. Serum creatinine
- D. Renal ultrasound**
- E. Serum urea

Small kidneys is (usually) a sign of chronic renal failure

Acute vs. chronic renal failure

Best way to differentiate is renal ultrasound - most patients with CRF have bilateral small kidneys Exceptions

- autosomal dominant polycystic kidney disease
- diabetic nephropathy
- amyloidosis

Other features suggesting CRF rather than ARF

- hypocalcaemia (due to lack of vitamin D)

- The following statements about potassium balance is true except?

- a- 85% of the daily potassium intake is excreted in urine
- b- Intracellular potassium ion concentrations are about 150 mmol/l
- c- Cellular uptake of potassium is enhanced by adrenaline and insulin
- d- Alkalosis predispose to hyperkalemia**
- e- The normal dietary potassium is about 100 mmol/day

- Which of the following would be most effective in reducing his urinary Calcium excretion ?

- A ) Dietary Ca restriction
- B ) Cranberry juice
- C ) Hydrochlorothiazide**
- D ) Furosemide
- E ) High fluid intake

- Treatment of hyperkalemia except

- NaHCO<sub>3</sub>
- B agonist
- **Aldactone Diuretics**
- Insulin Incorrect

- What is the leading cause of death in patients with chronic kidney disease?

a) **Cardiovascular disease**

b) Hyperkalemia

c) Infection

d) Malignancy

e) Uremia

- which one of the following drugs may be safely continued at the same dose in renal failure?

A. Tetracycline

B. Diclofenac

**C. Warfarin**

D. Nitrofurantoin

E. Lithium

### Drugs in renal failure

Questions regarding which drugs to avoid in renal failure are common in the MRCP Drugs to avoid in renal failure

- antibiotics: tetracycline, nitrofurantoin

- NSAIDs

- lithium

Drugs likely to accumulate in renal failure - need dose adjustment

- most antibiotics including penicillins, cephalosporins, vancomycin, streptomycin

- digoxin, atenolol

- methotrexate

- sulphonylureas

- frusemide

Drugs relatively safe - use in normal dose

- antibiotics: erythromycin, rifampicin

- diazepam

- warfarin

- according to chronic renal failure classification, creatinine clearance rate at 3A is?

**45-60**

- Pt on dialysis o sar 3ndu nausea o blurred vision..

**Et Disequilibrium syndrome**

- ONE of the following is the most frequent cause of death in acute renal failure.

- e) Uremia
- f) Pulmonary edema
- g) Hyperkalemia
- h) Infection\*\*\*\*\***
- e) Hyponatremia

- patient with type 1 diabetes mellitus is reviewed in the nephrology outpatient clinic. He is known to have stage 2 diabetic nephropathy. Which of the following best describes his degree of renal involvement?

- A. Microalbuminuria
- B. End-stage renal failure
- C. Latent phase**
- D. Hyperfiltration
- E. Overt nephropathy

- 45-year-old male with a diagnosis of ESRD secondary to diabetes mellitus is being treated with peritoneal dialysis. This is being carried out as a continuous ambulatory peritoneal dialysis (CAPD). He undergoes four 2-L exchanges per day and has been doing so for approximately 4 years. Complications of peritoneal dialysis include which of the following? Select one:

- a. Hypotension after drainage of dialysate
- b. Hypoalbuminemia
- c. Hypercholesterolemia
- d. Hypoglycemia
- e. Left pleural effusion

- 55 year old male has progressive CKD due to type II Diabetic Nephropathy & hypertension . His Cr clearance is 23 ml/min , his serum Cr is 3.1 mg/dl . He has just returned from an introductory educational session regarding dialysis & transplant options . He asks your opinion about the best options

Which of the following offers the best prognosis for this patient :

- A ) NIPD
- B ) Hemodialysis
- C ) Renal transplant**
- D ) Combined renal & pancreas transplant
- E ) CCPD

- Absolute contraindication in chronic kidney disease?

**Metformin**

- Wrong about the use of US to diagnose kidney problems:
  - a. Cheap, available quickly.
  - b. Disadvantage is that it is highly operator dependent
  - c. Use of Doppler velocimetry can significantly enhance the information that we can get from it like resistivity index.
  - d. In cKD, the kidneys appear small with loss of corticomedullary differentiation ??
  - e. ???

In chronic kidney disease (CKD), kidneys may appear small and shrunken on ultrasound due to fibrosis and loss of nephrons. However, not all cases of CKD present with small kidneys; some patients with diabetes or polycystic kidney disease may have normal-sized or enlarged kidneys. Also, loss of corticomedullary differentiation can occur in some advanced stages of CKD.

- which of the following is wrong?

**Anemia of chronic disease is macrocytic anemia**

- Complications of chronic renal failure include all of the following except?

- a. Normocytic or microcytic anemia
- b. Peripheral neuropathy
- c. Bone pain
- d. Uremic pericarditis
- e. **Metabolic alkalosis and hypokalemia**

- known Patient of renal failure complaining of monoarthritis (swelling , pain , signs of inflammation ) with no previous history , after aspiration microscopic picture reveals intracellular needle shape crystals , Treatment of choice :  
**intra-articular corticosteroid ( Voltaren is contraindicated in renal impairment )**

- True regarding management of chronic renal failure :

**we use calcitriol for treatment of hypocalcemia**

- All of the following are causes of high turnover bone disease in chronic renal failure, except:

- a. **Aluminum toxicity**
- b. Decreased vitamin D hydroxylation
- c. Metabolic acidosis
- d. Hyperphosphatemia
- e. Increased parathyroid hormones



- All to detect renal disease except:

-biopsy

-CT triphasic

-autoimmune serology

-HbA1c\*\*\*\*

- 72-year-old male develops acute renal failure after cardiac catheterization. Physical examination is notable for diminished peripheral pulses, livedo reticularis, epigastric tenderness, and confusion. Laboratory studies include (mg/dL) BUN 131, creatinine 5.2, and phosphate 9.5. Urinalysis shows 10 to 15 white blood cells (WBC), 5 to 10 red blood cells (RBC), and one hyaline cast per high-power field (HPF). The most likely diagnosis is

Select one:

a. acute interstitial nephritis caused by drugs

b. rhabdomyolysis with acute tubular necrosis

c. acute tubular necrosis secondary to radiocontrast exposure **d. cholesterol embolization**

e. renal arterial dissection with prerenal azotemia

- Anti-TB drugs and side effect, correct answer is:

**a. streptomycin and renal failure**

b. Pyrazinamide and hepatitis

c. Optic neuritis and...

d. Vestibular neuritis and ethambutol

# Mini-OSCE

Which of the followings isn't an indication for hemodialysis?

A. Pulmonary edema

B. Encephalopathy

C. Creatinine =9mg/dl

D. Metabolic acidosis

E. hyperkalemia