

AKI

MCQs

- All of the following are indications for hemodialysis except one :

- a. **Oliguria with GER 60**
- b Metabolic acidosis
- d. Pulmonary edema
- e.Symptomatic uremi

- All of the following are indications to start hemodialysis, except:

- a. Pericarditis
- b. Encephalopathy
- c. **Creatinein – 8 mg/dL**
- d. Hypercalcemia
- e. Hyperkalemia

- 35 year old female is evaluated because of an elevated Bp 160/105 for the past 2-3 months . Her mother has hypertension and kidney disease , and a maternal aunt is now on hemodialysis

Labs : Cr 0.8 mg/dl , Na 140 meq/ L , K 5.0 meq /L , Cl 102 meq / L , HCO3 25 MEQ / l , Urine Analysis is negative .Which of the following is most likely to provide information regarding cause of her hypertension ?

- a. Captopril Renal Scan
- b. 24 hour urine for Vanillyl Mandelic Acid
- c. **Renal U/S**
- d. Plasma Renin activity & aldosterone level Plasma PTH

- Treatment of hyperkalemia except

- NaHCO₃
- B agonist
- **Aldactone Diuretics**
- Insulin

Incorrect

- Indication for dialysis except :

- hyperkalemia
- acidosis
- hypertension
- chest pain

- all in management of hyperkalemia except:

- dialysis
- insulin

- 55_ All of the following drugs can cause hyperkalemia EXCEPT:

- a. Spironolactone
- b. Amiloride
- c. Enalapril
- d. Salbutamol**
- e. Valsartan

- **Spironolactone and Amiloride : potassium-sparing diuretic, which can increase potassium levels in the blood and lead to hyperkalemia.**

- **Enalapril: An ACE inhibitor**

- **Valsartan: An angiotensin II receptor blocker (ARB)**

- **Salbutamol: A beta-2 agonist used to treat asthma and other respiratory conditions. It is known to cause hypokalemia**

- 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

- Drugs that Cause hyperkalemia except :

- A. Salbutamol**

- B. Insulin

- C. ACEI

- D. ARBs

- E. SPIRONOLACTONE

- Hyperkalemia changes on ecg :

- PR prolongation and QRS widening which one ???!**

- Wrong about ECG of hyperkalemia >>

- peaked p wave**

- Not used for treatment of hyperkalemia :

Magnesium sulphate

- All cause hyperkalemia, except:

A. ACEI

B. Furosemide

C. RTA type 4

- All predispose to hepatic encephalopathy, except:

A. Hyperkalemia

B. Furosemide

The history may reveal a precipitating cause. These include:

- Hypovolemia
- Gastrointestinal bleeding
- Hypokalemia and/or metabolic alkalosis
- Hypoxia
- Sedatives or tranquilizers
- Hypoglycemia
- Infection (including SBP)
- Rarely, hepatoma and/or vascular occlusion (hepatic vein or portal vein thrombosis)

- Wrong about ECG findings in hyperkalemia:

A. Pronounced P wave

- ECG signs of hyperkalemia may include all of the following except : a) Peaked T wave

b) QRS widening

c) Delta wave

d) Prolonged P-R interval

e) Sine wave

• which of the following types of renal tubular acidosis is associated with hyperkalaemia?

- A. Type 1 renal tubular acidosis
- B. Type 2 renal tubular acidosis
- C. Type 3 renal tubular acidosis
- D. Type 4 renal tubular acidosis**
- E. Type 5 renal tubular acidosis

• wrong about AKI

- A. Associated with oliguria
- B. Uncompensated cases has poor prognosis and high mortality ?**
- C. May lead to life threatening electrolyte disturbance

• Pt with ventricular tachycardia and after few days serum creatinine increased what type of kidney injury :

- a. pre-renal**
- b. renal
- c. post renal

• All of the following are true about pre-renal acute renal failure, except:

- a. $FeNa < 1\%$
- b. BUN/CR ratio is elevated
- c. Mostly irreversible**
- d. Most common cause of ARF
- e. Urine output improves with IV fluid coverage

Pre-renal AKI is usually reversible when the underlying cause is addressed and treated.

• Which of the following factors would suggest that a patient has established acute tubular necrosis rather than pre-renal uraemia?

- A. Urine sodium = 10 mmol/L
- B. Fractional urea excretion = 20%
- C. Increase in urine output following fluid challenge
- D. Specific gravity = 1025
- E. Fractional sodium excretion = 1.5%**

ATN or prerenal uraemia? In prerenal uraemia think of the kidneys holding on to sodium to preserve volume

	Pre-renal uraemia	Acute tubular necrosis
Urine sodium	< 20 mmol/L	> 30 mmol/L
Fractional sodium excretion*	< 1%	> 1%
Fractional urea excretion**	< 35%	>35%
Urine:plasma osmolality	> 1.5	< 1.1
Urine:plasma urea	> 10:1	< 8:1
Specific gravity	> 1020	< 1010
Urine	'bland' sediment	brown granular casts
Response to fluid challenge	Yes	No

• Which of the following factors would suggest that a patient has **pre-renal** uraemia rather than established acute tubular necrosis?

- A. Urine sodium = 70 mmol/L
- B. Fractional urea excretion = 20%**
- C. No response to fluid challenge
- D. Urine:plasma urea ratio 5:1
- E. Specific gravity = 1005

- Drug cause prerenal uremia:

A. ACE inhibitors

B. Beta blocker

C. Calcium channel blocker

D. Potassium sparing diuretics

- 75-year-old female on the surgical wards due to hyperkalaemia. Results are as follows:

	Plasma	Urine
Na ⁺ (mmol/l)	129	5
K ⁺ (mmol/l)	6.8	
Urea (mmol/l)	26	350
Creatinine (μmol/l)	262	
Osmolality (mosmol/kg)	296	470

What is the most likely diagnosis?

A. Acute tubular necrosis

B. Hyperosmolar non-ketotic coma

C. Hydronephrosis

D. Prerenal uraemia

E. Pyelonephritis

- most common cause of acute tubular necrosis is:

a. Aminoglycoside antibiotics

b. Rhabdomyolysis

c. Renal artery stenosis

d. Ischemia

e. Renal artery thrombosis

- 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

- A 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

- A 28-year-old woman with HIV on antiretroviral therapy complains of abdominal pain in the emergency department. Laboratory data show a creatinine of 3.2 mg/dL; her baseline creatinine is 1.0 mg/dL. Urinalysis shows large numbers of white blood cells and red blood cells without epithelial cells, leukocyte esterase, or nitrites. Which test is indicated to diagnose the cause of her acute renal failure?

Select one:

a. Acid-fast stain of the urine

b. Anti-GBM (glomerular base membrane) antibodies

c. Renal angiogram

d. Renal ultrasound

e. Urine electrolyt

- Which of the following are indications for dialysis in acute renal injury?

a. Severe alkalosis unresponsive to medical therapy

b. Severe acidosis unresponsive to medical therapy

c. Severe hypokalemia unresponsive to medical therapy

d. Severe hypercalcemia unresponsive to medical therapy

e. Severe hypomagnesemia unresponsive to treatment

• • 54- year-old woman with a history membranous glomerulonephritis secondary to systemic lupus erythematosus is admitted to hospital. Her previous stable renal function has deteriorated rapidly. The following blood tests were obtained:

Na⁺ 139 mmol/l

K⁺ 5.8 mmol/l

Urea 44 mmol/l

Creatinine 867 μmol/l

Albumin 17 g/l

Urinary protein 14 g/24 hours

Urine dipstick protein +++
blood ++

What has likely caused the sudden deterioration in renal function?

A. Exacerbation of SLE

B. Renal vein thrombosis

C. Bilateral hydronephrosis

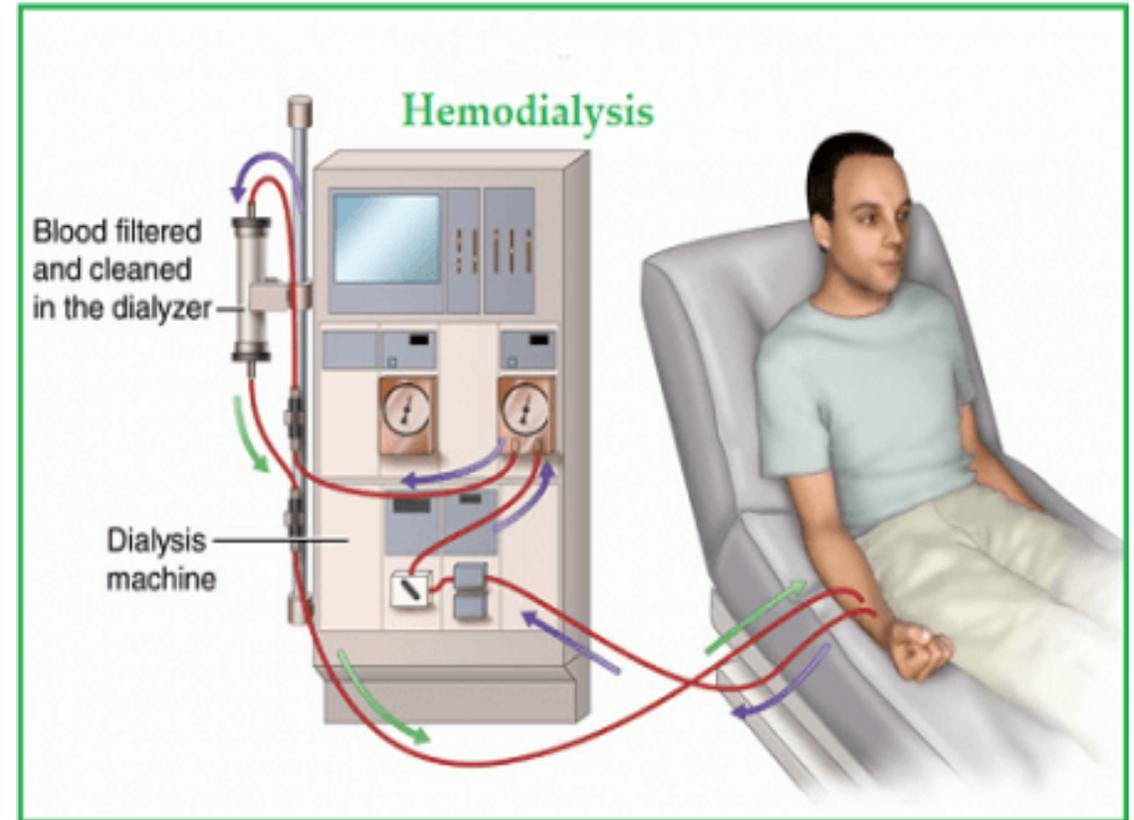
D. Acute interstitial nephritis

E. Analgesic nephropathy

Mini-OSCE

Q4 : one of the following not an indication for the picture ? :

- Metabolic acidosis
- Encephalopathy
- Hyperkalemia
- **Creatinine 1000 micro.m/L**
- Pulm.edema



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

A. Pulmonary edema

B. Encephalopathy

C. Creatinine =9mg/dl

D. Metabolic acidosis

E. hyperkalemia

Station 7

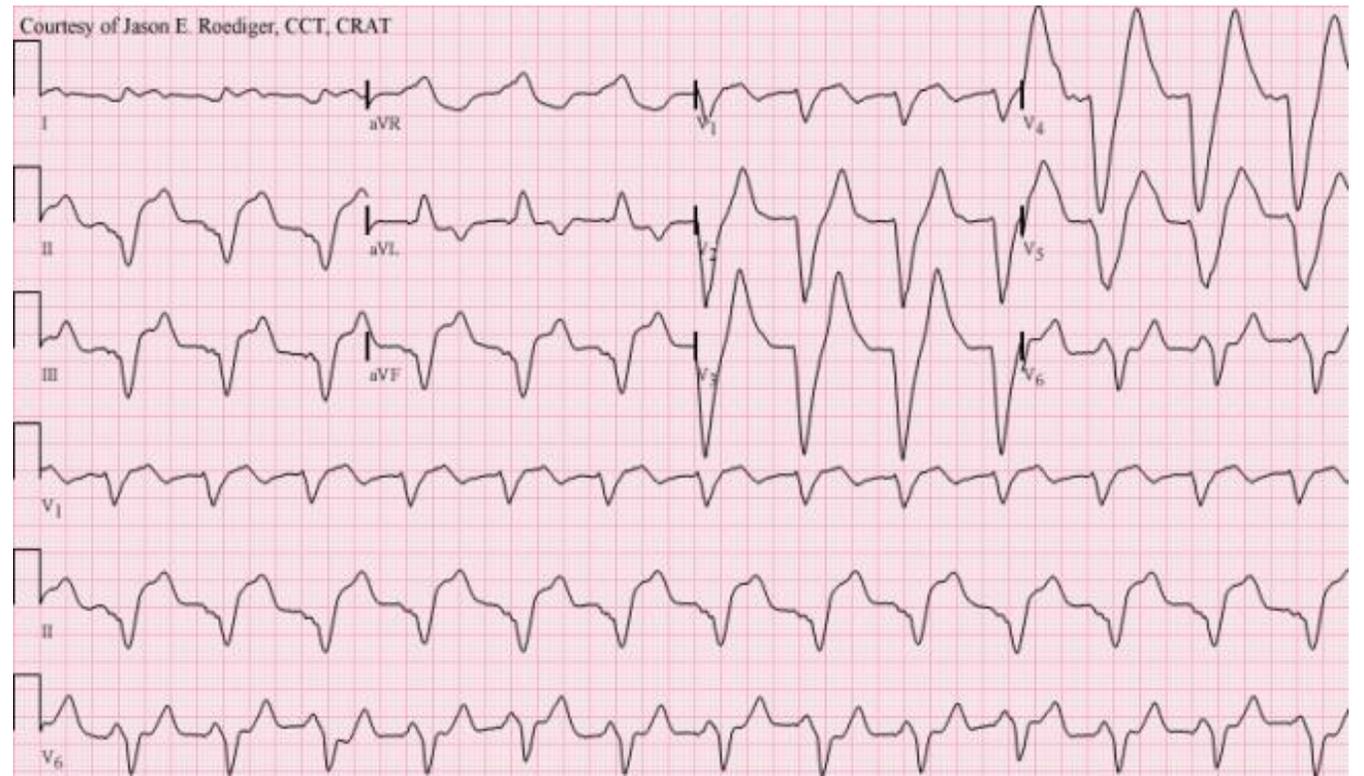
Q1: mention 2 abnormalities in ECG ?

- T-inversion ?

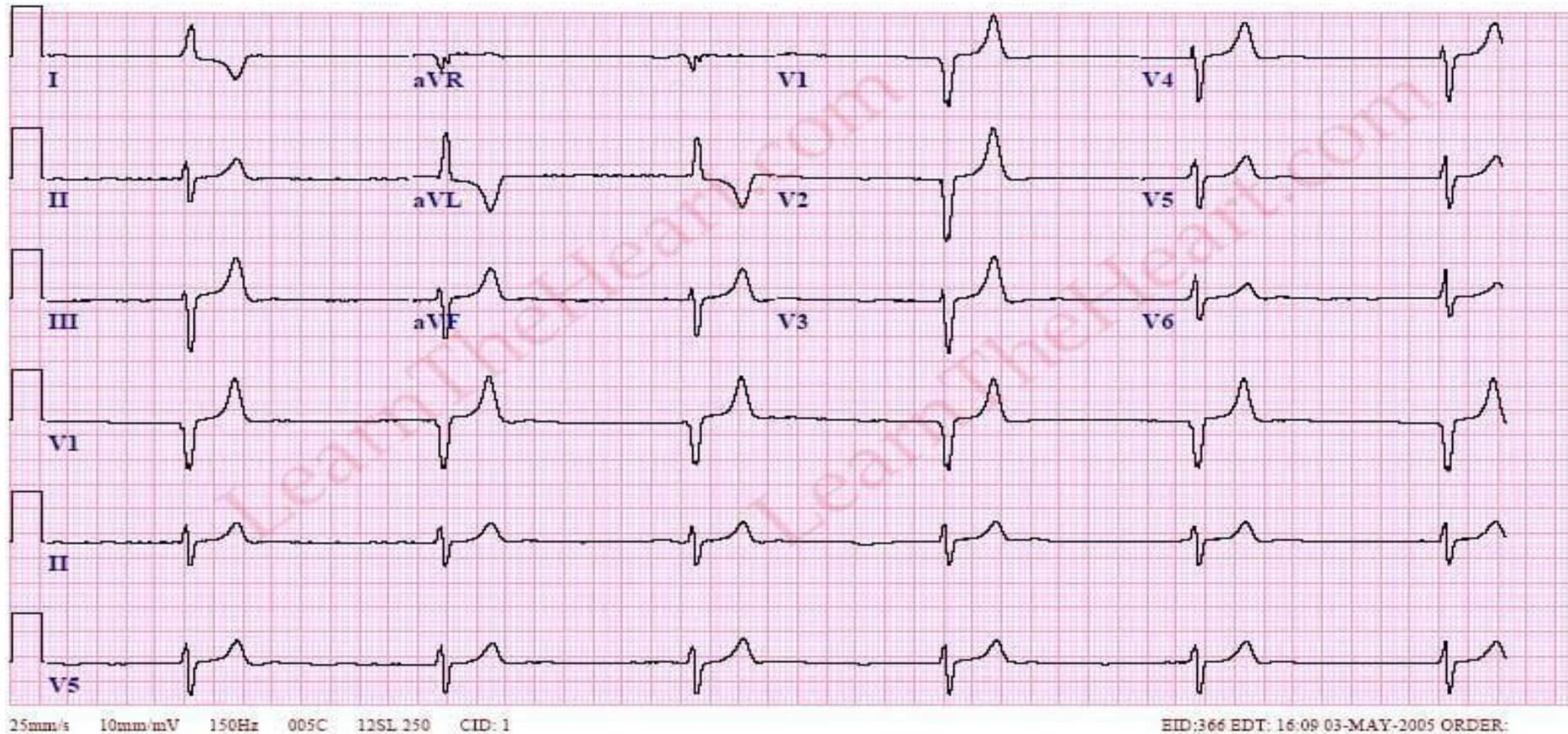
- Wide QRS

Q2 : what is your DX?

hyperkalemia



Station 3



Finding : **hyperacute T wave**
Caused by : **hyperkalemia**