DI &
(DM + its complication)

MCQs

3 in 1 😉

- A 48-year-old woman returns for a follow-up visit for management of type 1 diabetes mellitus. She reports doing well since the last visit. Overall, she believes that most of her blood glucose levels are at goal, but is concerned about occasional episodes of hyperglycemia occurring in the morning before breakfast. She eats a bedtime snack every night that is not covered with mealtime insulin. Review of her blood glucose log demonstrates morning fasting blood glucose values from 80 to 190 mg/dL (4.4-10.5 mmol/L). Her other premeal and bedtime values range from 100 to 120 mg/dL (5.5-6.7 mmol/L). She exercises two to three times per week in the evening. Medical history is significant for hypertension and hyperlipidemia. Medications are insulin glargine, insulin lispro, ramipril, simvastatin, and aspirin. On physical examination, blood pressure is 130/72 mm Hg and pulse rate is 67/min. BMI is 24. The remainder of the examination is unremarkable. Results of laboratory studies show a hemoglobin A1c level of 6.9% and serum creatinine level of 1.0 mg/dL (88.4 pmol/L). Serum electrolytes are normal. Which of the following is the most appropriate management of this patient's occasional fasting hyperglycemia?

Select one:
a. Add insulin lispro at bedtime
b. Add metformin
c. Increase insulin glargine dose
d. Measure 3 AM blood glucose level
e. Continue current regimen

- A 74-year-old woman is evaluated in the emergency department for several hours of altered mental status. She is from out-of- state and is visiting with relatives. One of her young relatives was recently ill with gastrointestinal symptoms. The patient developed anorexia 3 days ago and vomiting 2 days ago. She has been unable to tolerate any liquid or solid foods for the last 24 hours. Medical history is significant for type 2 diabetes mellitus, hypertension, hyperlipidemia, and hypothyroidism. Medications are aspirin, lisinopril, glimepiride, lévothyroxine, and atorvastatin. Her last dose of medications was 48 hours ago. On physical examination, her temperature is 37.5 °C (99.5 °F), blood pressure is 115/65 mm Hg, and pulse rate is 95/min. She is arousable but confused. Mucous membranes are dry. Her neck is supple. Cardiac examination reveals no murmurs. Her chest is clear to auscultation. Bowel sounds are present, and mild tenderness to palpation is noted throughout the abdomen. There is no rebound or guarding. There are no focal neurologic deficits. Laboratory studies are pending. Which of the following is the most likely cause of this patient's altered mental status?

Select one:
a. Cerebrovascular accident
b. Hypoglycemia
c. Hypothyroidism
d. Statin toxicity
e. Dehydration related hypotension and hypoperfusion

- Which of the following studies is most sensitive for detecting diabetic nephropathy?

a. Serum creatinine level
b. Creatinine clearance
c. Unine albumin
d. Glucose tolerance test
e. Ultrasonography

- -All of the following are indications for the use of insulin instead of oral hypoglycemic agents except one Select one:

a. Diabetic retinopathy
b. Diabetic nephropathy
c. Diabetic foot
d. A 46-year-old male with HbA1C 10.5% despite 2 years of treatment with oral agents
e. A 40-year-old female newly diagnosed type 2 DM with no other medical illness

- In the treatment of Type I Diabetes, which of the following is true?

a. Sulfonylureas are useful as an adjunctive therapy to insulin
b. Most patients are adequately controlled with one type of insulin (non-mixed) only ??
c. Once diagnosed with Type I, patients must immediately be assessed for retinopathy
d. During periods of illness or infection, patients may require additional insulin ??
e. The most common initial presentation is visual disturbance

- Which of the following is true with respect to diabetes and kidney disease?

a. Primarily affects the tubules
b. Earliest sign is decreased GFR
c. Microalbuminuria is a late sign of DM nephropathy
d. Threshold for dialysis is same as other CRF patients
e. BP control slows progression of DM nephropathy

- diabetic patient type 1 had kussmaul breathing , what most likely happen to him ?

Answer: DKA

- diabetic patient type 1 missed a meal what will happen to him ?

Answer: DM type 1 patient take insulin so missed a meal will cause hypoglycemia

- Diabetes except

- first neurological manifestation is muscle weakness

- **Wrong or right about diabetic retinopathy???:**

a. Hard exudate are the first to appear
b. Hard exudates result from retinal infarction
c. Hard exudate carry worst prognosis than soft exudate
d. None of the above

- **Worldwide, the most common cause of renal failure is?**

A. Diabetes

- **Wrong about polycystic ovarian syndrome:**

A. High LH/FSH ratio
B. Acanthosis nigricans
C. Acne
D. Hypertension

Answer: according to Wikipedia, Women with PCOS are at risk for the following: ... acanthosis nigricans

> Ehrmann et al1 reported recently that 33.4% of US women with PCOS exhibit symptoms of the metabolic syndrome, such as increased hyperglycemia, insulin resistance, and dyslipidemia, although this percentage varies depending on the cohort studied. Frequently these young women exhibit hypertension as well.
>
> Despite the list of characteristics that typically accompany PCOS, the exact mechanism(s) responsible for hypertension in women with PCOS is controversial. Many of the symptoms associated with PCOS have been shown to also be associated with increases in blood pressure, such as increases in body mass index and the presence of metabolic syndrome, with its accompanying insulin resistance and type 2 diabetes.
>
> http://hyper.ahajournals.org/content/49/6/1220.full

- **All of the following is true about diabetic nephropathy in IDDM< except:**

a. Microalbumnuria is seen within 5 years from onset
b. Usually preceded by retionopathy
c. Thickening of basement membrane is a ??? factor determining progressing of disease
d. It requires kidney transplant
e. More common in diabetic who have siblings with diabetic nephropathy

- **A diabetic patient was diagnosed with new hypertension, best management:**

A. Thiazide
B. Enalapril
C. Furosmide

Enalapril is an ACE inhibitor, which is considered a preferred first-line antihypertensive medication in patients with diabetes. ACE inhibitors help to control blood pressure and offer additional benefits such as renal protection in diabetic patients. They reduce the progression of kidney disease, which is a common complication in diabetes.

- **Best first management in a 22-year-old presenting to the ER with DKA:**

A. Insulin + Bicarbonate + Saline
B. Saline + Insulin
C. Insulin
D. Saline

Answer: D.
Fluid replacement — Initial fluid therapy in DKA and HHS is directed toward expansion of the intravascular volume and restoration of renal perfusion [16]. Adequate rehydration with subsequent correction of the hyperosmolar state may result in a more robust response to low dose insulin therapy [17,18]. The average fluid loss is 3 to 6 liters in DKA and up to 8 to 10 liters in HHS, due largely to the glucose osmotic diuresis (table 2) [1,2,8,10]. In addition to inducing water loss, glucosuria results in the loss of approximately 70 meq of sodium and potassium for each liter of fluid lost. The aim of therapy is to replete the extracellular fluid volume without inducing cerebral edema due to too rapid reduction in the plasma osmolality. (See 'Cerebral edema' below and "Treatment and complications of diabetic ketoacidosis in children", section on 'Cerebral edema'.) Fluid repletion is usually initiated with isotonic saline (0.9 percent sodium chloride). This solution will replace the fluid deficit, correct the extracellular volume depletion more rapidly than one-half isotonic saline, lower the plasma osmolality (since it is still hypoosmotic to the patient), and reduce the serum glucose concentration both by dilution and by increasing urinary losses as renal perfusion is increased [16,19]
Intravenous regular insulin — After an initial infusion of isotonic saline to increase insulin responsiveness by lowering the plasma osmolality [17,18], the only indication for delaying insulin therapy is a serum potassium below 3.3 meq/L, since insulin will worsen the hypokalemia by driving potassium into the cells. (See 'Potassium depletion' below.)

- All of the following are associated with hypokalemia and alkalosis, except:

a. Bartter syndrome (???) [Yes Hypokaemia + alkalosis a disorder due to a defect in active chloride reabsorption in the loop of Henle; characterized by primary juxtaglomerular cell hyperplasia with secondary hyperaldosteronism, hypokalemic alkalosis, hypercalciuria,
elevated renin or angiotensin levels, normal or low blood pressure, and growth retardation; edema is absent. Autosomal recessive inheritance, caused by mutation in either the Na-K-2Cl cotransporter gene (SLC12A1) on chromosome 15q or the K(+) channel gene (KCNJ1) on 11q.
b. Furosemide Yes
c. Diabetes (If they are talking about DKA Hypokalemia and acidosis, so this should be the answer?
d. Nasogastric tube suction Yes (loss through upper GI of K and Hydrogen)
e. Thiazides Yes

- All of the following may cause renal papillary necrosis, except:

a. DM
b. Analgesic abuse
c. Sickle cell anemia
d. pyelonephirits
e. hypertension

Answer E: Any condition that involves ischemia can lead to renal papillary necrosis. The four most significant causes are sickle cell disease or trait, analgesic use, diabetes mellitus, and severe pyelonephritis.[2]
A mnemonic for the causes of renal papillary necrosis is POSTCARDS: pyelonephritis, obstruction of the urogenital tract, sickle cell disease, tuberculosis, chronic liver disease, analgesia/alcohol abuse, renal transplant rejection, diabetes mellitus, and systemic vasculitis. Often, a patient with renal papillary necrosis will have numerous conditions acting synergistically to bring about the disease. [3][4]

- All of the following electrolyte and acid-base disturbances may be seen in a patient with diabetic ketoacidosis upon presentation, except:

a. Hyponatremia
b. Normal anion gap metabolic acidosis
c. Hyperkalemia
d. Hyperphosphatemia
e. Increased urea

Answer: B (DKA causes high anion gap metabolic acidosis)

- All the following are true about side effects of anti-diabetic agents Except.

a- metformin carries a risk of lactic acidosis.
b- sulphonylurea is used safely pregnancy
c- glitazones may cause prominent fluid retention
d- insulin may cause lipohypertrophy
e- acarbose causes diarrhea

- Causes of hypoglycemia in diabetes include all the following Except.

a- no daily exercise.
b- unrecognized other endocrine diseases like Addison's disease.
c- missed, delayed or inadequate meal
d- gastroparesis
e- factitious and deliberately induced.

- One of the following is true about mangment of diabetes mellitus.

a. the latest guide lines recommended HbA1C to be less than 7%.
b. post prandial blood sugar up to 200 mg/dl is accepted.
c. fasting blood sugar should be less than 100 mg/dl in all patients.
d. LDL-cholesterol up to 120 mg/dl is acceptable in diabetics.
e. blood pressure of 145/95 mm Hg is acceptable in diabetics.

- One of the following is true about complications of diabetes mellitus :

a. HbA1C is the most studied marker for diabetes mellitus complications.
b. fasting blood sugar dose not attribute to HbA1C level.
c. Erectile dysfunction is solely (only) due to diabetic vasculopathy.
d. hard exudates are more serious than soft exudates in diabetic retiopathy.
e. serum creatinin is the early biochemical marker to change in diabetes nephropathy.

- A 55 year old male has progressive CRI dueto 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 xxxx
D) Combined renal & pancreas transplant
E) CCPD

- A 67 year old man with a 4 year history of NIDDM is admitted to the hospital with DVT in his calf . He is placed at bed rest & given a diet for diabetic patients & started on heparin therapy . He is treated with his chronic antihypertensive regimen of Captopril , 25 mg, twice daily

Labs :
Na 138 meq/L, K 4.6 meq/L , HCO3 25 meq/L , Cr 2 mg/dl stable for 2 years , 5 days later Blood pressure remained stable 135/85 mmHg , but labs became :
glucose 225mg/dl, Na 135 meq/L , k 7 meq/L , HCO3 21 meq/L , Cr 2.4 mg/dl , TTKG 4 .
What is the most likely cause of hyperkalemia ?

A) Acute adrenal hemorrhage
B) Acute Renal failure
C) Hyperglycemia
D) Pulmonary embolus
E) Hypoaldosteronism xxx

- After 4 years on dialysis , a 42 year old HCV positive black patient received a living unrelated transplant from his wife . He is treated with Tacrolimus , Sirolimus & prednisone .Four months post transplant he has high blood sugar ranging 200- 300 mg/dl .He has no family history of diabetes . His BMI is 35 .

His risk factors for past transplant diabetes include all Except :
A) Tacrolimus therapy
B) Increased BMI
C) HCV infection
D) Sirolimus therapy xxxx
E) Ethinicity

D. Sirolimus therapy:** While sirolimus can have various side effects, including potentially impacting glucose levels, the evidence for its association with post-transplant diabetes is not as strong as the other factors listed. Tacrolimus therapy is generally considered a more significant risk factor for diabetes post-transplant than sirolimus.

- All the following are true about Diabetic Nephropathy except :

a) More likely to occur if patient ha siblings with Nephropathy
b) More severe in black
c) Occurs within 5 years in I DDM
d) It needs 15 years to progress into ESRD after start of overt proteinurea
e) Mostly preceeded by Diabetic Retinopathy

- A 35-year-old man with type 1 diabetes mellitus, is evaluated for recent onset morning hypoglycemia. For the last 10 days his morning blood glucose has rangedfrom 220 mg/dl-300 mg/dl. He has experienced nightmares recently.

Which of the following is best explanation for his morning hyperglycemia.

a- Diabetic nephropathy
b- Under treatment with insulin
c- Overtreatment with insulin
d- Diabetic neuropathy
e- Hypothyrodism.

overtreatment with insulin, also known as the "Somogyi effect." This occurs when an individual with diabetes experiences a period of nighttime hypoglycemia, which leads to the release of counter-regulatory hormones (e.g., glucagon, adrenaline, cortisol). These hormones cause the liver to release glucose into the bloodstream, resulting in morning hyperglycemia.

- 60 year old male known to have Diabetes for 10 years and is on Enalapril 10 mg 1x2 , presented to ER because all his peripheral extremities became paralised , Labs K 8.0 meq /L , Cr 1.0 mg/dl. Which of the following should be used first in the management of this patient :

a) NAHCO3 Iv
b) Ventolin nebuliser
c) Glucose + insulin Iv
d) K exalate (Na polysterene Sulfonate)
e) Ca gluconate Iv

- All the following are true for a Diabetic with ESRD except

a) Oral hypoglycaemic agents should be stopped
b) First year post transplant survival is the same as in the general population ??
c) More prone to hypotension during HD than other patients
d) They have higher Insulin requirements ??
e) PD is associated with increase in Triglycerides level

- 20 year old male has a LRD kidney transplant 2 years ago , he is not known to be Diabetic nor Hypertensive . His medications are Tacrolimus 3 mg 1x2 , prednisone 5mg 1x2 , MMF 1 gm 1x2, Labs : FBS 400 mg/dl , Cr 1.0 mg/dl , Urea 35 mg/dl , Tacrolimus level 12 . The next step in managing his Diabetes other than start him on treatment and re checking his sugar level is :

a) Stop Prednisone
b) Decrease MMF to 500 mg 1x2
c) Stop Tacrolimus
d) Stop MMF , and increase Tacrolimus
e) Decrease Tacrolimus to 2 mg 1x2

- A 65-year diabetic and hypertensive patient is complaining of symptomatic aorto-iliac occlusive disease. Which of the following therapeutic modality is not applicable on him?

A) Aortofemoral bypass
B) Aortoiliac endarterectomy
C) Extra anatomic by pass
D) Angioplasty/stenting
E) Lumbar sympathectomy. ??

- the following are true in diabetes and CAD except:

a) Mortality from CVD is 2-8 folds higher in people with diabetes than in those without.
b) Thiazolidine are Synthetic legends of Newer transcription factor PPARY
c) Recent meta analysis questioned the cardiac safety of rosiglitazone by decreasingLV contractility.
d) In recent studies ENHANCED and ACCORD study –mortality has increased in diabetes in those with intersively lowering blood glucose.
e)Thiazolidinediones enhances insulin sensitivity in patients with high risk of CV events.

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

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

- patient with type 1 diabetes mellitus is reviewed in the nephrology outpatient clinic. He is known to have stage 4 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

- patient with type 1 diabetes mellitus is reviewed in the nephrology outpatientclinic. He is known to have stage 3 diabetic nephropathy. Which of the following best describes his degree of renal involvement?

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

- 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

- In the course of DKA, serum potassium levels?

a. Remain unaffected
b. Can appear normal but total body potassium may actually be low
c. Can appear normal but total body potassium may actually be high
d. Will naturally be corrected by insulin administration
e. Can't be corrected if the patient presents late

- DKA all except..

No change in anion gap

- All are true about DKA except

(high insulin)

- pt of DM takes metformin and sulfonylurea, he complain of hypoglycemia & congestive heart failure , how to adjust treatment?

Stop sulfonylurea & give SGLT2 inhibitor

- wrong about DM :

Can be diagnosed by a single random glucose tolerance test

- A50 year old women obese is found to have DM . diet alone can not achieve adequate glycemic control . which of the following drug would be the ttt of choice ?

a- Gliclazide
b- Metformin
c- Glibenclamide d- Insulin
e- Rosiglitazone

- Causes glomerulosclerosis :

DM nephropathy

- DM drug which cause weight loss : ???

- Elderly came with HF , what drug deteriorate her condition :

pioglitazone

- M.C cause of End stage renal failure. .

DM

- Longest insulin half life :

Glargine

- Fasting blood sugar : 120 , postprandial blood sugar : 180 , what is true :

impaired FBS & postprandial blood sugar tolerance

- DM , Correct :

Fasting blood glucose < 126

- DM ..

insulin not use firstly for type 2DM

- One of the following can diagnose DM:

a. Fasting blood sugar ≥ 100
b. Random blood sugar ≥ 140
c. Random blood sugar ≥ 200 with typical signs and symptoms

- Wrong about DM:

A. Goal of HbA1C should be less than 6.8%

- Criteria which is used to diagnose DM is:

A. Glycocylated haemoglobin
B. Fasting plasma glucose ≥ 126 mg/dL.

- Hypernatremia in the presence of uncontrolled DM suggests One of the following:

a) Salt overload ??
b) Water depletion ??
c) Hyperlipemia
d) Increased tubular sodium resorption
e) Ketoacidosis

- 83 year old male who has DM , CHF,CRI is admitted to hospital with volume overload & Cr 4.0 mg/dl (baseline 2.3 mg/dl) . He was treated by Iv diuretics , post voiding residual was 250 ml after foleys catheter was inserted . He was discharged 2 days later with Cr 3.0 mg/dl . One week lter he came to OPD , Cr is 3.5 mg/dl , ultrasound shows mild bilateral hydronephrosis . Which of the following would best predict the effect of the patient bladder outlet problem on kidney function :

a) Serum PSA
b) Serum Cr after several days with foleys catheter ??
c) Kidney size on U/S
d) Retrograde urography
e) Renal Scan

- All are true about DKA except

(high insulin)

- pregnancy women came for follow up , her last pregnancy complicated by GDM & resolved after pregnancy, what is your next step?

Order oral glucose tolerance test

- Which one of the following is not a recognised risk factor for the development of diabetic nephropathy?

A. Poor glycaemic control
B. Smoking
C. Male sex
D. Low dietary protein
E. Hypertension

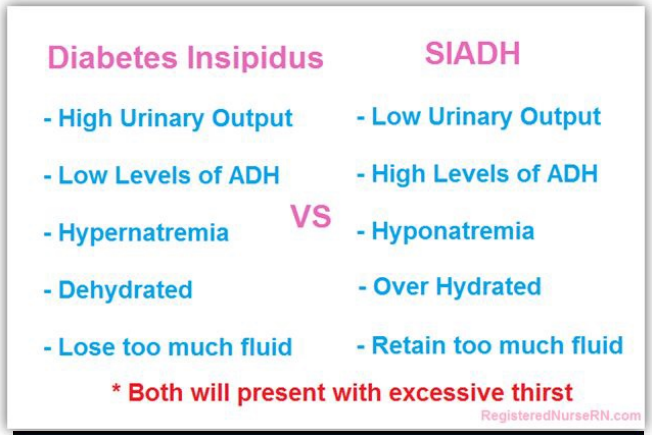
- Not a cause of nephrogenic DI ?

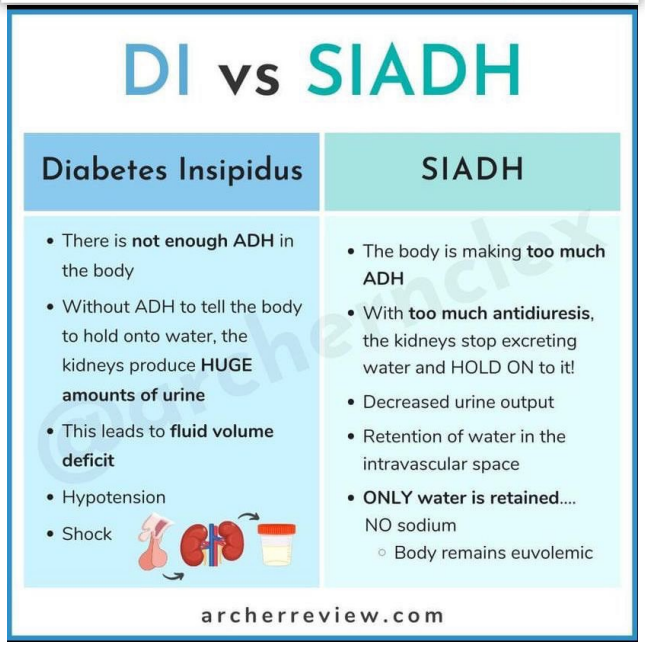
Cisplastin ?
Demeclocylin
Sjogren syndrome
Hyper ca hypo k

- Syndrome of inappropriate ADH secretion is characterized by all of the following, except:

a. Urine osmolarity more than 100
b. Hypoosmolarity of the serum
c. Urine Na+ more than 40
d. Normovolemia and hyperuricemia

بس هذول السؤالين على الDI





Mini-OSCE

Q4 - A70 year old male with acute onset of shortness of breath, all of the following can cause this presentation except?

a. Myocardial infarction

b. Congestive heart failure

c. Uncontrolled hypertension

d. Diabetic ketoacidosis

e. Chronic kidney disease

Q9 - A 51 year old male diabetic patient is admitted through the emergency department with chest pain of 1 hour duration, one of the following is not indicated acutely?

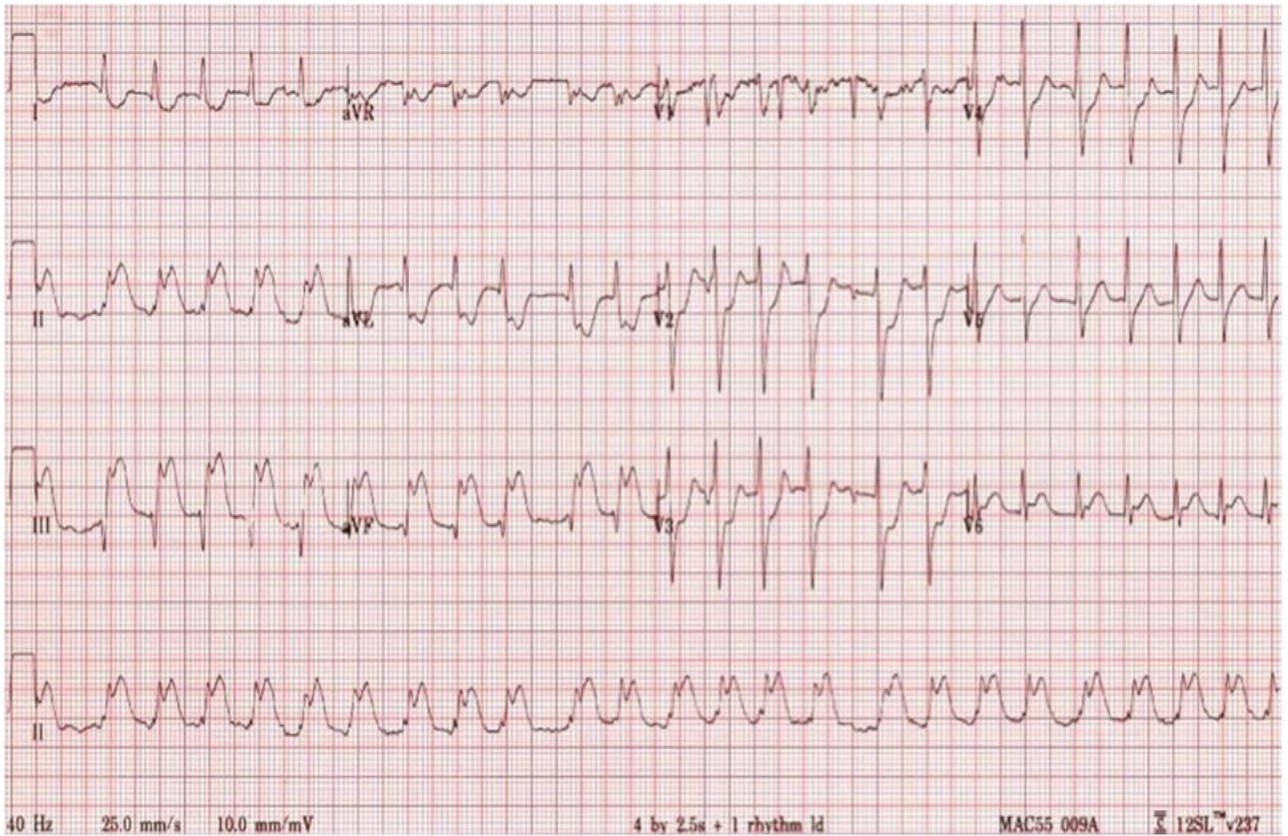
a. Thrombolysis

b. Aspirin

c. Morphine

d. ACE inhibitors

e. Cardiac catheterization



3-The best treatment choice in this diabetic 79 year old male presented with shortness of breath and chest discomfort is ?

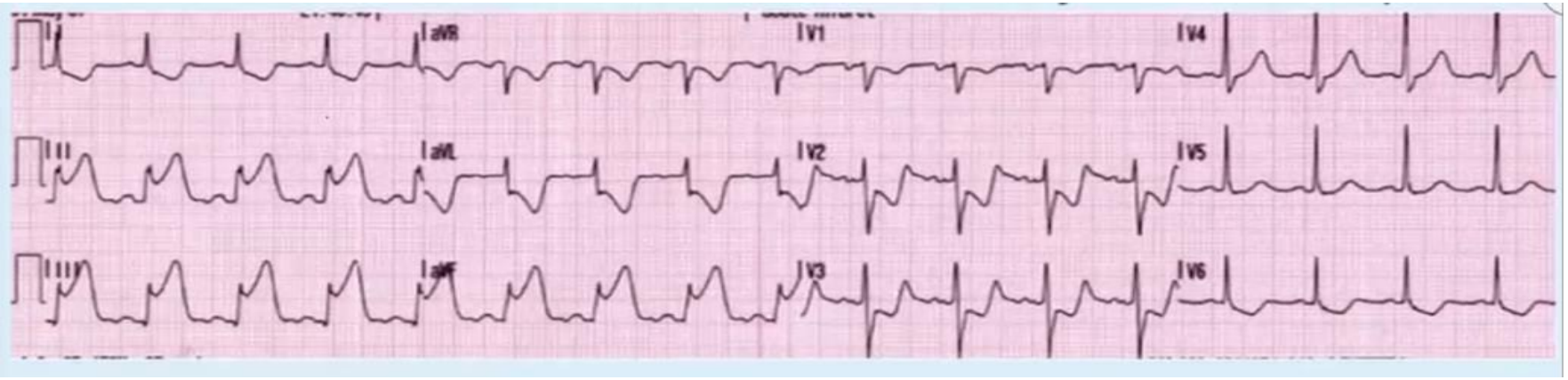
a. Crushed aspirin

b. IV stat

c. Thrombolysis with metallase as soon as possible

d. Cardiac catheterization the next morning

e. MONA : morphine , oxygen , nitrate , aspirin



Q 3 , 4 , 5

Blood test result showing very high blood sugar and elevated Creatinine .

•What are abnormal findings in this test ?
Very high blood glucose and creatinine .

•What is the diagnosis ?
Diabetic nephropathy

•After 10 years the patient comes with this pic (1) , what is the diagnosis ?

•After 15 years the patient comes with this pic (2) , what is the diagnosis ? And what is the treatment ?
I guess nephrotic , control DM by hypoglycemic agent and insulin , fluid restriction , diuretics , steroid and albumin

pic (1)

pic (2)

Station 1

A 50-year old diabetic patient developed the following:

Q1 : what do you see

Pitting edema

Q2 : diagnosis

Diabetic Nephropathy (nephrotic syndrome)

NEPHROLOGY SECTIONS

Q1 : Diabetic patient , wake up with this peri-orbital edema , what is your diagnosis ? And the most possible complication ?

- Nephrotic syndrome , DVT (Hyper-coagulable status)

The options were :

HF , acute renal failure , peripheral vascular disease

Q4) a 30 year old diabetic patient patient comes to your clinic complaining of headache , weakness and dizziness , during inspection you see the following findings which are showed with these images .
What is your diagnosis based on these findings ?
a) Addison disease (hyperpigmentation of the skin and mucous membranes)
b) DKA

what you would not see in his lab test ?
a) Hypernatremia (cuz with Addison disease you always see Hyponatremia)

Q2

A female pt visited your clinic complaining of bilateral leg swelling & peri-orbital edema. She is a known case of DM which was controlled until 3 months ago. She developed HTN 3 months ago, but was not controlled even with 2 drugs. On examination she has mild respiratory distress & large edema in her legs.

A- What is your most likely Dx?

Nephrotic syndrome

B- Mention confirmatory test:

Urinalysis

Station 11: A 75 year old patient

1) What is your diagnosis?

Atherosclerosis

1) What are three other possible causes if the patient was younger?

Takayasu arteritis –

1) What is the management?

Treat DM – treat HTN – revascularization