Section 28 Quiz Program

Chapter 181

Clinical Pearls

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Q.1. Following three figures: Show the same pathological lesion but at different sites (neck, axilla and groin) in obese individuals.

a. What is this lesion?
b. What is its significance?
Q.2. What does this sign in a diabetic patient indicate?

Q.3. This lesion is seen on the shin of a diabetic individual. What is this called?

Q.4. An elderly diabetic presented with a short history of abdominal pain, fever and vomiting. His computed tomography (CT) (abdomen) is shown below:

Q.5. Following figure shows a modern device used in diabetic patients:

a. What is this?
b. What are its main advantages?

Q.6. a. What complication has occurred in this diabetic patient?
b. What is the main causative organism?

c. What is the main causative organism?

Q.7. This is the fundus of a diabetic individual who also has sensorineural deafness:

a. What is the diagnosis?
b. What are two common complications?
c. How would you treat this patient?
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a. What does the fundus show?
b. What is the complete diagnosis?

Q.8. A 45-year-old obese individual, smoker was admitted to intensive care unit (ICU) with short history of fever with rigors. He had splenomegaly.
Laboratory investigations reveal:
- Hemoglobin (Hb): 10.2 gm/L
- Platelet count: 85,000/mm$^3$
- Mildly raised serum alanine aminotransferase (ALT) and aspartate aminotransferase (AST)
- Markedly raised serum bilirubin
- Plasma glucose random: 92 mg/dL
- Hemoglobin A1c (HbA1c): 9.5%.

Patient is improving with therapy. How would you approach this patient’s glycemic status?
a. Cover with short acting sub-cutaneous insulin during febrile period and review after complete recovery
b. Start on low dose metformin, if serum creatinine is normal
c. Ignore the current HbA1c value
d. Advise only strict diabetic diet with close monitoring of plasma glucose.

Q.9. A 72-year-old male, known diabetic for past 12 years, presented to emergency department in altered sensorium and dehydration, following a respiratory infection:
- His random plasma glucose was 722 mg/dL
- Urine sugar ++++
- Urine protein and urine acetone was trace
- Hemoglobin A1c was 10.4%.

a. What is the most likely diagnosis?
b. What further work-up will you do to confirm this?
c. How will you manage this patient?

Q.10. Risk of urinary bladder cancer with pioglitazone is linked to the duration of use and cumulative dose. The risk increases with:
a. Use > 24 months and cumulative dose > 28,000 mg
b. Use > 36 months and cumulative dose > 28,000 mg
c. Use > 36 months and cumulative dose > 32,000 mg
d. Use > 24 months and cumulative dose > 30,000 mg

Q.11. Insulin pump users should not take-off the pump for more than:
a. 1 hour
b. 2 hours
c. 3 hours
d. 4 hours

Q.12. This diabetic individual has metastatic cancer. What device is he wearing?

Q.13. Which of the following oral hypoglycemic agent has minimal placental transfer and therefore safest in gestational diabetes mellitus?
- Glimepride
- Gliclazide
- Glibenclamide
c. Glipizide

Q.14. Which of the following drug can be safely used in advanced renal failure?
- Vildaglaptin
- Alogliptin
c. Linagliptin
d. Sitaglaptin

Q.15. Which of the following statements is not true about new anti-obesity drug, lorcaserin?
- a. It is approved by United States Food and Drug Administration (US FDA)
b. It is 5-hydroxytryptamine type 2C (5-HT2C) receptor agonist
c. It is recommended for adults with body mass index (BMI) > 30, or BMI > 27, who have at least one weight-related health condition, such as type 2 diabetes mellitus (T2DM), hypertension (HTN) or dyslipidemia
d. There is some increase in incidence of valvulopathy and pulmonary HTN with this drug.

Q.16. Which of the following trials showed increased mortality with intensive glycemic control on diabetes?
a. Diabetes Control and Complications Trial (DCCT)
b. Epidemiology of Diabetes Interventions and Complications (EDIC)
c. Veterans Affairs Diabetes Trial (VADT)
d. Action to Control Cardiovascular Risk in Diabetes (ACCORD)
e. United Kingdom Prospective Diabetes Study (UKPDS).

Q.17. All the following are associated with secondary diabetes except:
a. Congenital rubella infection
b. Hypothyroidism
c. Nicotinic acid
d. Down syndrome
e. Interferon-gamma (IFN-γ).

Q.18. All of the following statements are true about maturity onset diabetes of the young (MODY) except:
a. Onset of hyperglycemia usually before 25 years of age
b. Patients are usually obese
c. Patients do not have insulin resistance
d. Patients are not prone to ketosis.

Q.19. All fast acting insulins are approved for intravenous use except:
a. Insulin aspart
b. Insulin lispro
c. Regular human insulin
d. Insulin glulisine.

Q.20. Morphological or structural changes occur during which stage of diabetic nephropathy?
a. Stage 1
b. Stage 2
c. Stage 3
d. Stage 4
e. Stage 5.

Q.21. Vibration perception threshold (VPT) can be used for diagnosis of diabetic neuropathy.
- All of the following statements are true about this except:
a. It is usually assessed by 128 Hz tuning fork
b. Most common site for testing is at the tip of great toe or over lateral malleolus
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- Vibration perception threshold can assess both large and small fibers
- Vibration perception threshold can also be performed with biothesiometer and vibrometer.

Q.22. Ranibizumab is used to treat diabetic macular edema (DME)
All of the following statements are true about this drug except:
- It is protein kinase C inhibitor
- It is vascular endothelial growth factor (VEGF) inhibitor
- It is used by injection directly into the vitreous of the eye
- Improvement in vision is twice as compared to laser therapy.

Q.23. Macular edema is a rare complication of which of the following oral hypoglycemic agents?
- Liraglutide
- Pioglitazone
- Saxagliptin
- Glipizide.

Q.24. State whether following statement is True or False:
“In the Indian Diabetes Prevention Program (IDPP), there was added benefit from combining both lifestyle modification and metformin, in reducing the incidence of diabetes in Asian Indians with impaired glucose tolerance (IGT).”

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Q.25. Gut peptide ghrelin has appetite __________effect, whereas another gut peptide YY (3–36) has appetite __________effect.

Q.26. Antidiabetic drug dapagliflozin is __________inhibitor, and is used in clinical trials with sitagliptin and metformin.

Q.27. Aleglitazar is a newer antidiabetic drug, currently in phase III clinical trials, which is agonist of __________ and __________ and also has favorable lipid profile.
Q.1. All the following criteria predict a likelihood of success of weaning from mechanical ventilator, except:
   a. Vital capacity 10–15 ml/kg
   b. Tidal volume > 5 ml/kg
   c. pH > 7.3
   d. Respiratory rate < 20 breaths/min
Q.2. Which of the following constitute the absolute contraindication to noninvasive ventilation (NIV)?
   a. Facial trauma
   b. Obstruction of the upper airway
   c. Hemodynamic instability
   d. Coma
   e. All of the above
Q.3. Which of the following is a disadvantage of constant positive airway pressure (CPAP)?
   a. It increases the work of breathing
   b. It increases mean intrathoracic pressure which reduces venous return to the heart
   c. It reduces functional residual capacity (FRC)
   d. It increases pulmonary vascular resistance
Q.4. Which of the following has been suggested as a better index of body protein in intensive care unit (ICU) setup?
   a. Serum albumin
   b. Serum globulin
   c. Serum transferrin
   d. Serum fibrinogen
Q.5. Which of the following is a commonly observed electrolyte abnormality with amphotericin?
   a. Hyperkalemia
   b. Hypercalcemia
   c. Hypocalcemia
   d. Hypomagnesemia
Q.6. Which of the following statements is not true about quinolones?
   a. Ciprofloxacin is usually effective against hospital acquired Gram-negative organisms including Pseudomonas
   b. Levofloxacin has poorer Gram-negative cover, but better Gram-positive cover, therefore is useful in community acquired pneumonia
   c. Union health ministry has banned gatifloxacin due to adverse effects on blood pressure
   d. Ciprofloxacin increases serum theophylline levels
Q.7. Which of the following liver function test abnormality is typical of leptospirosis?
   a. Markedly raised serum bilirubin with very mildly raised transaminases
   b. Markedly raised transaminases with very mildly raised serum bilirubin
   c. Marked elevation of both serum bilirubin and transaminases
   d. Markedly reduced serum albumin levels
Q.8. This elderly gentleman was admitted to ICU with severe breathlessness.
   a. What is the diagnosis?
   b. How will you treat this patient?
Q.9. A 25-year-old man presented with severe headache and nausea. His computed tomography (CT) (brain) is shown below:
   a. What is the diagnosis?
   b. Twenty-four hours following admission, patient becomes comatose. What complication must have happened and how will you treat this?
Q.10. A 22-year-old man presented with severe abdominal pain, since 2–3 days. Since, he did not respond to conservative therapy, surgery was done. His preoperative ultrasound of abdomen and postoperative abdominal CT films are shown here:
   a. What is the diagnosis?
   b. What surgery has the patient undergone?
   Acute necrotizing pancreatitis underwent pancreatic necrosectomy.
Q.11. A 45-year-old woman undergoing treatment for depression was admitted to ICU in drowsy state. She had marked tremor. Electrocardiogram (ECG) on admission showed flat “T” waves. Investigations revealed:
- Serum sodium: 148 mmol/L
- Serum potassium: 4 mmol/L
- Urea: 50 mg/dL
- Serum thyroid stimulating hormone (TSH): 8.0 mIU/L
- Serum T4: 59 nmol/L
What is the likely diagnosis?

Q.12. A 62-year-old man presented to emergency department with a two day history of severe leg pain and increasing difficulty in walking. He was previously well, but both he and his wife had flu-like illness 10 days earlier. On examination, he was afebrile. Vital parameters were stable. There was no neck stiffness, but both his arms and legs were weak and no tendon reflexes could be elicited.

a. What is the diagnosis?
b. How would you confirm the diagnosis?
c. Name two related neurological conditions

Q.13. A 58-year-old man was admitted to ICU with severe headache. His fundoscopy images are shown below:

a. What is the diagnosis?
b. How will you manage this patient?
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CRITICAL ILLNESSES RELATED TO PREGNANCY: A NIGHTMARE FOR PHYSICIANS!!!

Q.14. A 26-year-old lady was admitted to ICU with a short history of breathlessness and persistent vomiting. She was undergoing treatment for infertility and had embryo transfer done 10 days prior to admission. On admission, she was tachycardic, tachypnoic and had gross pallor, ascites and bilateral pleural effusions. Her hemoglobin (Hb) was 3.5 gm/dL; liver function and renal function tests as well as coagulation profile was normal. Beta-human chorionic gonadotropin (β-hCG) levels were 186. Ultrasoundography of abdomen showed gross ascites with multiple cysts in ovaries with bilateral pleural effusions.

a. What is the diagnosis?
b. How will you manage this patient?

Q.15. A young primi had a full-term normal delivery (FTND) in a rural hospital and was shifted to a tertiary care center 12 hours following her delivery with severe headache, vomiting, confusion, blurring of vision and a single episode of generalised tonic-clonic convulsion. On examination, she was drowsy and confused. Blood pressure was 190/100 mmHg. Her fundus was normal. Reflexes were brisk and plantars were extensors. There was no other functional neck dissection (FND)/neck stiffness. Other systems were normal. Her hemogram, renal function, liver function and coagulation profile was normal.

a. What is the diagnosis?
b. How will you manage this patient?

Q.16. A 25-year-old woman, 32 weeks pregnant was presented with nausea, vomiting, right hypochondral pain and headache. Symptoms were rapidly progressive. On examination, she was feeling drowsy, mildly pyrexial and icteric. Vital parameters were stable. There was right-upper-quadrant tenderness on abdominal examination. Investigations revealed Hb: 9 gm/dL, normal total white cell count and platelet count: 42,000/mm³. Liver function tests showed raised transaminases and unconjugated bilirubin. Renal function was normal.

a. What is the diagnosis?
b. What further laboratory tests will confirm this?
c. How will you manage this patient?

Q.17. A 30-year-old woman, 36 weeks pregnant presented with anorexia, nausea, fever and abdominal pain of short duration. On examination—she was febrile, drowsy and deeply icteric, but was hemodynamically stable. Investigation revealed Hb:10 gm/dL, leucocytosis and platelet count: 85,000/mm³. Her serum alanine aminotransferase (ALT) was 950 IU/L, serum aspartate aminotransferase (AST) was 730 IU/L, and total serum bilirubin was 6.4 mg/dL. Her international normalized ratio (INR), partial thromboplastin time activated with kaolin (PTTK), fibrinogen levels as well as serum ammonia levels were raised. She remained persistently hypoglycemic, needing regular dextrose infusions.

a. What is the diagnosis?
b. How will you manage this patient?

Q.18. Which of the following anti-bacterial agent is associated with interstitial lung disease?

a. Amoxicillin
b. Nitrofurantoin
c. Linezolid
d. Prulifloxacin

d. Interleukin-1 (IL-1) receptor blocker

c. Tumor necrosis factor receptor antagonist
b. This can be given once daily
c. Drug does not cause significant hepatotoxicity
d. Drug can be given with sildenafil
e. All of the above

Q.19. Which of the following statements is true about the drug “Ambrisentan” which has become available recently for treatment of pulmonary arterial hypertension?

a. This is endothelin type A receptor antagonist
b. This can be given once daily
c. Drug does not cause significant hepatotoxicity
d. Drug can be given with sildenafil
e. All of the above

Q.20. A 45-year-old diabetic male presented with mild memory loss and intermittent abdominal pain. His peripheral blood film is shown below:

a. What does the blood film show?
b. What is the most likely diagnosis?
c. What other differential diagnoses should be considered?

Q.21. Diabetic ketoacidosis is most important risk factor for which of the following infections?

a. Necrotizing fasciitis
b. Rhinocerebral mucormycosis
c. Emphysematous pyelonephritis
d. Malignant otitis externa

c. What is the most likely explanation for her deterioration?

a. Severe hypotension
b. Cerebral edema due to too rapid osmolar shifts
c. Massive pulmonary embolism
d. Developing stroke

Q.22. A 30-year-old woman was being treated for diabetic ketoacidosis. She was improving, her acidosis was reversed, however about 8–10 hours after initiation of therapy, she lapsed into coma again.

What is the most likely explanation for her deterioration?

a. Severe hypotension
b. Cerebral edema due to too rapid osmolar shifts
c. Massive pulmonary embolism
d. Developing stroke

Q.23. All of the following are oral anticoagulants except:

a. Rivaroxaban
b. Apixaban
c. Bivalirudin
d. Dabigatran

c. What is the most likely diagnosis?

Q.24. All of the following are factor Xa inhibitors except:

a. Rivaroxaban
b. Fondaparinux
c. Apixaban
d. Dabigatran

c. What is the most likely diagnosis?

Q.25. Etanercept; a biopharmaceutical used for treatment of rheumatoid arthritis is:

a. Monoclonal antibody-tumor necrosis factor (TNF) antibody
b. Tumor necrosis factor receptor antagonist
c. Tumor necrosis factor receptor agonist
d. Interleukin-1 (IL-1) receptor blocker

c. What is the most likely diagnosis?
Q.1. A 68-year-old lady presented with recurrent syncopal episodes. She is nondiabetic and nonhypertensive. All routine work-up including two-dimensional (2D) echocardiography, Holter monitoring and Tilt test is non-contributory.

a. What is this investigation?

b. What is the diagnosis?

c. How will you manage this patient?

Q.2. A 74-year-old lady was brought to emergency department in semi-comatose state. She lives alone and is only on antihypertensive. Neighbor who brought her to hospital says that she was not keeping well for the past 3–4 days. Her blood pressure (BP) on arrival is 100/60 mm Hg and plasma glucose (random) is 84 mg/dL. Her electrocardiogram (ECG) is shown below:

What is the diagnosis?

Q.3. a. What procedure is shown here?

b. What are the indications and potential complications of this procedure?

Q.4. a. What is shown in the picture?

b. What is the main indication?

Q.5. Rotigotine is a newer dopamine agonist available for Parkinson’s disease. Use of this drug is recommended by which route?

a. Intranasal

b. Subcutaneous

c. Transdermal

d. Intravenous.

Q.6. Treatment with, which of the following antiparkinsonian drug requires strict monitoring of liver function?

a. Levodaopa

b. Tolcapone

c. Rasagiline

d. Ropinirole.

Q.7. Which of the following statements about postmenopausal hormone replacement therapy (HRT) is not true?

a. This is associated with risk of gall bladder disease

b. This is mainly used in topical form these days

c. Women with uterus need addition of progestin

d. There is definite evidence of some improvement in symptoms of Alzheimer’s disease with postmenopausal HRT.

Q.8. A 72-year-old lady presented with recurrent episodes of dizziness. She is only on tablet metoprolol for hypertension for past 10 years. Except for mild sensorineural deafness in left ear, she has no other specific symptoms. She had lost her husband recently due to cancer, after a happy married life of nearly 50 years. Clinically, she is normotensive with slight bradycardia and no neurological deficit. Her resting ECG shows heart beat rate of 56/minute, but is otherwise normal.

What would be the next appropriate step in her management:

a. Start her on tablet betahistine, vestibular exercises and call her for follow-up after 1 month.

b. Change metoprolol to other suitable antihypertensive, request general physician to monitor her BP and pulse rate and call her for follow-up after 1 month.

c. Send her for Holter monitoring.
d. Send her for Tilt test.  
e. Refer to psychiatrist for thorough evaluation.

Q.9. European Medicines Agency (EMA) has recently recommended withdrawal of which antosteoporotic agent, due to links with various types of cancer?  
a. Risedronate  
b. Alendronate  
c. Intranasal calcitonin  
d. Raloxifene.

Q.10. Teriparatide is an anabolic agent approved for postmenopausal and male osteoporosis. What is the maximum safe duration recommended for this drug?  
a. Two years  
b. Three years  
c. Four years  
d. Five years.

Q.11. Denosumab is a new antiresorptive agent for osteoporosis, a human monoclonal antibody directed against Receptor Activator of Nuclear Factor Kappa-B Ligand (RANK-L). Which of the following statements are true about this drug?  
a. This is given by intravenous route.  
b. Recommended dose is 6 mg once a year for 2 years.  
c. Eczema and cellulitis are main adverse effects.  
d. Skeletal accumulation of the drug can be problematic.

Q.12. Which of the following statement about the drug memantine is true?  
a. This is used mainly in mild-to-moderate stages of Alzheimer’s disease.  
b. This is generally used as a monotherapy for Alzheimer’s disease.  
c. This normalizes glutamatergic neurotransmission and thus improves cognition.  
d. This increases acetylcholine levels in brain.

Q.13. Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) definition of dementia includes all of the following except;  
a. This is an acquired disorder.  
b. Executive function and multiple domains are affected in dementia.  
c. These affections need not always be severe enough to affect activities of daily living survey (ADLS).  
d. Alertness is always retained in dementia.

Q.14. Which of the following statements are not true about frontotemporal dementia?  
a. This has more behavioral and language function problems than memory loss  
b. This may be familial  
c. This is known in motor neuron disease  
d. Donepezil can be used to treat this type of dementia as well.

Q.15. Which of the following statements is not true about “mild cognitive impairment” (MCI) in older persons?  
a. This is associated with memory loss only  
b. This can be drug induced  
c. This is seen more frequently in people who are worried and depressed  
d. Treatment with cholinesterase inhibitors is usually needed to prevent further cognitive deterioration.

Q.16. What is the diagnosis?

Q.17. A 70-year-old lady presented with severe headache of short duration. Except for slight nausea, she had no other specific symptoms. She was on antihypertensive, oral antidiabetics and calcium supplements. On examination, she was apyrexial, BP was 140/80 mm Hg, mentation was clear; plasma glucose was 160 mg/dL. Her fundus was normal. There was no neck stiffness or any other focal neurological deficit. Other systems were normal. Routine work-up showed normal hemoglobin, mild leucocytosis and normal renal function. Electrocardiogram (ECG) showed left ventricular hypertrophy (LVH). Magnetic resonance imaging (brain) with angiogram well as lumbar puncture were both normal. Patient continued to have persistent headache in spite of strong analgesia. What would be further approach in her management?
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Q.18. What is this investigation and what does it show?

Q.19. Shingles (Zoster) vaccine has become available recently. Which of the following statements about this vaccine is not true?
   a. This is recommended for people above 60 years
   b. This is given as single dose
   c. Vaccine is given by subcutaneous route
   d. Vaccine should not be given to those with previous history of Herpes Zoster or chickenpox

Q.20. Which of the following statements is true about intra-arterial thrombolysis for stroke in older persons?
   a. This therapy can be used for up to 8–10 hours after onset of stroke
   b. Rates of recanalization are lower for occlusions of internal carotid artery or basilar artery than for occlusions of branches of middle cerebral artery
   c. This is definitely superior to intravenous thrombolysis
   d. Use should be avoided in elderly patients in view of risk of fatal hemorrhage

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Q.21. ___________is a strong novel free radical scavenger, used in acute stroke management and in combination with thrombolysis could offer as effective treatment for acute ischemic stroke.

Q.22. ___________vaccine is seen as advancement to pneumococcal polysaccharide vaccine (PPSV) for better protection against pneumococcal disease.

Q.23. Alpha-glycerol phosphorylcholine delivers ___________mg of free choline per 1,000 mg and incorporates choline into brain phospholipids in just _____hours.