

1

Which of the following is true regarding tension pneumothorax in trauma?

- <sub>1</sub> Caused by blunt trauma to the chest and not by penetrating trauma
- <sub>2</sub> Caused by penetrating trauma to the chest and not by blunt trauma
- <sub>3</sub> Characterized by hypotension
- <sub>4</sub> Develops only after mechanical ventilation

2

A 70-year-old female with asthma is treated with steroids and undergoes ileocecal resection due to cecal perforation. After surgery, she is transferred intubated and ventilated to the ICU and treated with antibiotics and rapid steroid weaning. On the second day of her admission she develops fever of 39.2°C, hypotension, and decreased consciousness. Labs – low glucose levels and hyperkalemia.

Which of the following is the most likely diagnosis?

- <sub>1</sub> Acute hypothyroidism
- <sub>2</sub> Hypovolemic shock
- <sub>3</sub> Acute adrenal insufficiency
- <sub>4</sub> Renal acute tubular necrosis

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**3**

Which of the following is the most common complication following thyroidectomy?

- <sub>1</sub> Recurrent laryngeal nerve injury
  - <sub>2</sub> Superior laryngeal nerve injury
  - <sub>3</sub> Transient hypoparathyroidism
  - <sub>4</sub> Wound hematoma
- 

**4**

A 65-year-old male is admitted with a 3 cm cecal tumor without bowel obstruction.

No distant metastases on CT.

which of the following is the recommended treatment?

- <sub>1</sub> Radiation to decrease the tumor size followed by surgery
- <sub>2</sub> Chemotherapy to decrease the tumor size followed by surgery
- <sub>3</sub> Combination of chemoradiation followed by surgery
- <sub>4</sub> Surgical resection

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**5**

A 45-year-old male undergoes appendectomy due to acute appendicitis. On pathology – an 0.5 cm carcinoid tumor at the distal end of the appendix.

Which of the following is the correct management?

- <sub>1</sub> Right hemicolectomy
- <sub>2</sub> Resection of the cecum only
- <sub>3</sub> FDG-PET scan
- <sub>4</sub> Observation only

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**6**

A 30-year-old female with ulcerative colitis is treated with biological therapy. She is admitted for the past 5 days with disease exacerbation and is treated with high-dose steroids with no improvement.

Despite treatment her pulse is 115/min, fever of 38.5°C, WBC 17,000 and the colon diameter is 7 cm on abdominal X-ray.

Which of the following is the most appropriate treatment?

- <sub>1</sub> Discontinue steroids
- <sub>2</sub> Discontinue biological therapy
- <sub>3</sub> Immediate colonoscopy
- <sub>4</sub> Surgery

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**7**

A 76-year-old male undergoes laparotomy due to small bowel obstruction.

A month later he arrives to the ER complaining of pussy drainage from his surgical scar.

An abdominal CT demonstrates enterocutaneous fistula.

Which of the following may indicate potential spontaneous closure of the fistula?

- <sub>1</sub> Partial small bowel obstruction distal to the fistula
- <sub>2</sub> Long fistula tract (more than 10 cm)
- <sub>3</sub> Fistula output of over 500 ml/24h
- <sub>4</sub> Fistula tract epithelization

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**8**

A 30-year-old healthy female, with no prior admissions or surgeries, arrives to the ER with right upper abdominal pain for the past 24 hours. The pain is accompanied by nausea, without vomiting or fever.

Which of the following signs will confirm the most likely diagnosis?

- <sub>1</sub> Rovsing's sign
- <sub>2</sub> Murphy's sign
- <sub>3</sub> Obturator sign
- <sub>4</sub> McBurney's sign

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**9**

A patient who underwent right hemicolectomy develops prolonged ileus. Labs – sodium 132, potassium 3.1, chloride 80, bicarbonate 42, pH 7.45, pCO<sub>2</sub> 50, pO<sub>2</sub> 85.

Which of the following correctly describes the acid-base disorder?

- <sub>1</sub> Metabolic alkalosis, no compensation
- <sub>2</sub> Respiratory acidosis
- <sub>3</sub> Metabolic acidosis with respiratory compensation
- <sub>4</sub> Metabolic alkalosis with respiratory compensation

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**10**

Which of the following is true regarding large bowel blood supply of the inferior mesenteric vein?

- <sub>1</sub> Drains the right and transverse colon nearing the splenic flexure
- <sub>2</sub> Drains the small bowel before entering the vena cava
- <sub>3</sub> Passes to the left of the ligament of Treitz and drains into the splenic vein
- <sub>4</sub> Drain into the vena cava in proximity to where the artery arises from the aorta

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## 11

Which of the following supports the diagnosis of hypovolemia in a patient that underwent surgery?

- <sub>1</sub> Low urinary sodium level
  - <sub>2</sub> Low urinary chloride level
  - <sub>3</sub> Low serum chloride level
  - <sub>4</sub> High serum sodium level
- 

## 12

Glasgow coma score is used to evaluate the level of consciousness in trauma patients.

It is based on clinical evaluation of three functions and the sum of best response on all three.

Which of the following are the most accurate three responses?

- <sub>1</sub> Pupil response to light, best motor response, presence of pathological reflexes
- <sub>2</sub> Eye opening, best motor response, verbal response
- <sub>3</sub> Pupil response to light, presence of pathological reflexes, response to pain
- <sub>4</sub> Eye opening, verbal response, left-right response asymmetry

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**13**

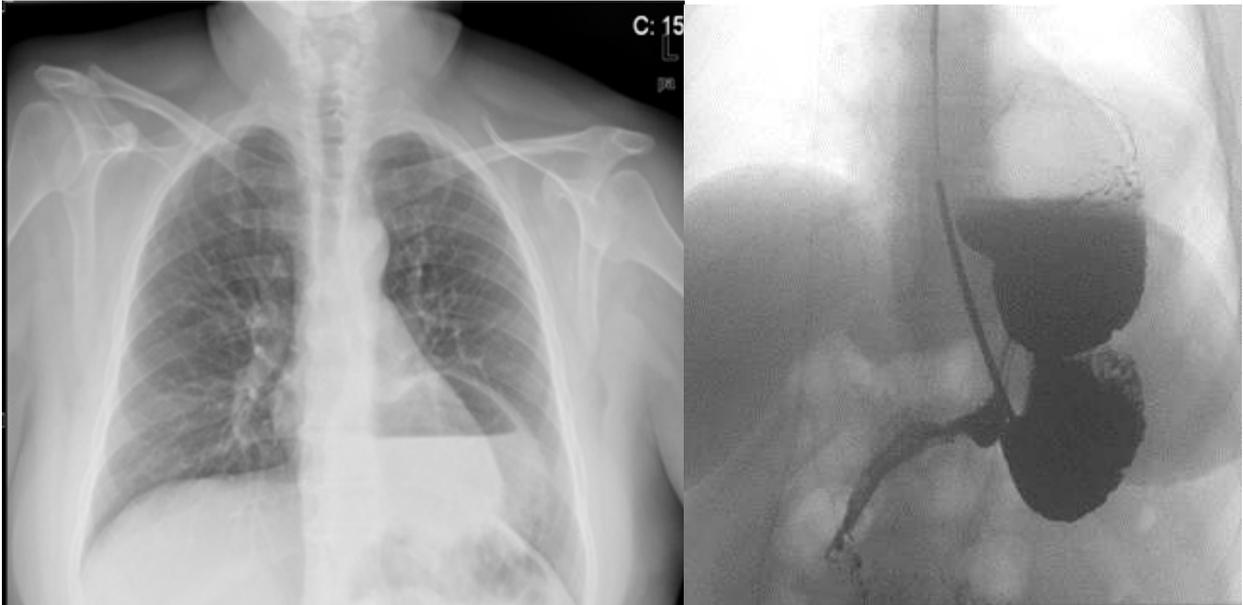
Which of the following is the most common etiology for unilateral breast bloody discharge?

- <sub>1</sub> Paget's disease
- <sub>2</sub> Intraductal papilloma
- <sub>3</sub> Breast carcinoma
- <sub>4</sub> Fibrocystic disease

14

A 60-year-old female is evaluated for anterior chest and epigastric pain that start immediately following meals. Evaluation includes the photos below.

Which of the following is the most likely diagnosis?



- <sub>1</sub> Achalasia
- <sub>2</sub> Reflux
- <sub>3</sub> Esophageal diverticulum
- <sub>4</sub> Para-esophageal hernia

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**15**

Which of the following is associated with the lowest incidence of malignancy?

- <sub>1</sub> Rectal villous adenoma
  - <sub>2</sub> Fibrocystic disease of breast
  - <sub>3</sub> Familial adenomatous polyposis
  - <sub>4</sub> Barrett's esophagus
- 

**16**

A 35-year-old male presents with blunt neck injury during a motor vehicle accident.

Which of the following indicates severe cerebrovascular injury?

- <sub>1</sub> Bruit on neck auscultation
- <sub>2</sub> Decreased lung sounds on the left
- <sub>3</sub> Clavicular fracture on chest X-ray
- <sub>4</sub> Epistaxis

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**17**

Which of the following is the most common symptom combination in gastro-esophageal reflux disease?

- <sub>1</sub> Reflux, regurgitation, epigastric pain, cough
  - <sub>2</sub> Solid intolerance, nocturnal cough, epigastric pain radiating to the back
  - <sub>3</sub> Chest pain, difficulty in alcohol consumption, spicy food intolerance, hiccups
  - <sub>4</sub> Reflux, new asthma onset, cough, diarrhea
- 

**18**

Which of the following is the first compensation mechanism in hypovolemic shock?

- <sub>1</sub> Decreased urine output
- <sub>2</sub> Increase in respiratory rate
- <sub>3</sub> Increased sympathetic activity
- <sub>4</sub> Decreased level of consciousness

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**19**

A 22-year-old male arrives to the ER complaining of severe abdominal pain and lower abdominal tenderness.

Which of the following is the next step in management?

- <sub>1</sub> History and physical examination
  - <sub>2</sub> Abdominal US
  - <sub>3</sub> Abdominal CT
  - <sub>4</sub> Abdominal MRI
- 

**20**

A 42-year-old male arrives to the ER with massive upper gastrointestinal bleeding.

On examination – pale, pulse 110/min, blood pressure 90/60 mmHg. History is positive for severe back pain in the past week, treated with NSAIDs.

Which of the following is the most appropriate next step in diagnosis and treatment?

- <sub>1</sub> Angiography
- <sub>2</sub> Urgent surgery
- <sub>3</sub> Endoscopy
- <sub>4</sub> Abdominal CT

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**21**

A 65-year-old female is admitted due to high fever, chills, and scleral icterus.

Abdominal ultrasound demonstrates choledocholithiasis and bile duct dilation.

Which of the following is the most common causing agent?

- <sub>1</sub> Staph aureus
- <sub>2</sub> Strep pyogenes
- <sub>3</sub> Bacteroides fragilis
- <sub>4</sub> Escherichia coli

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**22**

A 55-year-old female is evaluated for suspected inflammatory breast cancer.

Which of the following is correct?

- <sub>1</sub> The diagnosis is clinically based and there is no need for a breast biopsy
- <sub>2</sub> The diagnosis is ruled out if there is no clear breast mass on palpation or imaging
- <sub>3</sub> The diagnosis is incorrect if short course of antibiotics (1 week) decreases the erythema substantially
- <sub>4</sub> This is an aggressive type of breast cancer and therefore early therapy is important

23

A 78-year-old female arrives to the ER with the following finding in the photo.



Which of the following is the most likely diagnosis?

- <sub>1</sub> Sigmoid volvulus
- <sub>2</sub> Rectal prolapse
- <sub>3</sub> External hemorrhoids
- <sub>4</sub> Internal hemorrhoids

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**24**

A bariatric patient is concerned regarding his chances to die of surgical complications.

Which of the following procedures carries the lowest mortality risk?

- <sub>1</sub> Laparoscopic sleeve gastrectomy (LSG)
  - <sub>2</sub> Laparoscopic adjustable gastric band (LAGB)
  - <sub>3</sub> Roux-en-Y gastric bypass (RYGB)
  - <sub>4</sub> Duodenal switch (DS)
- 

**25**

A 20-year-old female is evaluated by a surgeon after palpating a right breast mass.

On examination – palpable, firm, mobile, 3 cm mass.

Which of the following is most likely?

- <sub>1</sub> Cyst
- <sub>2</sub> Breast carcinoma
- <sub>3</sub> Fibroadenoma
- <sub>4</sub> Hamartoma

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**26**

A 55-year-old male is evaluated for upper abdominal pain and reflux. As part of the evaluation a gastroscopy is performed and a 3 cm ulcer with elevated margins is demonstrated at the larger curvature of the stomach. On multiple biopsies there is no evidence of malignancy. The patient is treated with antacids and helicobacter eradication. Six weeks later another gastroscopy is performed and the ulcer remains unchanged. Repeat biopsies are negative for malignancy.

Which of the following is the most appropriate management?

- <sub>1</sub> Another trial of antacids
- <sub>2</sub> Endoscopic ablation of the ulcer's margins
- <sub>3</sub> Repeat gastroscopy in 6 weeks
- <sub>4</sub> Surgical resection

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**27**

A 74-year-old male who underwent surgery for bowel obstruction develops fever of 38.6°C 2 days later . Room air saturation is 92%, respiratory rate 23/min.

Which of the following is the most likely etiology?

- <sub>1</sub> Postoperative atelectasis
- <sub>2</sub> Bilateral pneumonia
- <sub>3</sub> Pulmonary emboli
- <sub>4</sub> Pneumothorax due to operative mechanical ventilation

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**28**

A 48-year-old female undergoes uneventful laparoscopic cholecystectomy.

On POD 1 her sodium is 125 meq/L.

Which of the following is the most appropriate treatment?

- <sub>1</sub> IV hypertonic saline
- <sub>2</sub> IV 0.9% saline
- <sub>3</sub> Water restriction
- <sub>4</sub> IV furosemide (Fusid)

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**29**

A 61-year-old female arrives to the ER complaining of left lower abdominal pain.

On examination – tenderness with focal guarding. Temperature 38.2°C, pulse 105/min.

Which of the following is the most likely diagnosis?

- <sub>1</sub> Acute appendicitis
- <sub>2</sub> Acute cholecystitis
- <sub>3</sub> Acute pancreatitis
- <sub>4</sub> Sigmoid diverticulitis

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**30**

Which of the following can cause superior mesenteric artery syndrome?

- <sub>1</sub> Radiation induced enteritis
  - <sub>2</sub> Cardiac valve disease
  - <sub>3</sub> Hypothyroidism
  - <sub>4</sub> Rapid weight loss
- 

**31**

Which of the following correctly defines Spigelian hernia?

- <sub>1</sub> Hernia between the rectus muscle and the semilunar line
  - <sub>2</sub> Hernia that protrudes through the pelvic floor
  - <sub>3</sub> Hernia that protrudes through the sciatic foramen
  - <sub>4</sub> Postoperative lumbar hernia
- 

**32**

Which of the following may increase the risk of developing incisional hernia?

- <sub>1</sub> Chronic pulmonary disease
- <sub>2</sub> Coronary heart disease
- <sub>3</sub> Hashimoto disease
- <sub>4</sub> Rheumatic arthritis

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**33**

A 70-year-old healthy male has recurrent episodes of sigmoid volvulus.

Which of the following is recommended after endoscopic decompression?

- <sub>1</sub> Subtotal colectomy
  - <sub>2</sub> Sigmoidectomy
  - <sub>3</sub> Rectal tube insertion only if there is another episode
  - <sub>4</sub> Observation only
- 

**34**

A 55-year-old female is evaluated for UTI infections. During her evaluation an abdominal ultrasound is performed and demonstrates cholelithiasis. The gallstones are asymptomatic and there is no prior history of pancreatitis.

Which of the following is the most appropriate recommendation?

- <sub>1</sub> No need to treat the gallbladder as long as there are no symptoms
- <sub>2</sub> Treatment to dissolve the gallstones
- <sub>3</sub> Cholecystectomy
- <sub>4</sub> Lithotripsy

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**35**

A 62-year-old male undergoes surgery for incarcerated umbilical hernia. During surgery an incarcerated loop of small bowel is reduced into the abdominal cavity. Two days after surgery the patient complains of severe abdominal pain, fever of 39°C, repeat vomiting, systolic blood pressure is 100.

Which of the following is the most likely etiology for his current condition?

- <sub>1</sub> Adhesive bowel obstruction
- <sub>2</sub> Perforation of the incarcerated loop of bowel
- <sub>3</sub> Acute enteritis due to clostridium difficile infection
- <sub>4</sub> Severe surgical site infection

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**36**

Which of the following has the highest risk to develop breast cancer during her lifetime in comparison to the general population?

- <sub>1</sub> Patient diagnosed with breast fibroadenoma
- <sub>2</sub> Patient with early menopause
- <sub>3</sub> Patient with atypical ductal hyperplasia on breast mass biopsy
- <sub>4</sub> A 45-year-old patients with fatty breast

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**37**

Which of the following correctly characterizes femoral hernia anatomy?

- <sub>1</sub> Femoral vein is lateral to the hernia
  - <sub>2</sub> Iliopubic tract is lateral to the hernia
  - <sub>3</sub> Cooper's ligament is lateral to the hernia
  - <sub>4</sub> Inguinal ligament is posterior to the hernia
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**38**

A 28-year-old healthy male complains of inguinal pain following exertion.

On examination - palpable and tender inguinal mass.

Which of the following is the most likely diagnosis?

- <sub>1</sub> Infectious lymphadenopathy
- <sub>2</sub> Lymphoma lymphadenopathy
- <sub>3</sub> Inguinal artery aneurism
- <sub>4</sub> Incarcerated hernia

39

A 50-year-old male is evaluated for elective inguinal hernia repair. He has diabetes that is controlled by diet only.

Which of the following is recommended prior to surgery other than measuring his glucose level?

- <sub>1</sub> Treat with regular insulin if glucose levels are above 140 mg/dL
- <sub>2</sub> Measure HbA1c prior to surgery
- <sub>3</sub> Treat with metformin three days before surgery
- <sub>4</sub> Treat with IV insulin an hour before surgery

40

An 83-year-old female arrives to the ER complaining of abdominal pain and vomiting.

No prior history of abdominal surgeries. On examination – distended abdomen without focal tenderness.

Labs – WBC 13,000. Below is her abdominal X-ray.



Which of the following is the most likely diagnosis?

- <sub>1</sub> Small bowel perforation
- <sub>2</sub> Sigmoid volvulus
- <sub>3</sub> Small bowel volvulus
- <sub>4</sub> Acute pancreatitis

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**41**

Which of the following is a clinical symptom of short bowel syndrome?

- <sub>1</sub> Morbid obesity
  - <sub>2</sub> Electrolyte imbalance
  - <sub>3</sub> Increased incidence of fecal impaction
  - <sub>4</sub> Chronic constipation
- 

**42**

A 31-year-old male arrives to the ER with left upper quadrant abdominal pain, fever of 39.3°C, and chills. Abdominal ultrasound demonstrates a 5 cm fluid collection in the spleen – suspicious of an abscess.

Which of the following is the most appropriate treatment on top of antibiotics?

- <sub>1</sub> Percutaneous abscess drainage
- <sub>2</sub> Laparoscopic splenectomy
- <sub>3</sub> Open splenectomy
- <sub>4</sub> IV high-dose steroids

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**43**

A 40-year-old female arrives to the ER during Yom Kippur fasting with dizziness, fatigue, tremor, and seizures. Labs – glucose 40 mg/dl.

Which of the following is the most likely etiology?

- <sub>1</sub> Insulinoma tumor
  - <sub>2</sub> Glucagonoma tumor
  - <sub>3</sub> New onset of untreated type 1 diabetes
  - <sub>4</sub> New onset of untreated type 2 diabetes
- 

**44**

A 30-year-old male with symptomatic inguinal hernia is a candidate for surgical repair.

Which of the following will substantially reduce the risk of hernia recurrence?

- <sub>1</sub> Surgery using fully absorbable mesh
- <sub>2</sub> Surgery using nonabsorbable mesh
- <sub>3</sub> Open surgery without a mesh
- <sub>4</sub> Laparoscopic surgery without a mesh

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**45**

A healthy 30-year-old pregnant female is on her third trimester and is diagnosed with deep vein thrombosis of the right femoral vein.

Which of the following is the recommended treatment until delivery?

- <sub>1</sub> Aspirin
  - <sub>2</sub> SC low molecular weight heparin
  - <sub>3</sub> Oral warfarin
  - <sub>4</sub> IVC filter
- 

**46**

Which of the following is a basic rule in trauma patient treatment according to the ATLS?

- <sub>1</sub> First treat what you best understand in treating
- <sub>2</sub> History taking is essential to trauma patient treatment
- <sub>3</sub> Accurate diagnosis is not essential to the treatment
- <sub>4</sub> Arriving to the OR takes priority before diagnosis

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**47**

In which of the following enteral feeding should be considered?

- <sub>1</sub> Pancreatitis with hemodynamic instability
  - <sub>2</sub> Small bowel obstruction
  - <sub>3</sub> Sepsis with hemodynamic instability
  - <sub>4</sub> Enterocutaneous fistula
- 

**48**

A 30-year-old male is injured in his abdomen during a fight. On admission to the ER he complains of upper abdominal pain. Blood pressure is 110/72, pulse 90/min, room air saturation 96%. Abdominal CT demonstrates a 3 cm laceration at the right liver lobe with mild amount of free fluid (blood).

Which of the following is the most appropriate treatment?

- <sub>1</sub> Laparotomy with packing below and above the liver
- <sub>2</sub> Angiography with right liver embolization
- <sub>3</sub> Laparoscopy with right hepatic artery ablation
- <sub>4</sub> Observation in the ICU

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**49**

A 27-year-old male is admitted to the ER due to severe epigastric pain following excessive alcohol consumption. On examination – alert and vital, without fever. Labs – amylase 10 times the upper limit. Abdominal CT – pancreatic edema and stranding of the fat around it without free air.

Which of the following is the next step in management?

- <sub>1</sub> Immediate surgery
- <sub>2</sub> Ampicillin + gentamycin
- <sub>3</sub> Ampicillin + gentamycin + metronidazole
- <sub>4</sub> IV fluids without antibiotics

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**50**

A 64-year-old male undergoes colectomy due to acute diverticulitis. 5 days later the patient complains of pain at surgical wound with large amount of serosanguinous fluid secretion arising from the depth of the incision site.

Which of the following is the most likely diagnosis?

- <sub>1</sub> Superficial surgical site infection
- <sub>2</sub> Intrabdominal hematoma that drained to the skin
- <sub>3</sub> Wound eventration
- <sub>4</sub> Normal postoperative course after such procedure

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**51**

Which of the following valvular disease is most common in patients with ankylosing spondylitis?

- <sub>1</sub> Tricuspid regurgitation
- <sub>2</sub> Aortic regurgitation
- <sub>3</sub> Mitral stenosis
- <sub>4</sub> Pulmonic stenosis

52

A 70-year-old male has diabetes induced end stage renal disease (ESRD) and is regularly treated with hemodialysis. He arrives to the ER with the following finding.



Which of the following medications is most likely the etiology?

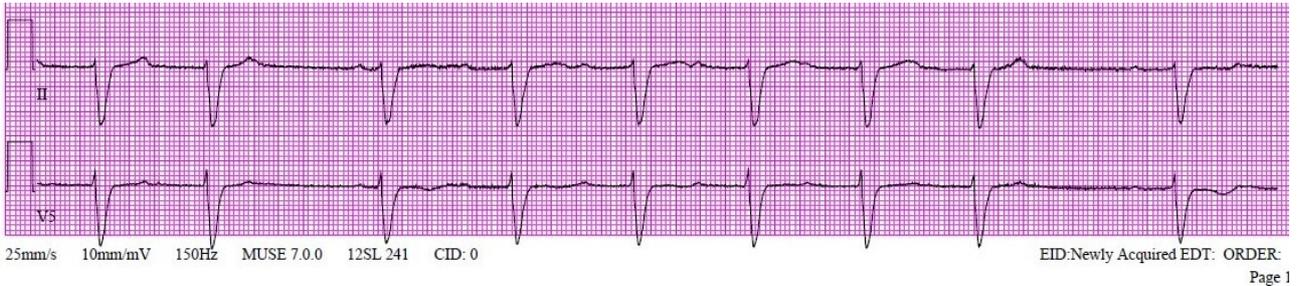
- <sub>1</sub> Clexane
- <sub>2</sub> Aspirin
- <sub>3</sub> Warfarin
- <sub>4</sub> Clopidogrel

53

A 24-year-old healthy male who runs marathons arrives to the clinic for routine check-up.

No abnormal findings, pulse 56 bpm, blood pressure 120/80 mmHg.

Below is his ECG.



Which of the following correctly describes the ECG finding?

- <sub>1</sub> Normal sinus rhythm
- <sub>2</sub> Mobitz type II second degree atrioventricular block
- <sub>3</sub> Mobitz type I second degree atrioventricular block
- <sub>4</sub> Third degree atrioventricular block

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**54**

Which of the following malignancies is most common after kidney transplantation?

- <sub>1</sub> Lung cancer
  - <sub>2</sub> Parathyroid cancer
  - <sub>3</sub> Urinary bladder cancer
  - <sub>4</sub> Skin cancer
- 

**55**

An 18-year-old male arrives to the ER with several days of intermittent bloody diarrhea. On the day of admission, he also noticed diffuse skin petechiae. On evaluation – hemolytic anemia, thrombocytopenia and renal failure.

Which of the following is the most likely diagnosis?

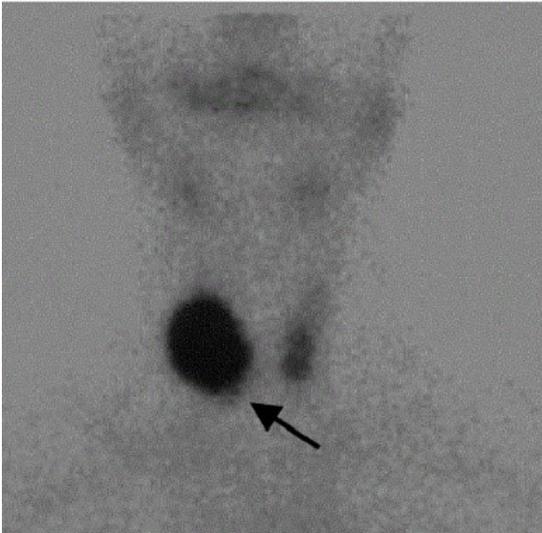
- <sub>1</sub> Dysentery with secondary anemia due to blood loss
- <sub>2</sub> Hemolytic-uremic syndrome
- <sub>3</sub> Immune thrombocytopenic purpura
- <sub>4</sub> Hereditary spherocytosis

56

A 60-year-old male is recently complaining of tachycardia, tremor, and involuntary weight loss.

On examination – large thyroid nodule. TSH 0.07 (0.35-4.98), FT4 8 ng/dl (0.7-1.48),

total T3 280 ng/dl (1.71-3.71). Thyroid scan is below.



Which of the following is the most appropriate next step in management?

- <sub>1</sub> Ultrasound (US) guided fine needle aspiration (FNA)
- <sub>2</sub> High-dose antithyroid treatment
- <sub>3</sub> Surgery to remove the nodule
- <sub>4</sub> Antithyroid treatment followed by radioactive iodine

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**57**

A 35-year-old healthy male is admitted to the ER with general malaise and constant rectal bleeding over the past hour. On admission – pale, blood pressure 80/40 mmHg, pulse 120 bpm, large amount of rectal bleeding. After fluid resuscitation the blood pressures improve.

Which of the following is the most important next step in management?

- <sub>1</sub> Urgent gastroscopy
- <sub>2</sub> Urgent colonoscopy
- <sub>3</sub> Abdominal CT
- <sub>4</sub> Abdominal ultrasound

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**58**

A 29-year-old male complains of recurrent episodes of abdominal pain with lips, tongue, and throat edema.

Which of the following protein deficiencies is associated with this disease?

- <sub>1</sub> C1 esterase inhibitor
- <sub>2</sub> C5A (complement cascade)
- <sub>3</sub> Cyclooxygenase
- <sub>4</sub> IgE

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**59**

A 56-year-old female is admitted with joint pain, significant malaise, and lower extremity purpura.

Evaluation demonstrates peripheral neuropathy and glomerulonephritis. Cryoglobulins test is positive.

Which of the following is the most likely renal injury?

- <sub>1</sub> Acute interstitial nephritis
- <sub>2</sub> Acute tubular necrosis
- <sub>3</sub> Diffuse proliferative glomerulonephritis
- <sub>4</sub> Membranoproliferative glomerulonephritis

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**60**

A 63-year-old female with mitral valve prolapse (MVP) is a candidate for teeth extraction.

Which of the following is the most appropriate prophylactic management?

- <sub>1</sub> Prophylactic antibiotics in all cases
- <sub>2</sub> Prophylactic antibiotics only if she had infective endocarditis in her past
- <sub>3</sub> There is no indication for prophylactic antibiotics in MVP
- <sub>4</sub> Prophylactic antibiotics only if gingivae are involved

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**61**

30-year-old Ethiopian male has congenital heart defect and is a current heavy smoker. He is admitted due to dyspnea and right chest pain. Chest X-ray – moderate amount of right pleural effusion. Pleural aspiration – elevated protein and LDH, large amount of lymphocytes, and elevated adenosine deaminase (ADA).

Which of the following is the most likely pleural effusion etiology?

- <sub>1</sub> Heart failure
- <sub>2</sub> Lung malignancy
- <sub>3</sub> Tuberculosis
- <sub>4</sub> HIV

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**62**

A 65-year-old male with chronic obstructive pulmonary disease arrives to the ER with dyspnea deterioration. He is treated with bronchodilators inhalations, systemic steroids, and antibiotics. On examination - fully alert, cooperative, dyspnea, with respiratory muscles use. Room air saturation is 93%, diffuse wheezes over both lungs. Arterial blood gasses – pH 7.25, PCO<sub>2</sub> 65, HCO<sub>3</sub> 28, PaO<sub>2</sub> 65.

Which of the following is the most appropriate management?

- <sub>1</sub> IV furosemide
- <sub>2</sub> Noninvasive ventilation
- <sub>3</sub> IV magnesium
- <sub>4</sub> IV morphine

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**63**

A 58-year-old female has diabetes and chronic renal disease. She is admitted due to diarrhea, mental status change, and headache for the past 5 days. On examination – nuchal rigidity. Aspiration of CSF demonstrates WBC 800/ $\mu$ L, of which 75% are polymorphonuclear leukocytes, low CSF glucose levels.

Which of the following is the most recommended combination?

- <sub>1</sub> Ampicillin + ceftriaxone + vancomycin
  - <sub>2</sub> Azithromycin + ceftazidime + amphotericin
  - <sub>3</sub> Cefazolin + ciprofloxacin + resprim
  - <sub>4</sub> Ciprofloxacin + amoxicillin-clavulanic acid (Augmentin)
- 

**64**

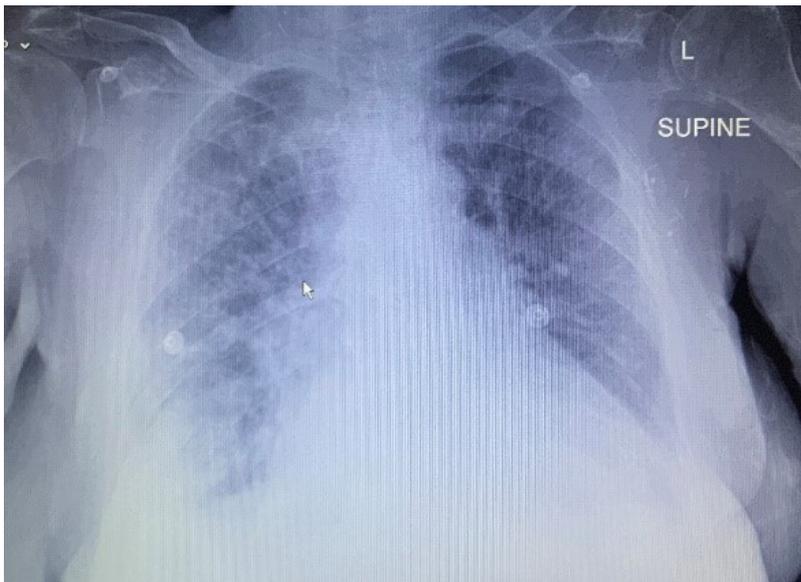
Which of the following is most common in infective endocarditis amongst IV drug abusers?

- <sub>1</sub> Streptococcus viridans over the tricuspid valve
- <sub>2</sub> Streptococcus viridans over the mitral valve
- <sub>3</sub> Staphylococcus aureus over the mitral valve
- <sub>4</sub> Staphylococcus aureus over the tricuspid valve

65

A 69-year-old female with diabetes and hypertension arrives to the ER complaining of dyspnea and palpitations. On examination – fully alert, breaths 30/min, blood pressure 80/40, room air saturation 85%, bilateral diffuse inspiratory rales on lung auscultation, and rapid atrial fibrillation on ECG.

Below is her chest X-ray.



Which of the following is the most appropriate management (on top of supportive treatment for pulmonary edema)?

- <sub>1</sub> Transesophageal echocardiography (TEE)
- <sub>2</sub> Immediate synchronized cardioversion
- <sub>3</sub> IV beta blockers
- <sub>4</sub> IV digoxin loading

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**66**

A 51-year-old male is evaluated for iron deficiency anemia. Hemoglobin 10, MCV 74, denies gastrointestinal or any other source of bleeding. Occult blood test is positive.

Which of the following is the most appropriate next step?

- <sub>1</sub> Gastroscopy and colonoscopy
  - <sub>2</sub> No further work-up is needed due to lack of symptoms
  - <sub>3</sub> Video capsule
  - <sub>4</sub> Tagged erythrocyte scan
- 

**67**

A 28-year-old male with Crohn's disease has extra-intestinal manifestations. He arrives to the ER complaining of diarrhea, abdominal pain, and weight loss over the past several weeks. He is treated with systemic steroids that result with intestinal symptoms improvement.

Which of the following extra-intestinal manifestation is correlated with the bowel disease?

- <sub>1</sub> Sacroiliitis
- <sub>2</sub> Nephritis
- <sub>3</sub> Peripheral arthritis
- <sub>4</sub> Myocarditis

---

**68**

A 42-year-old healthy female is admitted due to scleral icterus and pruritus. On examination – scleral icterus and skin jaundice. No other abnormal findings. Labs – AST 35 (normal 5-40), ALT 40 (normal 14-63), ALKP 230 (normal 30-150), GGT 170 (normal 5-60), bilirubin 5 (normal <1), direct bilirubin 4. Normal abdominal ultrasound without bile duct dilatation, ANA negative, normal IgG, increased IgM.

Which of the following is the most appropriate next diagnostic step?

- <sub>1</sub> Liver biopsy
- <sub>2</sub> Serum Antimitochondrial antibodies
- <sub>3</sub> Colonoscopy
- <sub>4</sub> Abdominal CT

---

**69**

A 65-year-old male with new diagnosis of chronic lymphocytic leukemia is asymptomatic with leukocytosis and significant lymphocytosis on CBC. Hemoglobin, RBCs, and platelets are normal. No lymphadenopathy and no hepatosplenomegaly on total body CT.

Which of the following is the most appropriate management in this stage?

- <sub>1</sub> Urgent chemotherapy due to leukemia
- <sub>2</sub> Urgent antibiotic treatment prior to any other treatment because leukocytosis suggests acute infection
- <sub>3</sub> Urgent bone marrow transplantation to give the patient the best chance to heal
- <sub>4</sub> Follow-up only

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**70**

An 85-year-old female complains of general malaise and dyspnea. Past medical history is positive for depression. She lives alone and eats mainly bread and tea. On examination – cachexia with no neurological deficit. Labs – Hb 8.7 g/dl, MCV 108, Blood smear – neutrophil hypersegmentation and macro-ovalocytes.

Which of the following is the most likely diagnosis?

- <sub>1</sub> Iron deficiency anemia
- <sub>2</sub> Hemolytic anemia
- <sub>3</sub> Folate deficiency anemia
- <sub>4</sub> Chronic disease anemia

---

**71**

A 69-year-old male is admitted due to ST elevation myocardial infarction (STEMI) and is treated with primary percutaneous intervention. The following morning, he complains of palpitations, dyspnea, and severe malaise. Sustained ventricular tachycardia is noted on the monitor with blood pressure of 80/50 mmHg.

Which of the following is the most appropriate treatment?

- <sub>1</sub> IV metoprolol
- <sub>2</sub> IV verapamil
- <sub>3</sub> Immediate cardioversion
- <sub>4</sub> IV lidocaine

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72

A 35-year-old male is found to be a factor V Leiden carrier on genetic evaluation.

No previous history of thromboembolic events.

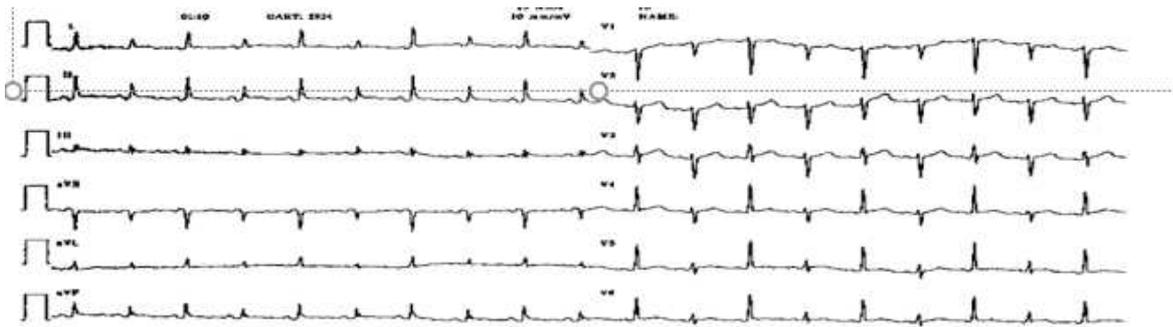
Which of the following is the most appropriate management?

- <sub>1</sub> There is no indication for anticoagulation therapy
- <sub>2</sub> Anticoagulation therapy for 3 months
- <sub>3</sub> Anticoagulation therapy for 6 months
- <sub>4</sub> Lifelong anticoagulation therapy

73

A 60-year-old male with diabetes induced end stage renal failure is treated with hemodialysis 3 times a week. He is now admitted to the ER due to dyspnea and nonspecific chest pain.

On examination - pulse regular 115 bpm, systolic blood pressure 80 mmHg, and jugular vein distention. Enlarged cardiac silhouette on chest X-ray. Below is his ECG.



Which of the following is the most appropriate next step in management?

- <sub>1</sub> Start treatment with aspirin and heparin for myocardial infarction
- <sub>2</sub> Chest CT ASAP to rule out pneumothorax
- <sub>3</sub> Urgent echocardiography and consider pericardiocentesis as needed
- <sub>4</sub> Infusion of 2 liters of saline followed by dialysis

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**74**

A 41-year-old female is evaluated for neck pain. Physical examination is normal except for a left thyroid nodule.

Which of the following is the most appropriate next step?

- <sub>1</sub> Thyroid scan
  - <sub>2</sub> TSH
  - <sub>3</sub> Observation only
  - <sub>4</sub> Thyroid ultrasound and nodule FNA
- 

**75**

An 82-year-old nursing home resident female has dementia and is bed-ridden. She is admitted for evaluation of multiple diarrhea and clostridium difficile (CD) stool testing is positive. Metronidazole is started with no improvement and she continues to have diarrhea with abdominal tenderness. Her blood pressure is 115/70 mmHg, pulse 90 bpm.

Which of the following is the most appropriate next step?

- <sub>1</sub> Stool implantation
- <sub>2</sub> IVIG
- <sub>3</sub> Change treatment to oral vancomycin
- <sub>4</sub> Change oral metronidazole to IV treatment

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**76**

A 24-year-old healthy male is evaluated at the ER for hematuria. He mentions having cough, runny nose, and high fever two days prior to his admission. Upon questioning he also describes two hematuria episodes in the last two years without any other complaints. Urine sedimentation – red blood cell and scarce red blood cells casts. Protein is 900 mg/d on urine collection.

Which of the following is correct?

- <sub>1</sub> ACE inhibitors are an acceptable treatment
- <sub>2</sub> There is no need for renal biopsy to establish the diagnosis
- <sub>3</sub> Disease correlates with hepatitis C virus
- <sub>4</sub> Low complement levels

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**77**

A 42-year-old female complains of flank pain that is attributed to nephrolithiasis. A CT scan in kidney stones protocol is performed and demonstrates a 1.8 cm adrenal mass. The patient is asymptomatic, normal blood pressure, and normal physical examination.

Which of the following is the next step in management?

- <sub>1</sub> Adrenal mass FNA
- <sub>2</sub> Mass excision
- <sub>3</sub> Follow-up with imaging in 6 months
- <sub>4</sub> Hormonal status evaluation

---

**78**

A 32-year-old alcoholic male is admitted with right upper quadrant abdominal pain and fever of 38°C.

On examination – significant jaundice, tender abdomen to palpation.

Labs – bilirubin 5 (normal <1),

PT 15 (normal <13). With suspected acute alcoholic hepatitis his discriminating factor is 23.

Which of the following is the most appropriate treatment?

- <sub>1</sub> Prednisone
- <sub>2</sub> Penicillin
- <sub>3</sub> Furosemide
- <sub>4</sub> Fluids and laboratory follow-up

---

**79**

A 46-year-old male is treated with amphotericin B due to fungal infection. On day five he develops kidney function deterioration.

Which of the following most accurately describes the renal injury?

- <sub>1</sub> Injury does not depend on the dose and length of treatment
- <sub>2</sub> Main mechanism is interstitial
- <sub>3</sub> Polyuria, hypomagnesemia, and metabolic acidosis are common
- <sub>4</sub> Oliguric renal failure and hypercalcemia are noted early in the disease course

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**80**

A 19-year-old healthy female complains of severe fatigue and left upper quadrant abdominal pain.

She was treated two days ago with ceftriaxone and azenil for suspected gonorrhea.

On examination – regular pulse 100 bpm and splenomegaly.

Labs – Hb 5 g/dL with normal WBCs and platelets. Blood smear – multiple reticulocytes.

Which of the following will most likely confirm the diagnosis?

- <sub>1</sub> ADAMTS-13 activity
- <sub>2</sub> Direct antiglobulin (Coombs) test
- <sub>3</sub> G6PD deficiency assay
- <sub>4</sub> Hemoglobin electrophoresis

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**81**

A 32-year-old male has hypertrophic obstructive cardiomyopathy (HOCM).

Which of the following is a risk factor for sudden death?

- <sub>1</sub> Ventricular septum thickness of 16 mm
- <sub>2</sub> Increase of 30 mmHg in blood pressure during stress test
- <sub>3</sub> Loss of consciousness during exercise
- <sub>4</sub> Presence of nonsustained atrial tachycardia on cardiac Holter

---

**82**

A 60-year-old male is sedated and ventilated in the ICU due to pneumonia and septic shock. On the fourth day of his admission he develops hypoxemia and acute respiratory distress syndrome (ARDS) is suspected.

Which of the following wedge pressure values supports the diagnosis of ARDS?

- <sub>1</sub> 20 mmHg
- <sub>2</sub> 30 mmHg
- <sub>3</sub> 8 mmHg
- <sub>4</sub> 16 mmHg

---

**83**

Which of the following is related to hyponatremia and serum antidiuretic hormone (ADH) suppression?

- <sub>1</sub> Central diabetes insipidus
- <sub>2</sub> Liver cirrhosis
- <sub>3</sub> Dehydration
- <sub>4</sub> Psychogenic polydipsia

---

**84**

A 72-year-old female with multiple myeloma is treated with alendronate and complains of right lower jaw pain. On examination – dark lesion at the lower jaw.

Which of the following is the most likely etiology?

- <sub>1</sub> Jaw metastasis
  - <sub>2</sub> Jaw fracture
  - <sub>3</sub> Bone necrosis
  - <sub>4</sub> Fungi disease
- 

**85**

A 25-year-old female is admitted due to deep vein thrombosis of the left lower extremity.

Hypercoagulation evaluation reveals lupus anticoagulant positive.

Which of the following is the most appropriate treatment?

- <sub>1</sub> Aspirin
- <sub>2</sub> Warfarin
- <sub>3</sub> Immunoglobulin (IVIg)
- <sub>4</sub> Plaquenil

---

**86**

A 42-year-old homeless male underwent splenectomy due to trauma 20 years ago.

Immediately after surgery he received the appropriate immunizations but was not under follow-up since then.

He is brought to the ER due to fever of 39.1°C, blood pressure 70/40 mmHg, pulse 130 bpm, dyspnea 30 breaths/min, room air saturation 95%.

Which of the following is the most appropriate initial antibiotic treatment?

- <sub>1</sub> Ceftriaxone & vancomycin
- <sub>2</sub> Ampicillin & amphotericin B
- <sub>3</sub> Clindamycin & gentamycin
- <sub>4</sub> Amoxicillin & Clavulanate

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**87**

A 66-year-old healthy female is admitted due to fever, cough, and dyspnea. On examination – fever 39°C, regular pulse 120 bpm, 20 breaths/min. Chest X-ray – right lobar infiltrate. Corona PCR swab is negative.

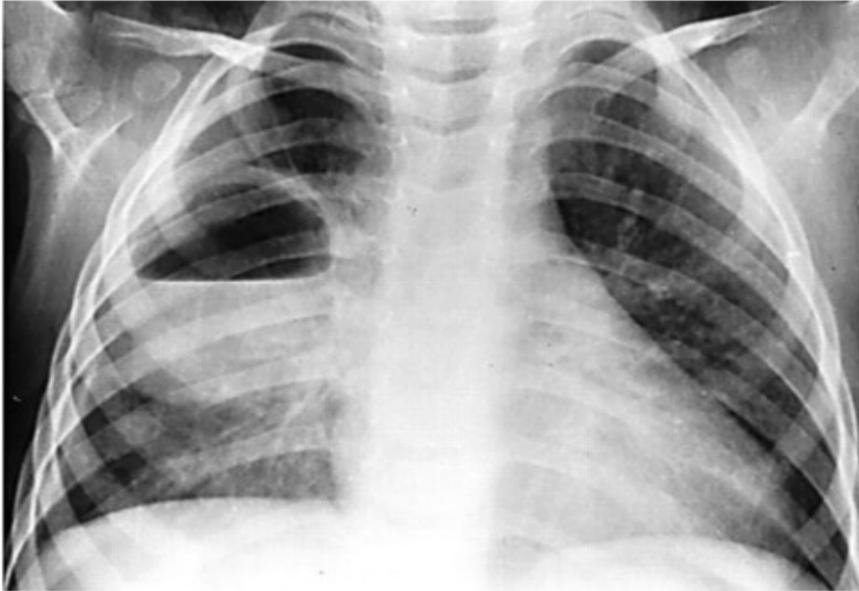
Which of the following is the most appropriate treatment?

- <sub>1</sub> Levofloxacin
- <sub>2</sub> Zinacef
- <sub>3</sub> Vancomycin
- <sub>4</sub> Piperacillin/tazobactam

88

A 55-year-old alcoholic male complains of fever and cough for the past few weeks.

Below is his chest X-ray.



Which of the following is the most likely causative pathogen?

- <sub>1</sub> Pneumococcus
- <sub>2</sub> Peptostreptococcus
- <sub>3</sub> Candida
- <sub>4</sub> Legionella

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**89**

Which of the following drugs is recommended to decrease cardiovascular risk in a patient with type 2 diabetes and low ejection fraction heart failure?

- <sub>1</sub> Empagliflozin (SGLT2 inhibitor)
  - <sub>2</sub> Metformin (biguanide)
  - <sub>3</sub> Rosiglitazone (thiazolidinediones)
  - <sub>4</sub> Glyburide (sulfonylurea)
- 

**90**

A 64-year-old male complains of fatigue, gingival bleeding when brushing his teeth, and low-grade fever. Physical examination is normal except for splenomegaly. CBC – pancytopenia with blasts on peripheral smear. Bone marrow aspiration and biopsy reveals acute promyelocytic leukemia (APL) with t(15.17) (q22;q12) cytogenetic rearrangement.

Which of the following is the recommended treatment?

- <sub>1</sub> Acyclovir
- <sub>2</sub> Rituximab
- <sub>3</sub> Tretinoin
- <sub>4</sub> Sildenafil

91

A 68-year-old male has hypertension, hyperlipidemia, and intermittent claudication.

He is treated with atorvastatin and bisoprolol. Due to uncontrolled hypertension and creatinine of 1.6 mg/dL he is started with Ramipril.

Two weeks w later he is re-examined no evidence of heart failure .

Repeat labs – Na 135 mEq/L, K 5.2 mEq/L, creatinine 3.2 mg/dL, BUN 80 mg/dL.

Urinalysis – specific gravity 1.016, low protein, without blood, ketones, or glucose.

Urine sedimentation is normal.

Which of the following is the most appropriate next step in management?

- <sub>1</sub> Discontinue Ramipril and repeat serum potassium and creatinine
- <sub>2</sub> Renal arteries CT angiography
- <sub>3</sub> Normal saline 0.9% infusion and repeat serum creatinine levels
- <sub>4</sub> Immediate kayexalate and repeat serum potassium and creatinine within an hour

A 75-year-old healthy male describes an episode of syncope in the bathroom during urination.

No seizures or other accompanying signs during the episode.

On examination – supine blood pressure 130/80 mmHg, regular pulse 80 bpm.

After standing for 3 minutes his blood pressure is 124/77 mmHg, pulse 90 bpm, regular.

No other abnormal findings. ECG – normal sinus rhythm.

Which of the following is the most likely etiology for his syncope?

- <sub>1</sub> Orthostatic hypotension
- <sub>2</sub> Primary amyloidosis
- <sub>3</sub> Vasovagal reflex
- <sub>4</sub> Transient ischemic attack

**93**

A 53-year-old female is diagnosed with non-ischemic dilated cardiomyopathy.

Left ventricular ejection fraction (LVEF) is 25%.

Treatment with enalapril and furosemide is initiated with improvement in functional capacity.

Which of the following is the most appropriate management at this point?

- <sub>1</sub> Start carvedilol
- <sub>2</sub> Start atenolol
- <sub>3</sub> Start propranolol
- <sub>4</sub> There is no need for further treatment due to her improvement

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**94**

A 45-year-old male who lives 1100 meters above sea level and smokes 3 packs of cigarettes for the past 20 years, complains of prolonged headache. Hemoglobin levels is 18 g/dL, RBC mass is elevated, serum erythropoietin level is low, and normal oxygen saturation.

Which of the following is the most likely diagnosis?

- <sub>1</sub> Cyanotic heart disease
- <sub>2</sub> Physiological response that is compatible with his residence place
- <sub>3</sub> Polycythemia vera
- <sub>4</sub> Chronic lung disease

---

**95**

A 50-year-old female is admitted with high fever, low blood pressures, and urinary burning sensation. Blood cultures grow *Pseudomonas aeruginosa*.

Which of the following is the most recommended treatment?

- <sub>1</sub> Ceftriaxone
- <sub>2</sub> Trimethoprim-sulfamethoxazole
- <sub>3</sub> Ertapenem
- <sub>4</sub> Ceftazidime

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**96**

An 80-year-old male with diabetes is admitted to the respiratory ICU with severe sepsis.

Which of the following is the most appropriate management?

- <sub>1</sub> Aim for glucose levels of 140-180 mg/dl
- <sub>2</sub> Aim for glucose levels of 80-120 mg/dl
- <sub>3</sub> Treat with SC insulin using basal/bolus method
- <sub>4</sub> Through glucose levels monitoring while continuing oral treatment

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**97**

Which of the following drugs was recently found to be effective on a large randomized study of treatment for giant cell arthritis?

- <sub>1</sub> Adalimumab (anti TNF)
- <sub>2</sub> Imatinib (tyrosine kinase inhibitor)
- <sub>3</sub> Rituximab (monoclonal anti-CD20 antibody)
- <sub>4</sub> Tocilizumab (anti-IL-6 receptor)

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**98**

A 58-year-old male with cirrhosis secondary to hepatitis C has esophageal varices and is now admitted due to bloody vomiting.

All of the following are acceptable treatments, **except**:

- <sub>1</sub> IV octreotide
  - <sub>2</sub> Gastroscopy and varices ligation
  - <sub>3</sub> Fluid and blood products as needed
  - <sub>4</sub> IV albumin
- 

**99**

Which of the following is factor Xa inhibitor?

- <sub>1</sub> Tirofiban
- <sub>2</sub> Dabigatran
- <sub>3</sub> Clopidogrel
- <sub>4</sub> Apixaban

---

**100**

In which of the following non-oliguric acute kidney injury can develop?

- <sub>1</sub> Rhabdomyolysis
  - <sub>2</sub> Antibiotic treatment with amikacin
  - <sub>3</sub> Contrast injection on CT scan
  - <sub>4</sub> Sepsis
- 

**101**

Which of the following is the most common causative agent in osteomyelitis of the spine?

- <sub>1</sub> Staphylococcus aureus
- <sub>2</sub> Streptococcus pneumonia
- <sub>3</sub> Q-fever
- <sub>4</sub> Pseudomonas

---

**102**

A 50-year-old healthy male is working for the past 30 years in cutting marble. He now complains of worsening dyspnea over the last year. Chest CT demonstrates multiple nodules, more prominent at the upper lobes, and calcified eggshell nodules at the hilum.

Which of the following is the most likely diagnosis?

- <sub>1</sub> Silicosis
  - <sub>2</sub> Asbestosis
  - <sub>3</sub> Berylliosis
  - <sub>4</sub> Actinomycosis
- 

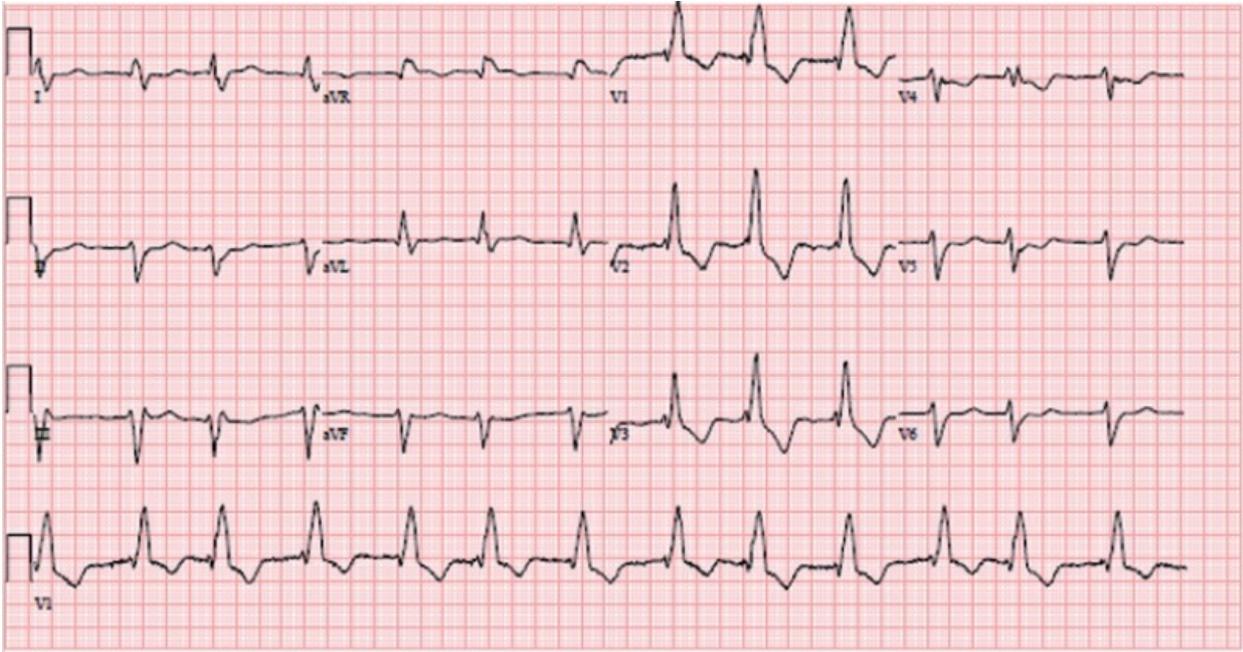
**103**

A 23-year-old female has asthma since childhood. She is without regular treatment and experiences 4-5 attacks per year, mainly during change of seasons. During these attacks she self-medicates with prednisone 40 mg/d for a week with significant improvement.

Which of the following is the most appropriate treatment?

- <sub>1</sub> Permanent long acting beta agonist (LABA) inhalations
- <sub>2</sub> Combined LABA and long acting muscarinic antagonist inhalations
- <sub>3</sub> Combined Inhaled corticosteroids and LABA inhalations
- <sub>4</sub> Prednisone can be continued since there are only 4-5 attacks per year

An 80-year-old male with heart failure with reduced ejection fraction (HFrEF) is currently feeling well. Below is his ECG.



Which of the following is the correct ECG reading?

- <sub>1</sub> Normal sinus rhythm with right bundle branch block (RBBB)
- <sub>2</sub> Complete atrioventricular block with RBBB
- <sub>3</sub> Atrial fibrillation with left bundle branch block (LBBB)
- <sub>4</sub> Atrial fibrillation with RBBB and left anterior fascicular block

---

**105**

A 42-year-old healthy male arrives to the ER with cough, fever of 39.5°C, and malaise. Chest X-ray is normal except for left lobar infiltrate. Treatment with levofloxacin is started but after three days there is no improvement.

Which of the following is the most appropriate next step?

- <sub>1</sub> Change to cefuroxime (Zinacef)
- <sub>2</sub> Obtain stool cultures for suspected abdominal infection
- <sub>3</sub> Immediate chest X-ray
- <sub>4</sub> Await another 72 hours before deciding on treatment modification

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**106**

A 19-year-old healthy male is admitted to Intensive Cardiac Care Unit with the diagnosis of acute viral myocarditis with acute heart failure and moderate left ventricular systolic dysfunction.

Which of the following drugs is most recommended at this stage?

- <sub>1</sub> Ibuprofen
- <sub>2</sub> Ramipril
- <sub>3</sub> Prednisone
- <sub>4</sub> Oseltamivir

---

**107**

An 88-year-old female is admitted due to sepsis of unknown origin. Blood cultures grow extended spectrum  $\beta$ -lactamase (ESBL) *Escherichia coli*.

Serum creatinine is 2 mg/dl.

Which of the following is the most appropriate treatment?

- <sub>1</sub> Ertapenem
- <sub>2</sub> Vancomycin
- <sub>3</sub> Clindamycin
- <sub>4</sub> Ceftriaxone

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**108**

A 70-year-old male with hypertension and history of heavy smoking is admitted for evaluation of dyspnea and peripheral edema. On examination – bilateral jugular venous distention with positive hepatojugular reflux, 2/6 systolic murmur at the left sternal border that is increased by deep breaths, and enlarged liver.

Which of the following is the most likely diagnosis?

- <sub>1</sub> Mitral regurgitation
- <sub>2</sub> Aortic stenosis
- <sub>3</sub> Budd-Chiari syndrome
- <sub>4</sub> Chronic obstructive pulmonary disease

**109**

A 50-year-old female is evaluated for joint pain over the last 3 months that start during early morning and improve during the day. On examination – tenderness and swelling of the bilateral proximal interphalangeal joints 2,3,4. Labs – positive rheumatoid factor (RF) and anti-cyclic citrullinated protein antibodies (anti CCP).

Which of the following is considered disease-modifying antirheumatic drug (DMARDs) in her case?

- <sub>1</sub> Infliximab
- <sub>2</sub> Ibuprofen
- <sub>3</sub> Prednisone
- <sub>4</sub> Colchicine

## 110

A 77-year-old female is referred to the ER with decreased consciousness and hypothermia.

On examination – temperature of 35°C, blood pressure of 130/70, pulse 60 bpm,

saturation of 93% on 4L of oxygen, dry skin, and loss of hair. Chest X-ray - right pneumonia.

TSH level 88 mU/L (normal levels of TSH 0.35-4.98).

Which of the following is the most appropriate treatment on top of antibiotics?

- <sub>1</sub> IV hypotonic fluid
- <sub>2</sub> IV vasopressin
- <sub>3</sub> IV levothyroxine
- <sub>4</sub> IV naloxone