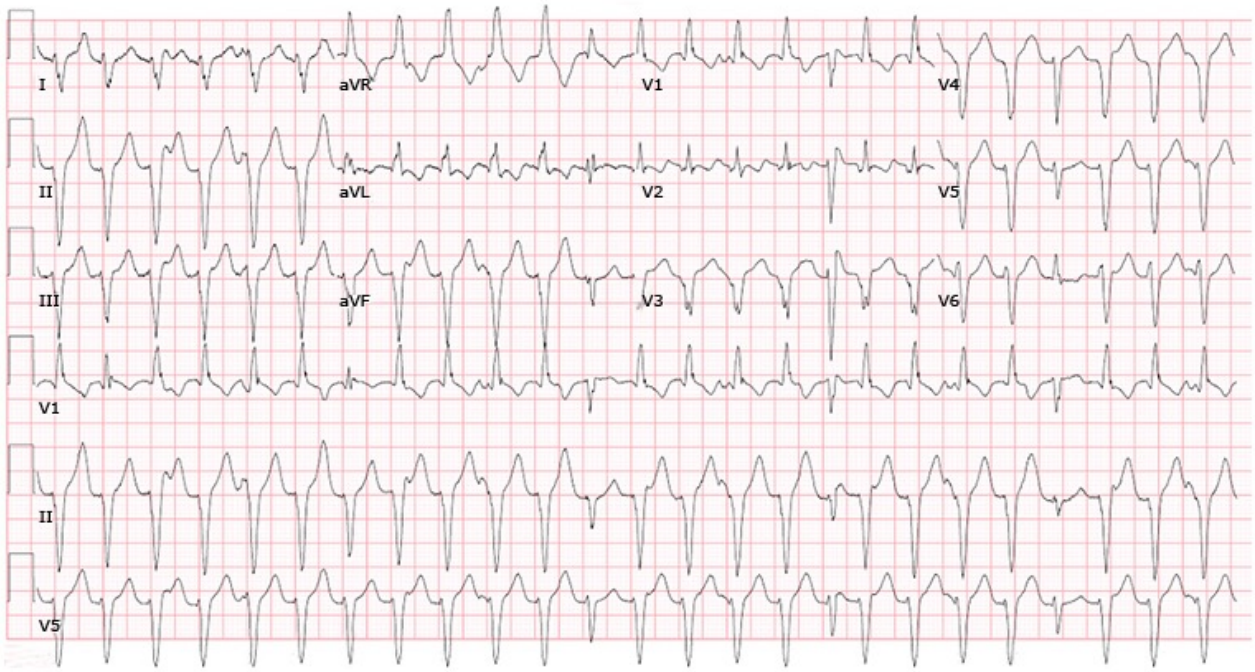
Questions

A 79-year-old woman is evaluated in the emergency department for palpitations, chest pain and dyspnea that have occurred intermittently over the past 48 hours. Her medical history is significant for hypertension, hyperlipidemia, and a prior myocardial infarction. Medications are low-dose aspirin, atorvastatin, bisoprolol and lisinopril.

On physical examination, temperature is 36.8 C, blood pressure is 110/74 mmHg and pulse rate is 150/min that is regular in rhythm. The jugular venous pressure is elevated. Cardiac examination reveals tachycardia. The lung fields reveal diminished air entry and crackles at the bases. The extremities are warm and well perfused with leg edema in both legs.

An electrocardiogram is shown



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

A. Intravenous adenosine
B. Intravenous amiodarone
C. Oral Beta-blocker and anticoagulation
D. Urgent cardioversion

Questions

A 65-year-old gentleman with history COPD, is seen in the clinic for follow up. He has been stable, without any exacerbation for the last six months. He has dyspnea with usual activities. Currently, he is taking albuterol metered dose inhaler twice daily and as needed. The resting oxygen saturation is 93% on room air. The pulmonary function tests demonstrate FEV1 of 55% predicted and FVC of 80% predicted and FEV1/FVC ratio of 50%.

What is the next best step in his management?

A. Initiate a trial of oral steroids for four weeks

B. Initiate treatment with inhaled fluticasone 110 mcg puff twice daily

C. Initiate treatment with inhaled fluticasone 250 mcg puff in combination with inhaled salmeterol 50 mcg/ puff twice daily

D. Initiate treatment with inhaled tiotropium 18 mcg/ puff daily

Questions

A 65-year-old man has a history of hypertension. He presents with sudden onset dysarthria, vomiting hiccup and vertigo .On examination, he has a right sided constricted pupil, drooping of the upper eyelid, right sided cerebellar ataxia, loss of pain and temperature sensation on the right hand side of the face, and loss of pain and temperature sensation in the left upper and lower limbs.

What is the most likely diagnosis?

A. Inferior parietal infarct
B. Lateral medullary infarct
C. Superior temporal infarct
D. Subthalamic nucleus infarct

Questions

A 68-year-old man is hospitalized for an acute onset of edema in his legs and abdomen. History is significant for chronic back pain, for which he takes daily ibuprofen. He has no other symptoms.

On physical examination, vital signs are normal. There is no rash. Cardiac examination is unremarkable with normal estimated central venous pressure. The lungs are clear on examination. Ascites is noted with 3-mm pitting edema of the extremities to the mid-thigh.

Laboratory studies:

	Result	**Reference Range**
Creatinine	256.4 µmol/L	62-115 µmol/L
Albumin	21 g/L	35-55 g/L
Electrolytes	Normal	
Urinalysis	No blood; 4+ protein	
Urine protein-creatinine ratio	7200 mg/g	
24-Hour urine output	1.5 L	

Doppler ultrasound of the kidneys is unremarkable.

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

A. Discontinue ibuprofen and observe

B. Initiate dialysis

C. Schedule a kidney biopsy

D. Start intravenous glucocorticoids

Questions

A 55 years old known diabetic, hypertensive and dyslipidemic, found to have on routine evaluation deranged LFTs. On examination, BMI is 45 kg/m2 and there are no stigmata of chronic liver disease.

	Result	**Normal Range**
AST	95 IU/L	10 – 42 IU/L
ALT	120IU/L	10 – 60 IU/L
ALP	100 IU/L	53 – 128 IU/L
Hepatitis C Screening	Negative	

Ultrasound abdomen shows bright liver.

Which of the following option is likely to halt the progression of his disease?

A. **Weight reduction**
B. Vitamin E
C. Omega 3
D. Pioglitazone

Questions

A 23-year-old teacher with ankylosing spondylitis presents with headache. She has a painful right eye and reports cloudy vision. On examination, the eye is red, photophobic, pupils are small, and the pupillary reflex is sluggish. Although the visual fields are normal, she reports cloudy vision. Recent complete blood counts, basic metabolic panel and liver function tests are normal.

What is the diagnosis?

A. Blepharitis

B. Conjunctivitis

C. Scleritis

D. Uveitis

Questions

A 25-year-old man undergoes follow-up consultation regarding a positive interferon-γ release assay. He reports working for the past year in India and having a negative tuberculin skin test before departing. He is asymptomatic. He has had no known exposure to anyone with a history of tuberculosis. He has otherwise been well and takes no medications.

On physical examination, vital signs and examination are normal.

HIV testing is negative. Posteroanterior and lateral chest radiograph is normal.

Which of the following is the most appropriate treatment?

A. Isoniazid and rifapentine once weekly for 24 weeks

B. Isoniazid daily for 9 months

C. Isoniazid, rifampin, pyrazinamide, and ethambutol for 8 weeks followed by isoniazid and rifampin for 4 months

D. No treatment

Questions

A 59-year-old man known to have diabetes mellitus type 2, started on metformin 500 mg once daily that has been titrated since then to 2 g/day. Despite the patient compliance to diet, exercise and metformin, his latest HbA1c is 8%. His doctor decided to add empagliflozin 10 mg once daily.

What is the mechanism of action of empagliflozin?

A. Increases glucose-dependent insulin secretion

B. Inhibits glucose reabsorption in the proximal tubule

C. Inhibits the enzyme Dipeptidyl peptidase-4 (DPP-4)

D. Inhibits the upper gastrointestinal enzyme alpha-glucosidase

Questions

A 70-Kg man was hospitalized 2 days ago with community acquired pneumonia. During the past 24 hours, he developed worsening respiratory distress, has been intubated, and is now in the intensive care unit. His oxygen saturation is 91 % while he is on mechanical ventilation at 60% fraction of inspired oxygen (FiO2) and 10 cm of positive end-expiratory pressure (PEEP). His current tidal volume is 360mL; respiratory rate is 22 breath per minute; and plateau pressure is 28 cm of water.

Arterial blood gas is as follow

	Result	Normal Range
pH	7.28	7.35-7.45
pCO2	6.8 kPa	> 11 kPa
PO2	7.2 kPa	4-6.5 kPa
HCO3	24 mmol/L	23-29 mmol/

Chest radiograph is obtained

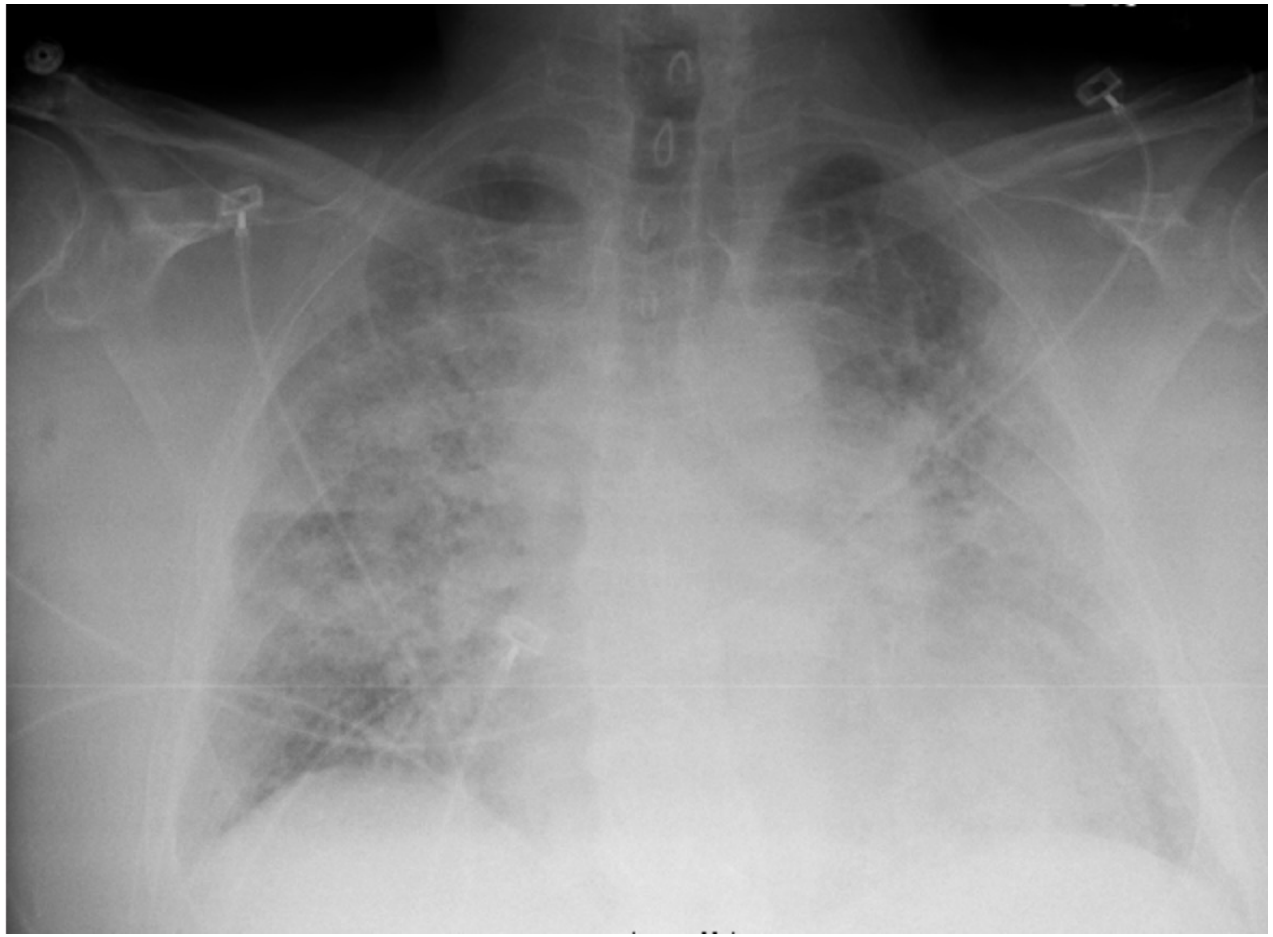
What is the most appropriate next step in the management?

A. Begin prone-position ventilation

B. Increase tidal volume to 420 mL

C. Increase FiO2 to 80%

D. Increase PEEP to 12 cm



Questions

A 56-year-old woman has been treated with 100mcg of levothyroxine daily since being diagnosed with hypothyroidism at 35 years of age. Her thyroid-stimulating hormone levels ranged from 1.2 to 2.6 mIU/L (Reference range, 0.4-4.8 mIU/L. She reports some fatigue that she believes is from hot flashes in the setting of menopause. She has history of hypertension, controlled with the use of hydrochlorothiazide 12.5mg daily. About 6 months ago, she became aware of vitamin recommendations for postmenopausal women and began taking a combined calcium-vitamin D supplement twice daily as well as a multivitamin every morning with her hydrochlorothiazide and levothyroxine. Physical examination reveals a blood pressure of 125/82 mm Hg, a weight of 60kg, and a height of 165 cm. The thyroid is atrophic, but the reminder of the examination is unremarkable. The patient's thyroid-stimulating hormone level is now 16.8 mIU/L.

What is the most likely cause of this patient's increase in thyroid-stimulating hormone level?

A. Change in estrogen level

B. Coadministration of levothyroxine and calcium

C. Drug interaction with hydrochlorothiazide

D. Progression of her hypothyroidism