

- A. Lidocaine
- B. Adenosine
- C. Esmolol
- D. Procainamide

79. A 45-year-old woman with multidrug substance use disorder is found unconscious in a residence. She undergoes intubation in the field and is brought through the ED to the ICU. Her trauma evaluation shows normal extended focused assessment with sonography examination results and no evidence of bony spine injury or thoracoabdominal vascular injury. A head CT scan shows a modified Fisher scale (mFS) of 3 subarachnoid hemorrhage with mild hydrocephalus. Her laboratory test results on admission are shown in Figure 1. An external ventricular drain is placed and shows an initial intracranial pressure of 15 mm Hg, which normalizes with drainage. On physical examination, she has a BP of 220/125 mm Hg, temperature of 37.2°C, and pulse of 115/min. For ventilation, she is receiving pressure support ventilation of 8 cm H₂O, positive end-expiratory pressure of 8 cm H₂O, and F_{IO₂} of 0.30, and she is breathing 19/min. The patient is obtunded and will not follow commands on either side of her body. Her cranial nerve examination results are normal. Her sensory and motor examination results are significant for localizing response to pain bilaterally. She has upgoing toes bilaterally on Babinski testing.

The day after her admission, she remains obtunded but is intermittently agitated requiring restraint and sedatives. Her family cannot be identified. Her hypertension and tachycardia have subsided, her WBC count is now 14,000/μL (14 × 10⁹/L), and she remains afebrile. CT angiography performed in the interim shows an anterior communicating artery aneurysm, decompression of the lateral ventricles, and the findings shown in Figure 2.

What is the most likely cause of her encephalopathy?

WBC	19,000/μL	19 × 10⁹/L
Sodium	135 mEq/L	135 mmol/L
Potassium	3.7 mEq/L	3.7 mmol/L
Chloride	107 mEq/L	107 mmol/L
Carbon dioxide	21 mEq/L	21 mmol/L
BUN	19 mg/dL	6.8 mmol/L
Creatinine	0.8 mg/dL	70.72 μmol/L
Prothrombin time	1 s	1 s
Partial thromboplastin time	34 s	34 s

Figure 1. Lab values.

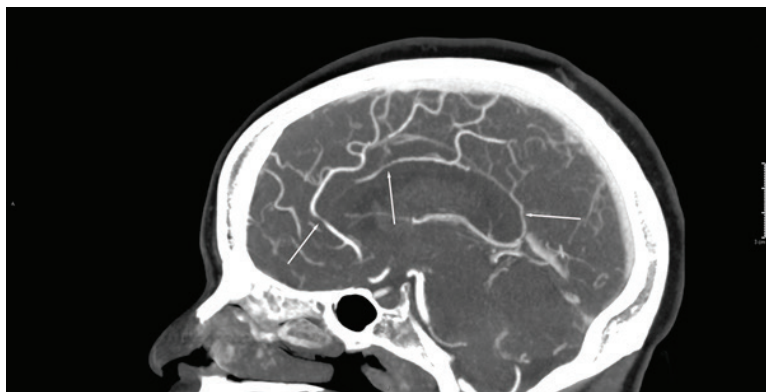


Figure 2. Sagittal view of CT angiogram. Note the arrows for the areas of interest.

- A. Delayed cerebral injury
- B. Cocaine vasculopathy
- C. Increased intracranial pressure
- D. Bacterial ventriculitis

80. A 32-year-old woman, gravida 1, para 0, at 7 weeks' gestation presented to the ED with a week of insomnia and 2 days of nausea and vomiting. Further questioning revealed a 30-lb (13.61-kg) weight loss over the last month. On examination, she was agitated, anxious appearing, awake, alert, and oriented. Her vital signs include a temperature of 39.2°C, heart rate of 159/min, BP of 85/52 mm Hg, respiratory rate of 26/min, SpO₂ of 100% breathing room air, and weight of 51 kg. She had a diffusely enlarged, nontender thyroid, no exophthalmos, and no lid lag. Her lungs were clear to auscultation bilaterally, and she was tachycardic without peripheral edema.

Her laboratory test results are remarkable for a thyrotropin level <0.01 mIU/L (normal range, 0.41-4.81 mIU/L), free thyroxine level of 5.4 ng/dL (69.50 pmol/L; normal range, 0.83-1.90 ng/dL [10.68-24.45 pmol/L]), and free triiodothyronine level of 1,448 pg/dL (22.3 pmol/L) (normal range, 240-420 pg/dL [3.7-6.47 pmol/L]). Her β-human chorionic gonadotropin test result is positive.

What is the best next step in the treatment of the patient?

- A. Methimazole
- B. Propylthiouracil
- C. Saturated solution of potassium iodide
- D. Thyroidectomy

81. A 63-year-old truck driver with a history of type 2 diabetes is transferred from an outside hospital with acute hypoxemic respiratory failure. He admits to significant recent weight loss of unknown cause. Two weeks ago, he developed multiple skin lesions, especially on the lower extremities (Figures 1 and 2). One week ago he developed cough, dyspnea, and fever and was admitted to an outside hospital. Pneumonia was diagnosed, and he was treated with IV ceftriaxone and azithromycin; however, he worsened clinically, requiring transfer to the ICU. Work of breathing increased; he was transitioned to noninvasive ventilation and referred to your hospital. The skin biopsy (Figure 3) and chest radiograph (Figure 4) are shown.

Which of the following is the recommended treatment?



Figure 1.



Figure 2.

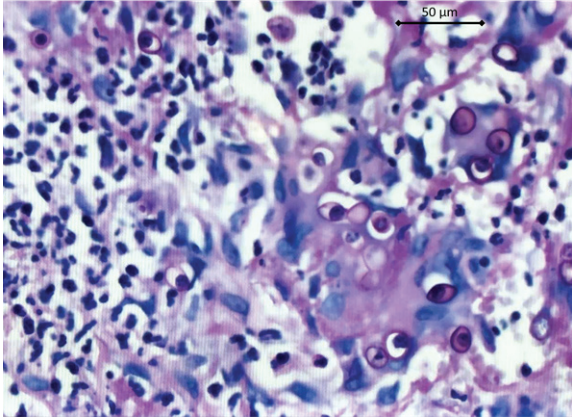


Figure 3.

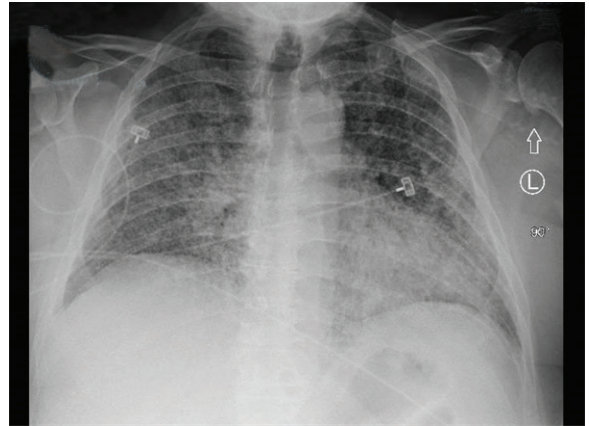


Figure 4.

- A. IV voriconazole until improvement, followed by oral voriconazole
- B. Oral fluconazole
- C. IV liposomal amphotericin B until improvement, followed by oral itraconazole
- D. Oral itraconazole

82. Simultaneous left ventricular and aortic pressures using a high-fidelity micromanometer catheter are shown in Figure 1 on the left, with the left ventricular tracing in green and the aortic tracing in yellow. Simultaneous pressures from a fluid-filled femoral artery catheter and the left ventricle with a pullback into the aorta are shown in Figure 1 on the right, with the ventricular catheter in green and the femoral catheter in yellow. Figure 2 shows only the aortic pressures, measured with a high-fidelity catheter on the left and with a fluid-filled catheter on the right.

Which of the following is correct with respect to these pressure tracings?



Figure 1. Simultaneous left ventricular and aortic pressure measurements using high-fidelity micromanometric catheters on the left, and simultaneous measurements of left ventricular pressure during a pullback into the aorta and femoral artery using fluid-filled catheters on the right.