Name: Severe Sepsis & Septic Shock
Student ID: PHCL 503

NL, a 62 year-old woman (weight = 60 kg), was brought to the emergency department (ED) from a nursing home with presumed healthcare-associated pneumonia. Her medical history is significant for osteoarthritis, GERD and hyperlipidemia. Her vital signs on presentation to the ED were: temperature 102.2°F (39°C), heart rate (HR) = 120 bpm, respiratory rate (RR) 24 breaths/min, and blood pressure (BP) = 70/42 mmHg.

1. Which of the following statements regarding initial fluid therapy in NL is the most appropriate at this time?

    A. If her central venous pressure (CVP) is 14; administer 25g of IV 5% albumin.
    B. If her CVP is 14; administer 1.8 L of 0.9% IV sodium chloride (normal saline).
    C. If her urine output is 20 ml/hr; administer 25g of IV 5% albumin
    D. If her urine output is 20 ml/hr; administer 1.8 L of 0.9% IV sodium chloride (normal saline)

2. After fluid resuscitation, a chest x-ray reveals that NL now has pulmonary edema. The most recent vital signs are: HR= 65 bpm and BP= 83/49 mmHg. The team starts IV dopamine at 10 mcg/kg/min. Thirty minutes later, her BP is 79/51 mmHg and her HR = 110. Which of the following is the BEST therapeutic strategy for NL at this time?

    A. Increase the dopamine infusion rate to achieve a SBP > 90.
    B. Stop dopamine and start a norepinephrine infusion to achieve a SBP > 90
    C. Initiate a vasopressin infusion at 0.04 units/min and titrate the dopamine infusion to achieve a SBP >90.
    D. Stop dopamine and start a phenylephrine infusion to achieve a SBP > 90.

3. Seven hours have elapsed since NL first presented to the ED. Which of the following statements regarding the initiation of antimicrobial therapy in NL is most true?

    A. Wait until NL is transferred from the ED to the ICU to administer broad-spectrum IV antibiotic therapy given that the pharmacy that prepares IV antibiotic therapy is located right beside the ICU.
    B. The Surviving Sepsis Campaign bundle advocates that NL should have received broad spectrum antibiotics within 6 hour of presenting to the ED.
    C. The earlier that NL is administered broad-spectrum IV antibiotic therapy after presenting to the ED, the lower the chance that she will die from her sepsis
    D. Wait to administer broad spectrum IV antibiotics until the results of any sputum culture and/or blood culture results becomes available.

4. NL has now been transferred to the intensive care unit (ICU) and her hemodynamic parameters are normalizing and her vasopressor therapy is being titrated downwards. Her serum blood glucose 1 hr and 4 hrs after admission to the ICU are 213 and 231 mg/dL, respectively. Which of the following interventions is most appropriate for NL at this time?

    A. NL should be started on intensive IV insulin therapy with a target goal for blood glucose of 110-150 mg/dL
    B. NL should be started on metformin 500 mg PO BID

C. NL should be started on intensive IV insulin therapy with a target goal for blood glucose of 80-110 mg/dL.
D. No intervention to manage NL's blood glucose is required at this time.

Correct Answers:

1-D
2-B
3-C
4-A