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Cardiology Rounds
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Catheter Interventions in Massive Pulmonary Embolism

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This issue of *Cardiology Rounds* focuses on prognosis, risk stratification, and reperfusion strategies in patients with massive pulmonary embolism (PE). In particular, the reader will be able to understand indications, modalities, and complications of catheter interventions in these critically-ill patients.

Questions: (only one answer is correct)

1. Which of the following is the strongest clinical predictor of early death in patients with acute PE?
 - a. Age
 - b. Active cancer
 - c. Heart rate at the time of diagnosis
 - d. Arterial oxygen saturation at the time of diagnosis
 - e. Systolic arterial pressure at the time of diagnosis

2. What is the 3-month mortality rate in patients with massive PE and systolic arterial pressure <90 mm Hg at presentation?
 - a. 15%
 - b. 20%
 - c. 35%
 - d. 50%
 - e. 70%

3. In a patient with cardiogenic shock who cannot receive thrombolysis, which measure may rapidly reverse right heart failure?
 - a. Vena cava filter
 - b. High-dose IV unfractionated heparin
 - c. Insertion of a Swan-Ganz catheter for monitoring pressor and fluid therapy
 - d. Rapid infusion of 1000 ml normal saline
 - e. Emergent catheter or surgical embolectomy

4. How many patients, who receive PE thrombolysis, suffer major bleeding in routine clinical practice?
 - a. 5%
 - b. 10%
 - c. 20%
 - d. 30%
 - e. 40%

5. Which of the following fibrinolytic regimens has been approved by the Food and Drug Administration to treat patients with massive PE?
 - a. Urokinase 250,000 units per hour via pulmonary artery catheter
 - b. Continuous IV infusion of 100 mg r-tPA over 2 hours
 - c. Reteplase 10 units IV bolus, followed by 10 units IV bolus after 30 minutes
 - d. r-tPA 10 mg via pulmonary artery catheter
 - e. Reteplase 10 units via pulmonary artery catheter

6. Which of the following is an ideal indication for catheter thrombectomy in patients with acute PE?
 - a. 30-year-old previously healthy patient with cardiogenic shock
 - b. 75-year-old hemodynamically stable patient with profound dyspnea at rest
 - c. 50-year-old patient with cardiogenic shock and one-week postoperative neurosurgery
 - d. 50-year-old patient with paradoxical embolic stroke and atrial septal defect
 - e. 50-year-old patient with cardiogenic shock and free-floating right ventricular thrombus

7. Which of the following is the most serious complication of PE catheter thrombectomy?
 - a. Pericardial tamponade
 - b. Pulmonary artery dissection/perforation
 - c. Distal pulmonary embolization
 - d. Contrast-induced renal failure
 - e. Venous access hematoma

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