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1. Read the article by Mirski *et al.* entitled "Diagnosis and treatment of vascular air embolism" on page 164 of this issue.
2. Review the questions and other required information for CME program completion (published in both the print and online journal).
3. When ready, go to the CME Web site: <http://www.asahq.org/journal-cme>. Submit your answers, form of payment, and other required information by December 31 of the year following the year of publication.

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Purpose: The focus of the journal-based CME pro-

gram, and the articles chosen for the program, is to educate readers on current developments in the science and clinical practice of the specialty of Anesthesiology.

Target Audience: Physicians and other medical professionals whose medical specialty is the practice of anesthesia.

Learning Objectives: After reading this article, participants should have a better understanding of the diagnosis and management of vascular air embolism.

Disclosure Information:

Authors - Marek A. Mirski, M.D., Ph.D., Abhijit Vijay Lele, M.D., Lunei Fitzsimmons, M.D., and Thomas J. K. Toung, M.D.

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CME Article Questions

Based on the article by Mirski *et al.* entitled "Diagnosis and treatment of vascular air embolism" in the January issue of ANESTHESIOLOGY, choose the one correct answer for each question:

1. Which of the following statements concerning the pathophysiology of vascular air embolism (VAE) is *most* likely true?
 - A. Its pathophysiology is determined only by the rate of air entry.
 - B. Its pathophysiology is determined only by the volume of air entry.
 - C. Fatal VAE can occur from a peripheral venous catheter.
 - D. Significant morbidity requires the presence of a right-to-left intracardiac shunt.
2. Which of the following statements concerning the pathophysiology or treatment of vascular air embolism (VAE) is *most* likely true?
 - A. VAE into the pulmonary circulation causes pulmonary hypotension.
 - B. A gas air-lock in the right ventricle can cause cardiovascular collapse.
 - C. VAE is rarely accompanied by an inflammatory response.
 - D. Steroid therapy has no role in the treatment of VAE.

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3. Which of the following electrocardiographic findings are *least* likely to be found with vascular air embolism?
 - A. Right heart strain pattern
 - B. Myocardial ischemia
 - C. ST-T wave changes
 - D. Inverted P waves
4. The risk of vascular air embolism is lowest in which of the following procedures?
 - A. Central line placement
 - B. Spinal fusion
 - C. Hepatic surgery
 - D. Prostatectomy
5. Which of the following maneuvers is *most* likely to help prevent vascular air embolism during the removal of central venous catheters?
 - A. Placing patients in reverse Trendelenburg position
 - B. Synchronization of catheter removal with active inhalation in awake patients
 - C. The application of positive end-expiratory pressure during catheter removal in mechanically ventilated patients
 - D. Use of protective sheaths
6. Which of the following is *most* likely to be an appropriate treatment of vascular air embolism (VAE)?
 - A. Flooding of the surgical field
 - B. Avoidance of cardiopulmonary resuscitation
 - C. Emergent pulmonary artery catheter insertion upon suspicion of VAE to aspirate air
 - D. Administration of blood

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