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Instructions for Obtaining Journal CME Credit

ANESTHESIOLOGY's journal-based CME program is open to all readers. Members of the American Society of Anesthesiologists participate at a preferred rate, but you need not be an ASA member or a journal subscriber to take part in this CME activity. Please complete the following steps:

1. Read the article by Rozet *et al.* entitled "Effect of equiosmolar solutions of mannitol *versus* hypertonic saline on intraoperative brain relaxation and electrolyte balance" on page 697 and the accompanying editorial by McDonagh and Warner entitled "Hypertonic saline for craniotomy?" on page 689 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.

The American Society of Anesthesiologists is approved by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education programs for physicians.

The American Society of Anesthesiologists designates this educational activity for a maximum of 1 *AMA PRA Category 1 Credit*™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

Purpose: The focus of the journal-based CME program, 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 physiology of hyperosmolar therapy and its effect on brain relaxation.

Disclosure Information:

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CME *Article Questions*

Based on the article by Rozet *et al.* entitled "Effect of equiosmolar solutions of mannitol *versus* hypertonic saline on intraoperative brain relaxation and electrolyte balance" and its accompanying editorial by McDonagh and Warner entitled "Hypertonic saline for craniotomy?" in the November issue of ANESTHESIOLOGY, choose the one correct answer for each question:

1. Which of the following statements about the effects of hypertonic saline is *most* likely true?
   A. It crosses the normal blood–brain barrier.
   B. It causes a diuresis.
   C. It reduces brain bulk.
   D. It is recommended for treatment of increased intracranial pressure in traumatic brain injury.

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2. The shared physiologic effects of 20% mannitol and 3% hypertonic saline include all of the following *except*
   A. Reduction in blood cell size
   B. Increase in cerebrospinal fluid sodium concentration
   C. Reduction in cerebrospinal fluid production
   D. Increase in serum osmolality

3. Which of the following statements about the reflection coefficient is *most* likely true?
   A. It measures the relative permeability of a solute through the blood–brain barrier.
   B. Hypertonic saline has a lower reflection coefficient than mannitol.
   C. Drugs that do not penetrate the blood–brain barrier have a reflection coefficient of 0.
   D. The reflection coefficient of sodium indicates it readily crosses the blood–brain barrier.

4. When comparing the effect of administering equivolemic and equiosmolar solutions of 3% hypertonic saline or 20% mannitol on brain relaxation, which of the following statements is *most* likely true?
   A. They produce clinically equal degrees of brain relaxation.
   B. More patients with subarachnoid hemorrhage require an additional dose of hypertonic saline.
   C. More patients with subarachnoid hemorrhage require an additional dose of mannitol.
   D. Mannitol provides better brain relaxation.

5. Which of the following statements about the administration of equivolemic and equiosmolar solutions of 3% hypertonic saline or 20% mannitol is *most* likely true?
   A. Arterial lactate concentrations are greater after hypertonic saline.
   B. Arteriovenous oxygen differences are greater with mannitol.
   C. A stepwise increase in serum potassium occurs with hypertonic saline.
   D. Acute hyponatremia occurs with mannitol.

All tests and requests for Category 1 credit must be submitted through the ANESTHESIOLOGY CME Web site at http://www.asahq.org/journal-cme. Participants should claim credit, in 15-minute increments, for a maximum of 1 hour of CME credit per journal issue (up to 12 credits per year). Two payment options are available:

Per-year fee: ASA Members $60.00, Non-members $90.00
Per-issue fee: ASA Members $10.00, Non-members $15.00

For either option, participants may pay using VISA or MasterCard.

If you have any questions regarding the ANESTHESIOLOGY continuing medical education program, please contact Ellen M. Bateman, Ed.D., Education Specialist, at (847) 825-5586 or via e-mail at e.bateman@asahq.org.