

## Question 9 – Week of January 4

A code is called in the endoscopy unit for emergency management immediately after an endoscopy. The patient, a 50-year-old male, otherwise healthy, with no risk factors for cardiovascular disease, underwent an uneventful endoscopic therapy and developed focal motor seizures of the left side along with a drop in oxygen saturation on pulse oximetry immediately after the procedure. What is the most likely cause of his neurological deficit?

- A. Medication overdose
- B. Air embolism
- C. Hypoglycemia
- D. Thrombosis of right middle cerebral artery
- E. Electrolyte imbalance

**Answer: B**

The possibility of air embolism should be kept in mind when unexpected complications like strokes, seizures, shock state, loss of consciousness, and sudden hypoxemia develop during and immediately after a procedure. CT of the head is an accurate, sensitive, and specific method to establish the diagnosis. Immediate therapy with hyperbaric oxygen is the treatment of choice because it reduces the size of intravascular air bubbles, rapidly relieving arterial occlusion/obstruction. An acutely ill patient should be placed in the left lateral decubitus, head-down position and given 100% oxygen. Institution of hyperbaric oxygen therapy should be considered early, especially in a patient with neurologic deficits that suggest cerebral air embolism. The best outcome is achieved with institution of therapy in the first 5 hours. Even if there is a delay in making the diagnosis, hyperbaric oxygen therapy should still be offered because it is beneficial for up to 30 hours.

### References:

1. Murphy BP, Harford FJ, Cramer FS. Cerebral air embolism resulting from invasive medical procedures: Treatment with hyperbaric oxygen. *Ann Surg* 1985;201:242-5.
2. Raju GS, Bendixen BH, Khan J, Summers RW. Cerebrovascular accident during endoscopy: Consider cerebral air embolism, a rapidly reversible event with hyperbaric oxygen therapy. *Gastrointest Endosc* 1998;47:70-73.