

CASE OF THE MONTH

UNRESPONSIVE MALE

January, 2007

District III EMS Quality Assurance and Improvement

This month's case provides a good review of the approach to the patient with altered mental status. Any questions please feel free to contact me. Thanks,
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Chief Complaint: Respiratory Arrest

Pre-Hospital Course: ALS crew arrives at a nursing home to find a 50 year old male with a history of multiple sclerosis in respiratory distress. Upon arrival the patient was found to be supine on the floor with a nurse providing BVM ventilation. The nurse notes that the patient was having a dressing changed and stopped breathing. The patient had been suctioned without improvement.

The ALS crew noted that the patient had a pulse, moved his eyes in response to voice, was making gasping inadequate respiratory efforts and biting down and not tolerating an oral airway, and appeared slightly blue. Pupils were PERL. Initial vital signs were: Pulse 110, BP unable to obtain, RR 12 with assisted BVM, O₂ sat 89%.

The ALS crew continued to BVM ventilate the patient at 12/min with high flow O₂. The patient was packaged and transported to the ED. IV access was attempted but unsuccessful. During transport the pt became slightly more responsive and had increased spontaneous respirations.

ED Course: The pt arrived in acute respiratory distress with rapid but weak respirations at 24/min alternating with periods of apnea. He was minimally responsive to pain and voice and not following commands. Initial vital signs BP: 115/89, HR 152, RR 24, O₂ Sat 87% on 100% O₂. Pupils were 2mm and sluggish.

Peripheral IV access could not be established until an 18 ga. IV was placed in the left external jugular vein. A finger stick blood glucose of 105 was obtained. The patient was administered 1 mg of Narcan IV and the symptoms resolved: the patient awoke, had normal respirations, was able to follow commands and denied any other complaints. An EKG was obtained that showed new ischemic changes and the pt was admitted to telemetry for observation and to rule out MI.

Diagnosis: Respiratory arrest and altered level of consciousness secondary to opiate overdose, resolved after administration of naloxone.

Quality Review: This 50 year old male patient presented with altered mental status and respiratory arrest/distress. The crew did an excellent job in maintaining the ABCs, providing high flow oxygen and BVM assisted ventilations. As the patient was exhibiting some respiratory effort and biting down on the oral airway it was appropriate not to attempt to place a combi-tube.

Regarding the altered level of consciousness, remember glucose and Narcan. It would have been appropriate to check a finger stick glucose and to contact medical direction for an order to administer D50 (or glucagon IM if no IV access) if the blood sugar level. Similarly, an order could have been requested to administer naloxone IV or by nasal spray. Medical direction might have suggested these actions as well based on the report that was received. If IV access could not be established, narcan could have been administered intranasally. This was a confusing case as the patient did not exhibit the classic signs of opiate overdose (pinpoint pupils and apnea). The clue was the nursing report of the dressing change. The patient had received a large dose of morphine one hour prior to his dressing change and we later learned that this standard dose had just been doubled that day. This case is interesting because the diagnosis was not readily apparent but was obtained by following the standard algorithm for altered level of consciousness.

Especially in the unclear cases, following these standard approaches help us over and over again.

Take Home Message: Follow the standard algorithm for altered level of consciousness, including the routine evaluation of blood glucose level and naloxone administration. The treatment algorithm for the EMT-I is printed below:

Algorithm for Altered Level of Consciousness

Basic

- A. Establish an airway, maintain as indicated, suction as needed; assist ventilations as indicated.
- B. Administer high concentration oxygen.
- C. Transport the patient in the coma/recovery position (if trauma is suspected, transport supine with cervical collar and backboard).

Intermediate

- D. If the patient is **in respiratory arrest**, perform advanced airway management.
- E. Secure IV access.
- F. Perform capillary blood glucose determination.
- G. *If patient's blood glucose level is <80 mg/dl, call medical direction for orders to administer dextrose 50% 25 gm IV in a secure vein for an adult (standing order for paramedics) or 0.5 - 1 gm/kg for a child.*
- H. *Unless patient responded to dextrose administration, contact medical direction for an order to administer 2 mg of naloxone intravenously or intranasally to an adult (standing order for paramedics), 0.01 mg/kg for a child.*
- I. ▲ *Administer thiamine 100 mg IV if dextrose is to be administered.*
- J. ▲ If IV access cannot be secured and the patient's blood glucose level is <80 mg/dl, administer 1 mg glucagon IM.