

Depressed Mental Status – Questions

1. True or False: In 14 year olds, the most common etiology for depressed mental status is infection.
 - a. True
 - b. False
2. An 11 year old girl with a past medical history of Type I Diabetes Mellitus for 3 years presents with increasing lethargy over 6 hours. She is now difficult to arouse. Based on this information, which of the following represents the most likely diagnosis?
 - a. Hypoglycemia
 - b. Sepsis
 - c. Hyperosmolar hyperglycemic state (also known as nonketotic hyperglycemia)
 - d. Diabetic Ketoacidosis
 - e. Intoxication
3. A 3 month old boy presents to the ED with his mother after a first seizure lasting 5 minutes. Patient is difficult to arouse 30 min later. Vital signs normal. On exam there is a non- blanching, oval, flat 2 cm purple area on the left upper chest. Based on the information given, the most likely diagnosis is:
 - a. Meningococemia
 - b. Absence Epilepsy
 - c. Non Accidental Trauma
 - d. Henoch-Schönlein purpura
 - e. Hypoglycemia
4. True or False: MRI with diffusion weighted imaging is the initial test of choice for acutely depressed mental status in children with unclear etiology.
 - a. True
 - b. False
5. A 15 year old male patient presents to the Emergency Department with a history of 12 hours of high spiking fevers, declining mental status and hypotension. On examination the patient's vitals are Temp 40.2C, HR 164, BP 92/64, RR 28, Sat 91% on room air, capillary refill is 4 seconds. The patient is difficult to arouse but will open eyes to sternal rub and moans. His lungs reveal crackles in the bilateral bases with rhonchi in the right lower lung fields with labored respirations. His CV exam reveals a tachycardic rate with a I/VI systolic murmur noted over the left sternal boarder. The abdomen is soft with bowel sounds present and no masses. Neuro exam reveals a patient moving all extremities who withdraws to painful stimuli. Of the following, the most important next step in the management of this patient is to:
 - a. Obtain IV access and Bolus 20 cc/kg NS
 - b. Provide Supplemental Oxygen via 100% NRB and monitor for O2 sat improvement
 - c. Endotracheal Intubation
 - d. Broad Spectrum IV antibiotics
 - e. Obtain an ABG

Depressed Mental Status – Answers

1. **B. False.** Intoxication is most common in 13-16 year olds. In all other age groups, infection is most common.
2. **D. DKA.** This is a type I diabetic 3 years into her disease. Her pancreas does not likely produce sufficient insulin to prevent ketoacidosis (a much smaller amount than is required to prevent hyperglycemia). When insufficient baseline insulin is present the patient will, in a matter of hours, become hyperglycemic and enter ketoacidosis. Hypoglycemia (presumably from excess insulin administration) generally happens over a shorter time period. The patient is not described as having any signs or symptoms of sepsis other than altered mental status and as a type I diabetic, DKA is more likely. Hyperosmolar hyperglycemic state is hyperglycemia (often as high as the 1000s) without ketoacidosis and generally develops more insidiously. It is more common in Type II diabetics who forget their insulin because they do have baseline insulin production from their pancreas which can prevent ketosis but they are too insulin resistant to prevent hyperglycemia. Given the history of type I diabetes, DKA is more likely than intoxication.
3. **C. Non Accidental Trauma.** In children presenting with depressed mental status without a readily identifiable cause, a high index of suspicion for non-accidental trauma must be maintained. A 3 month old with a 5 min long seizure without return to baseline and who has evidence of thumb-sized bruising on the chest is highly suspicious for shaken baby syndrome. A stat head CT is indicated. The lack of fever, hypotension and classic rash make meningococemia less likely. Absence epilepsy would not generally cause a 5 min long seizure with prolonged return to baseline and is rare in this age group. HSP is a systemic vasculitis usually in older children that is characterized by palpable purpura, abdominal pain, arthritis and renal involvement. Hypoglycemia is possible but given the thumb-sized bruise on the chest, non-accidental trauma is more likely.
4. **B. False.** CT scan is the initial test of choice because it is faster and more widely available. MRI with DWI can be useful as an adjunct.
5. **C. Endotracheal intubation.** This patient presents with depressed mental status with a clinical picture of severe septic shock. PALS resuscitation is appropriate. In the assessment of this patient's airway the patient has labored breathing and his GCS is 8 (2 for eyes open to pain, 2 for moaning and 4 for withdrawing to painful stimuli) and he therefore cannot protect his airway. The appropriate next step is to perform and endotracheal intubation.