

Diabetic Emergencies Case 2

A 62 y/o M presents conscious and alert though disoriented to place and time c/o abd pain. There is no gurgling, snoring, or stridor and he is breathing at a normal rate but with deep tidal volume. He has a weak and irregular radial pulse. Pt's wife called EMS, states pt has been "sick" for 2-3 days with nausea, she noticed that today he became confused, pt normally CAOx3 and able to have normal conversation. Pt states only that he has abd pn, is weak and dizzy, is thirsty, and extremely hungry. Pt denies CP, diff brth, syncope, vomiting, or back pn.

Physical Exam Findings:

- HEENT
 - PEARL
 - Ø JVD, Ø tracheal deviation
 - fruity odor noted on breath
- Chest
 - Lung sounds clear/= bilaterally
 - Surgical scar noted over sternum
- Abdomen
 - SNT, no guarding, no rigidity, no masses
- Extremities
 - Sensory, motor, and circulation intact all extremities
 - Poor skin turgor noted
- Skin
 - Dry, warm, pale skin
 - Capillary refill 3 seconds
 - Mucus membranes dry

Vital Signs

- HR = 82 irregular
- BP = 98/50 mmHg
- RR = 18 regular, GTV
- SpO₂ = 97% RA

PMH

- TIIDM
- HTN
- AMI x 3
- 2 vessel CABG
12 years ago

Medications

- Metoprolol
- Procardia
- Glyburide

Allergies

- NKDA

Questions:

1. What is the patient's GCS? **4/4/6 Can assume 6 for motor because there is nothing to suggest otherwise.**
2. Is this patient most likely suffering from hypoglycemia or hyperglycemia? Use the history and clinical exam findings provided to argue your case.
 - **Hypoglycemia**
 - **would expect acute onset, this is not.**
 - **would expect signs of epi release (cool, pale, diaphoretic skin), pt's skin is warm, dry, pale.**
 - **Hypoglycemia is more common with TI diabetics, this patient is a TII.**
 - **Hyperglycemia/DKA**
 - **Is an issue of not enough insulin.**
 - **Body forced to break down fats as fuel source, byproducts include ketones, which are acids.**
 - **Acidosis develops**
 - **Possible fruity odor/acetone (ketones) on breath, none here.**
 - **3 "P's" of hyperglycemia**
 - **Polyuria, polyphagia, polydipsia**
 - **Polyuria leads to dehydration.**
 - **Expect Kussmaul respirations in an attempt to blow off CO₂ to correct acidosis.**

3. Describe the physiologic mechanisms responsible for the patient's symptoms and clinical exam findings.
 - **S/S of dehydration:**
 - **dehydration occurs because of the polyuria associated with osmotic diuresis.**
 - **lots of sugar = sugar cannot be reabsorbed by kidney = sugar in urine = water following sugar into urine b/c of osmotic diuresis.**
 - **Patient pees a lot, becomes dehydrated.**
 - **Also becomes thirsty = polydipsia**
 - **Pt hungry = polyphagia**
 - **polyphagia occurs because the body's cells are screaming out for glucose! Pt is hungry!**
 - **AMS**
 - **AMS occurs because of the electrolyte imbalances and dehydration that occur with massive urine output. Acidosis also contributes.**
 - **Weak & dizzy**
 - **Secondary to dehydration.**
 - **Heart rate of 82/min? We would expect the patient to be tachycardic in response to the dehydration. The answer? Metoprolol, a beta-blocker.**
4. Is the patient in shock? If so, what category, and what stage?
 - **An argument can be made for decompensated hypovolemic shock secondary to fluid loss from the increased urination that is characteristic of hyperglycemia. Decompensated b/c his BP is low. The textbook also talks about "metabolic" shock, a concept/term which can be applied here but is not commonly used in medicine.**
5. List your management plan for this patient.
 - **Call for ALS**
 - **Administer O₂ via NC 2 lpm**
 - **Oral glucose 1 tube (15 g-ish, doses vary)**
 - **POC, consider laying pt flat, he's hypotensive!**
 - **Rapid transport to ED**

6. Identify any medications that may benefit this patient.
 - **Oxygen**
 - **Oral glucose, IF he can follow directions**
7. Describe the indications, contraindications, mechanism of action, dose, route, effects, side effects, and administration technique for any medication you would want to administer. What specific effects will each medication have on the pathophysiology involved?
 - **Oxygen 2 lpm via NC. Well, his RA SpO₂ is 97%, so one could argue that he does not need O₂. However, he has hyperglycemia and altered mental status. Hyperglycemia can lead to circulatory collapse secondary to dehydration, and the electrolyte imbalance can lead to cardiac dysrhythmia. So, good to top him off with O₂ in case things deteriorate.**
 - **Oral glucose 1 tube (15g) oral. The EMT should administer oral glucose because the patient is a known diabetic with AMS. Now, the savvy EMT who knows her stuff can bet on the patient being hyperglycemic, not hypoglycemic, based on the story. But, without the ability to check a blood glucose level the EMT is left with giving oral glucose. The extra bit of sugar will not harm the patient.**