



The Corner

M. Sánchez Martín*

M. Gómez de Pablos Romero**

*Residente de Pediatría del Hospital Universitario La Paz.

**Residente de Pediatría del Hospital Universitario de Móstoles.

23. Diabetic ketoacidosis in the ED

Resident: Hi Dr. Shepherd, I'm seeing a 10-year-old child with trouble breathing. He has already received 3 salbutamol nebulisations and intravenous corticoid. His lungs are clear and his oxygen saturation is 98%, but he still has intercostal retractions. Could you take a look at him please?

Attending: Sure Alice, but first tell me a bit more about him.

Resident: Well, Tom has had a cold for the last three days and he started with breathing difficulty this morning. He hasn't had fever or any other symptoms. His mother denies previous similar episodes or other illnesses.

Attending: OK, let's take a look at him.

Dr. Shepherd takes a look at the patient and presents himself to his mother.

Attending: Good afternoon, I'm Dr. Shepherd, attending physician. My colleague has told me that Tom has had a cold for the last three days and started with trouble breathing this morning. I would like to ask you some questions. Have you noticed if Tom has been more tired lately or if he has lost weight?

Mother: Good afternoon Dr., I'm Jane. Actually yes, Tom has been feeling tired for the past two weeks, but he has been very busy at school. Also, I believe he may have lost some weight, although I didn't think it was important, since he's been eating quite a lot.

Attending: Does it also seem like he has been drinking or peeing more than usual?

Mother: Yes, although I thought it was due to the recent warm weather.

Attending: Alice, with this new information, would you do anything different?

Resident: Yes, I think we should measure his blood glucose level, as it looks like a diabetes onset.

A nurse performs a blood glucose test.

Resident: Dr. Shepherd, Tom's blood glucose is 287 mg/dl. I think this confirms the diagnosis. I'll have him monitored right away. I'll order a ketones in blood test and a blood gas test to see if he has ketoacidosis, and I'll also order a complete blood test with a diabetes autoantibody panel and glycosylated haemoglobin. I'll also make sure that he gets a volume expansion with normal saline right away.

Attending: Great, get back to me with the lab results.

Resident: Dr. Shepherd, we have the first results back: ketones of 4 mmol/L, pH of 7.20, bicarbonate of 10 mmol/L,

BE of -15, sodium of 132, potassium of 3.5, chloride of 96 and anion gap of 29.5 mEq/L. Clearly it's a diabetic ketoacidosis. The patient is now receiving IV fluids and I have started an IV insulin infusion. His vital signs are normal.

Attending: Alright. With those results, can you think of any reason why he may appear to have shortness of breath?

Resident: Yes, I think he may have Kussmaul breathing, which represents the respiratory compensation for metabolic acidosis.

Attending: That's right. So what will you do when you get the rest of the lab results?

Resident: I'll adjust the IV fluids, correct any electrolyte disturbances and monitor his blood sugar and the resolution of ketosis and acidosis. He'll have to be admitted into the hospital to continue treatment and receive diabetes education.

Attending: Very well. Make sure his mother understands all the information.

KEY WORDS

Diabetic ketoacidosis: cetoacidosis diabética.

Trouble breathing/ breathing difficulty/ shortness of breath: dificultad respiratoria.

Lungs are clear (clear lungs): pulmones limpios, sin ruidos patológicos a la auscultación.

Blood glucose level: glucemia.

Diabetes onset: debut diabético.

Blood glucose test: test de glucemia.

Ketones in blood test: test de cetonemia.

Blood gas test: gasometría sanguínea.

Diabetes autoantibody panel: panel de autoanticuerpos de diabetes.

Glycosylated haemoglobin: hemoglobina glicosilada.

Volume expansion: expansión de volumen.

Normal saline: suero salino fisiológico.

IV insulin infusion: perfusión intravenosa de insulina.

Kussmaul breathing: respiración de Kussmaul.

Electrolyte disturbances: alteraciones electrolíticas.



PLAY AUDIO

se puede escuchar en
www.pediatriaintegral.es