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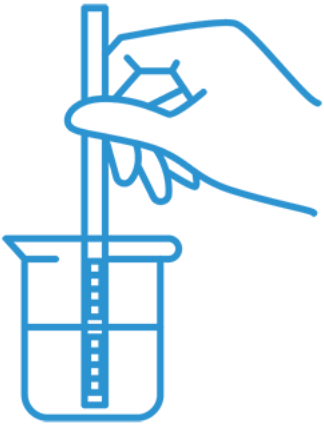

Diabetic Ketoacidosis

micro drip study guide

November 29, 2021

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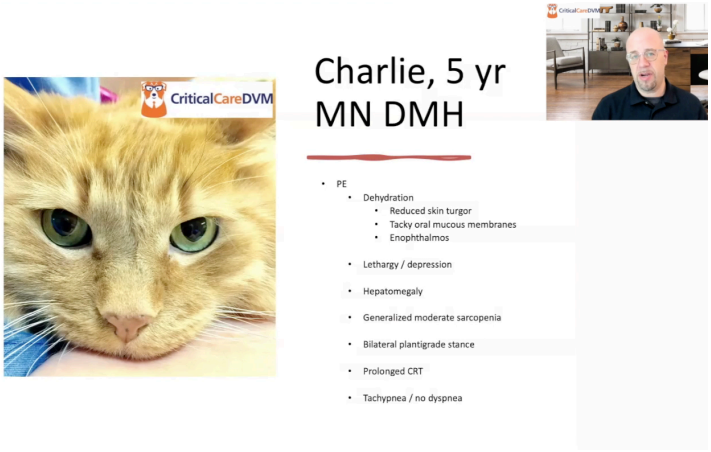
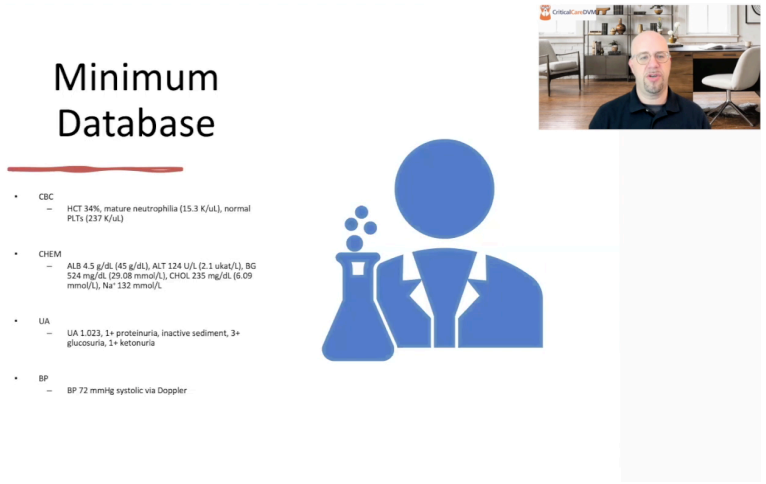
Be advised this document is here to enhance your learning experience and is a cumulative of the slides and transcript & area for your notes. You are welcome to take your notes electronically or print then use it to supplement your learning while watching the drip

So please meet Charlie, five-year-old male, neutered, domestic medium-hair, who has presented with a two-day history of vomiting lethargy. From a historical perspective, they've had him since he was a kitten. He has no previous medical issues, no travel history. But when you start to really ask those important historical questions that we're all used to asking, we learn, well, maybe he's been losing weight and has been PU/PD for three months.



On physical examination, he is dehydrated. He's lethargic. His liver feels bigger than it should, but it's not painful. He's got moderate generalized sarcopenia, or muscle atrophy. He's got that bilateral plantigrade stance that we're always looking for. He's got a prolonged capillary refill time. And he's tachypneic, but there is no perceived dyspnea.

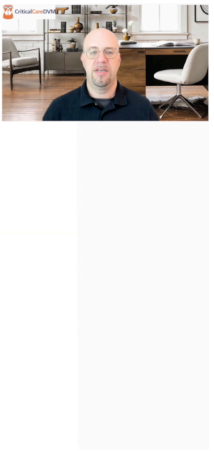


Thankfully, the family allows you to do a minimum database. So you look at your complete blood count--very mild anemia with a mature neutrophilia, no bands; elevated albumin, mildly elevated ALT, very high sugar. I wonder why that is, given we're talking about diabetic ketoacidosis. His cholesterol is also a little bit elevated, and his sodium is a little bit low.

His urine is minimally concentrated at 1.023 with a 1+ proteinuria in an inactive sediment, with 3+ glucose and 3+ ketones. And his blood pressure, via Doppler, is 72.

So the topic at hand is diabetic ketoacidosis. Does Charlie have diabetic ketoacidosis? Well, he has consistent clinical signs. He hasn't been eating, and his blood sugar is high. So he does have fasting hyperglycemia. Similarly, he has fasting glucosuria. That's good. And he has ketonuria. Check. Does he have an acidosis?

Well, we need to check our acid/base status. And I know that doing so may not be within the realm of possibility for some folks, unless you have a Nova machine, or unless you have an i-STAT analysis. But technically, to confirm DKA you've got to do that acid/base status. Otherwise, you can get to the point of DK, and you've got to figure out whether the A is there or not.



So here is venous blood-gas analysis. You can see that he is acidemic, 7.231, with a low bicarb and a low base excess. OK? And now you have to start asking yourself what other tests may be appropriate.