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COURSE: BCH 313(GROUP 2)

Questions:

1. Define the following terms:

1. Ketogenesis
2. Ketonaemia
3. Ketonuria
4. Ketogenesis

2. What are the consequences of ketosis?

3. Write concisely on the management of ketoacidosis.

1.

1. Ketogenesis: Ketogenesis is a biochemical process in which the body produces chemicals known as ketone bodies. Ketone bodies are produced by breaking down fatty acids and ketogenic amino acids. Ketogenesis supplies our organs, especially the brain, heart, and skeletal muscle with needed energy under circumstances (such as fasting).

Insufficient ketogenesis can lead to hypoglycemia, also known as low blood sugar. On the other hand, excessive production of ketone bodies can lead to ketoacidosis, a life-threatening condition that is the result of extremely high levels of ketones and blood sugar.

1. Ketonaemia: This is defined as the presence of abnormally high concentration of ketone bodies in the blood.
2. Ketonuria: Ketonuria is a medical condition in which ketone bodies are present in the urine. It is seen in conditions in which the body produces excess ketones as an indication that it is using an alternative source of energy. It is seen during starvation or more commonly in type 1 diabetes mellitus. Production of ketone bodies is a normal response to a shortage of glucose, meant to provide an alternate source of fuel from fatty acids.

2.

Ketosis is a potentially serious condition in which excessive amounts of ketones accumulate in the body. If the condition is left untreated, it may result in **confusion, unconsciousness, and death.**

3.

Ketoacidosis (AKA Diabetic ketoacidosis) is a rare yet potentially fatal hyperglycemic crisis that can occur in patients with both type 1 and 2 diabetes mellitus. The management for ketoacidosis usually involves a combination of approaches to normalize blood sugar and insulin levels. If a patient is diagnosed with ketoacidosis but hasn’t yet been diagnosed with diabetes, a diabetes treatment plan is created to keep ketoacidosis from recurring. This management happens by:

* Fluid replacement: If possible, they can give them orally, but it may be through an IV. Fluid replacement helps treat dehydration, which can cause even higher blood sugar levels.
* Insulin therapy: Insulin will likely be administered intravenously until the blood sugar level falls below 240 mg/dL. When the blood sugar level is within an acceptable range, the doctor will work to help avoid ketoacidosis in the future.
* Electrolyte replacement: When the insulin levels are too low, the body’s electrolytes can also become abnormally low. Electrolytes are electrically charged minerals that help the body, including the heart and nerves, function properly. Electrolyte replacement is also commonly done through an IV.

Infection can increase the risk of ketoacidosis, so if it is as a result of an infection or illness, it is usually with antibiotics.