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COURSE: BIOCHEMISTRY

DEPARTMENT: MBBS

QUESTIONS

GROUP 2 CATEGORY

1. DEFINE THE FOLLOWING TERMS;

* KETOGENESIS
* KETONAEMIA
* KETOURIA

1. WHAT ARE THE CONSEQUENCES OF KETOSIS?
2. WRITE CONCISELY ON THE MANAGEMENT OF KETOACIDOSIS.

ANSWERS

1. KETOGENESIS: is the biochemical process through which organisms produce ketone bodies through breakdown of fatty acids and ketogenic amino acids. This process supplies energy under circumstances such as fasting or caloric restriction to certain organs, particularly the brain, heart and skeletal muscles.

* KETONAEMIA: Is the presence of abnormally high concentration of ketone bodies in the blood.
* KETOURIA: happens when you have high ketone levels in the urine. This condition is also called KETOACIDURIA. Ketones bodies are types of acids. Your body makes ketones when fats and proteins are burned for energy. This is a normal process. However, it can go into overdrive due to some health conditions and other reasons. If ketone levels rise too long, your blood becomes acidic. This may harm your health.

1. ketosis can be defined as a metabolic state characterized by elevated levels of ketone bodies in the blood or urine. Physiologic ketosis is a normal response to low glucose availability, such as low carbohydrate diets or fasting. That provides an additional energy source for the brain in the form of ketones. In physiological ketosis, ketones in the blood are elevated above baseline levels, but the body’s acid-base homeostasis is maintained. This contrasts with ketoacidosis, an uncontrolled production of ketones that occurs in pathologic states causes a metabolic acidosis, which is a medical emergency. Ketones levels can be measured in blood, urine or breath and are generally between 0.5 and 0.3 millimolar (mM) in physiologic ketosis, while ketoacidosis may cause blood concentrations greater than 10mM.

ketosis is a natural part of metabolism. It happens either when carbohydrate intake is low or when you haven’t eaten in a long time. Both of these lead to reduced insulin levels, which causes fat to be released from your fat cells. When this happens, the liver gets flooded with fats which turns a large part of it into ketones.

During ketosis many parts of your body are burning ketones for energy instead of carbs. This includes large part of the brain.

1. Ketoacidosis otherwise known as diabetic ketoacidosis (DKA) is a rare yet potentially fatal hyperglycemia crisis that can occur in patients with both type 1 and 2 diabetes mellitus. Due to its increasing incidence and economic impact related to the treatment and associated morbidity, effective management and prevention is key.