

Introduction

The human body adapts through starvation by forming ketone bodies for fuel. However, in large amount, ketoacidosis may develop which is a potentially life-threatening metabolic disorder. We present a case of starvation ketoacidosis in a starved young patient.

Case Description

18 years old lady presented with nausea, epigastric pain, loss of weight and appetite for past 3 weeks and recently lethargic with no prior significant history. Patient has been poorly taking orally due to dysphagia. Patient was conscious but tachycardic, cachexic and dehydrated. Blood parameters showed high anion gap metabolic acidosis(HAGMA) with ketosis (4.7mmol/l) but normal glucose (5.6 mmol/l), lactate (1.1mmol/l) and renal profile. Patient was initially started on 0.9% saline infusion upon which the acidosis worsened. Soon, dextrose infusion was initiated and the outcome improved steadily. Gastro referral was imminent.

Discussion

In cases of depleted glucose, the body rewires into metabolizing fats into ketone bodies for fuel. In starvation ketosis, when hepatic glycogen stores are exhausted, usually happens after 12 to 24 hours of total fasting, the liver produces ketone to provide tissue substrate for peripheral tissues. Ketosis can appear after an overnight fast but it typically require 3 to 14 days of starvation to reach maximal severity. It is commonly seen in pregnancy, breastfeeding, malnourished patients, people with eating disorders and some cases of gastric bending. Starvation ketosis are usually mistaken for diabetic ketoacidosis which is more common that which the treatment differs by the insulin. Infusion of dextrose and appropriate replacement of electrolytes with proper monitoring is crucial in treatment of starvation ketosis. Infusion of normal saline maybe unnecessary as it may worsen the acidosis due to its high content of chloride that may lead to hyperchloremic metabolic acidosis.

Conclusion

This case report is a good example to remind clinician to screen for starvation ketosis when a patient presented with unexplained metabolic acidosis. Starvation ketoacidosis is not as common as diabetic ketoacidosis but may be easily missed. Thorough history taking and risk identification of developing starvation ketosis will be helpful in making the diagnosis.

Key Words: Starvation, Ketoacidosis, Dextrose, Fasting

Reference

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