

IS THERE ANY ASSOCIATION BETWEEN FOOD SWEATING AND URINE KETONES?**Muhammad Imran Qadir, Muhammad Asad Abbas***

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ABSTRACT

Objective of the recent study was to find any association between urine ketones and hyperhidrosis sweating. About 100 subjects participated in the recent study held in the institute of molecular biology and biotechnology BZU Multan, Pakistan. Our body normally uses glucose as energy source, glucose is used by brain and muscles for energy. Ketone production is metabolic process occurs during fast and prolonged starvation and diabetes. Ketones in urine is called ketonuria. High number of ketones in urine causes a complication known as diabetic ketoacidosis that may causes coma and death. High level of ketones in blood means high amount of sugar in blood. Sweating occur on face, scalp, forehead etc. This sweating can be very embarrassing. Gustatory sweating may also result from damage to the parotid glands. These glands are largest glands located in cheeks near the external ears and are responsible for the production of saliva. Trauma and surgery can cause nerve damage that can cause gustatory hyperhidrosis. It was concluded that the gustatory sweating is not associated with urine ketones.

Keywords: Ketoacidosis, Gustatory sweating, Parotid glands, Insulin.**NO: OF TABLES: 01****NO: OF REFERENCES: 08**

INTRODUCTION

Ketone bodies are produced by the liver from fatty acids, in normal individuals these fatty acids are metabolized and only small amount appears in urine. Our body normally uses glucose as energy source, glucose is used by brain and muscles for energy. Ketone production is metabolic process occurs during fast and prolonged starvation and diabetes. Ketones in urine is called ketonuria. Ketone bodies are three molecules which include acetoacetate, Beta-hydroxybutyrate and acetone. It is an indication that your body uses fat as energy source. These are sent to muscles and body tissues they use them as energy source. Patient with no diabetes have no serious issue with ketones but individual with diabetes (diabetes 1 and diabetes 2), this condition can be life threatening because things are out of control and body produces high amount of ketone. This means that the body is not getting enough insulin to control the high sugar in blood. Normal number of ketones is 0.6mm/L, moderate urine ketone level is 1.6 to 3.0mm/L and higher than 3.0 is dangerously high level of urine ketone level. Acetoacetate and beta-hydroxybutyrate are found in urine while acetone move out through breath. High number of ketones in urine causes a complication known as diabetic ketoacidosis that may cause coma and death. High level of ketones in blood means high amount of sugar in blood. Signs of ketoacidosis are dry mouth, frequent urination, dry skin, fruity smell from

breath etc. Insulin can be used for lowering the blood sugar. People with no diabetes can develop ketones in urine when they suffer from nausea, vomiting, diet with low carbohydrate, digestive disorder etc. ketoacidosis can be treated with insulin, IV fluids, and sodium, potassium, and chloride electrolytes etc. when ketoacidosis is due to illnesses it can be treated with antibiotics, antivirals.

Food sweating also known as gustatory sweating occur when a person eats spicy food or simply think about food. Sweating occur on face, scalp, forehead etc. This sweating can be very embarrassing. Gustatory sweating may also result from damage to the parotid glands. These glands are largest glands located in cheeks near the external ears and are responsible for the production of saliva. Trauma and surgery can cause nerve damage that can cause gustatory hyperhidrosis. These nerves are mixed and produces sweat instead of saliva. This nerve damage causes sweating on one side of the face, this condition is Frey's syndrome. Patients with diabetes have bilateral sweating, sweating on both sides of face. Treatments are available for gustatory hyperhidrosis. The intake of antiperspirants and the injection Botox can give relief from gustatory hyperhidrosis for several years.

Objective of the present study is to associate gustatory hyperhidrosis with urine ketones (ketonuria).

MATERIALS AND METHODS

Measurement of Ketones in Urine

A urine test was performed to measure the level of ketones in urine. The subject was asked to urinate inside a plastic container. The given test strip was put into the container for a second and removed. Color was changed on strip according to the level of ketones present in urine.

Project Designing

A questionnaire was prepared to study the association between urine ketones and hyperhidrosis sweating. Numerous questions were asked from the students and they were asked to perform urine test for urine ketones analysis.

RESULTS AND DISCUSSION

Association between gustatory sweating and urine ketones is given in table 1.

It was calculated from the table that 27% females with gustatory sweating had negative values for urine ketones and 0% females with gustatory sweating had positive values for urine ketones. 44% females with gustatory sweating had negative values for urine ketones and 5% females with no gustatory sweating had positive values for urine ketones. While 13% males with gustatory sweating had negative values for urine ketones and 0% males with gustatory sweating had positive values for urine ketones. 15% males with no gustatory sweating had negative values for urine ketones and 0% males with no gustatory sweating had positive values for urine ketones.

Table 1: Percentage between gustatory sweating and urine ketones.

KETONES IN URINE	GUSTATORY SWEATING IN FEMALES (YES)	GUSTATORY SWEATING IN FEMALES (NO)	GUSTATORY SWEATING IN MALES (YES)	GUSTATORY SWEATING IN MALES (NO)
	-Ve	27%	44%	13%
+Ve	0%	5%	0%	0%

CONCLUSION

It was concluded that the gustatory sweating is not associated with urine ketones.

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