

Vitamin B₃ (Niacinamide; Nicotinamide) Reduces Urinary Glucose in a Type-2 Diabetes Subject

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Abstract *Vitamin B₃ in the amide form (i.e., niacinamide; nicotinamide) decreased the urinary glucose excretion in a diabetes type-2, 73-year-old, Caucasian male.*

Introduction

The role of vitamin B₃ in control of glucose homeostasis in Diabetes 2 is poorly understood.¹⁻³ Recently, a message from website³ claimed that vitamin B₃ may substantially reduce the glucose blood levels. The aim of this case report was to test the role of vitamin B₃ upon a urinary glucose excretion.

Subjects and Methods

A Caucasian male, 73 years old, active MD, non-smoker, non-alcohol consumer, spending one hour on stretching exercises daily, on a standard mid-European mixed diet, with a height and weight of 178 cm and 75 kg, respectively, presented with a ten-year history of diabetes type-2 (never taking oral or any other antidiabetics). The patient started taking 200 mg vitamin B₃ (Junek GmbH, Austria) in the amide form (i.e., niacinamide; nicotinamide) at midnight, i.e., about three hours after his usual supper meal at about 9:00 PM. One pill contained 100 mg

of niacinamide and was claimed to cover 62% of the Recommended Dietary Allowance. Next morning at 7:00 - 8:00 AM the urinary glucose level was tested by Keto-Diastix (Bayer, Germany) after the stick was exposed 30 second to the urine. The running-up period was nine days and showed a very constant level of urinary glucose identical to the random spot samples taken over the previous year. There were no changes in the diet or lifestyle before, during and after the study.

Results and Discussion

After starting oral niacinamide, the urinary glucose was steadily decreasing for two weeks, and thereafter stayed constantly reduced at these lower levels for the next thirteen days of the study.

The study revealed that a single midnight dose of 200 mg of niacinamide reduced the urinary glucose excretion by half. Under the continuous oral administration, niacinamide stabilized urinary glucose excretion, and

Table 1. Reduction of urinary glucose excretion following the oral administration of 200 mg of niacinamide.

	Urinary Glucose					
	Before Niacinamide			After Niacinamide		
	mmol/L	%	Intensity	mmol/L	%	Intensity
Running-up Jan 28-Feb 4	56(+)	10	+++			
Response period Feb 4-Feb 18						
Follow-up Feb 19-March 4				28(-)	5	++

the results remained unchanged during the subsequent fourteen days of administration. No adverse effects of niacinamide were observed. It should be noted that the suggested therapeutic doses of niacinamide are an order of magnitude greater (3 g/day) compared to those used in this case report.¹

Conclusion

Niacinamide decreased the urinary glucose excretion in a diabetes type-2 subject.

Competing Interests

The authors declare that they have no competing interests.

References

1. Bourgeois C, Cervantes-Laurean D, Moss J: Niacin. In. eds. Shils ME, Shike M, Ross AC, Caballero B, Cousins RJ. *Modern Nutrition in Health and Disease, 10th ed.* Lipincott Williams & Wilkins, Philadelphia, PA. 2006;442-451.
2. Linder MC: Niacin. In. ed. Linder MC. *Nutritional Biochemistry and Metabolism.* Elsevier, New York, NY. 1984;75-77.
3. *From the Desk of David Blyweiss, M.D.* Retrieved from [www.theunisciencegroup.com/real-control/newonline/?campaign=712002].