

Study suggests potential connection between low blood sugar and cardiovascular problems

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Past studies have shown an association between strict control of blood sugar and increased mortality. These studies have also suggested that a consequence of this strict control is low blood sugar (called hypoglycemia), which may have adverse effects on the heart.

In a new study, published by the journal *Diabetes*, researchers examined the effects of hypoglycemia on cardiovascular autonomic control - one system that influences the heart's function. They found that in their experimental model of hypoglycemia, there was a clear change in the body's responses to cardiovascular stress.

"These findings suggest a specific way as to how the cardiovascular system is compromised during episodes of hypoglycemia," says Ajay D. Rao, MD, Assistant Professor of Medicine in the Section of Endocrinology, Diabetes, and Metabolism at the Lewis Katz School of Medicine at Temple University, and first author of the paper.

Hypoglycemia occurs when the level of sugar (glucose) in the blood is too low. Hypoglycemia occurs most often in diabetics who must inject insulin periodically to lower their [blood sugar](#). It also may occur in patients taking pills for diabetes that cause the body to make more insulin.

During the study, healthy volunteers were exposed to experimental hypoglycemia. The volunteers were subjected to specialized testing of the cardiovascular system before and at the end of the experimental

hypoglycemia period. Dr. Rao and his colleagues were able to show that during [hypoglycemia](#), there was a clear derangement in the body's response to changes in blood pressure and heart rate.

More information: Ajay D. Rao et al. Baroreflex Sensitivity Impairment During Hypoglycemia – Implications for Cardiovascular Control, *Diabetes* (2015). [DOI: 10.2337/db15-0871](https://doi.org/10.2337/db15-0871)

Provided by Temple University

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