The leading cause of death for diabetics: Getting to the heart of problem

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Millions of people suffer from type 2 diabetes. The leading cause of death in these patients is heart disease. Joseph Hill and colleagues, at the University of Texas Southwestern Medical Center, Dallas, have now identified, through their work in mice, a potential new therapeutic approach to reduce the prevalence of heart failure and improve the long-term survival of patients with type 2 diabetes.

Although diabetes-associated heart disease is caused by a multitude of factors, it is typified by changes in heart structure and function independent of high blood pressure and disease in the major arterial blood vessels. This condition is known as diabetic cardiomyopathy. The molecular mechanism(s) that links diabetes to cardiomyopathy are not well understood. Hill and colleagues found that FoxO proteins were persistently activated in the heart of mice with a condition that models type 2 diabetes and that FoxO activity was linked with the development of cardiomyopathy. Importantly, deletion of FoxO1 in heart muscle cells markedly reduced the development of cardiomyopathy. These data led Hill and colleagues to conclude that activation of FoxO1 is critical for the development of diabetic cardiomyopathy and suggest that FoxO1 could be a promising therapeutic target for diabetic cardiomyopathy.

More information: www.jci.org/articles/view/6032 … 4d5e9386184f450fc9a2