



PRESS RELEASE

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HEART DISEASE LINKED TO A HIGHER RISK OF KIDNEY FAILURE

Highlights

- In adults followed for a median of 17.5 years, cardiovascular diseases—including heart failure, atrial fibrillation, coronary heart disease, and stroke—were each linked with a higher risk of developing kidney failure.
- Heart failure was associated with the highest risk: adults hospitalized with heart failure had an 11.4-times higher risk of developing kidney failure than individuals without cardiovascular disease.

Washington, DC (January 9, 2020) — New research indicates that cardiovascular diseases—including heart failure, atrial fibrillation, coronary heart disease, and stroke—are each linked with a higher risk of developing kidney failure. The findings, which appear in an upcoming issue of *JASN*, highlight the importance of protecting the kidney health of individuals diagnosed with cardiovascular disease.

The heart and the kidneys have a bi-directional relationship, whereby dysfunction in either may compromise the function of the other. Many studies have investigated the risks of kidney disease on heart health, but few have examined the reciprocal relationship.

To investigate, a team led by Kunihiro Matsushita, MD, PhD and Junichi Ishigami, MD, PhD (Johns Hopkins Bloomberg School of Public Health) examined information on 9,047 US adults who did not have signs of heart disease when they enrolled in a community-based study.

“Many physicians probably recognize that patients with cardiovascular disease are at risk of kidney disease progression, but to my knowledge, this is the first study quantifying the contribution of different cardiovascular diseases to the development of kidney failure,” said Dr. Matsushita.

During a median follow-up of 17.5 years, 2,598 participants were hospitalized with cardiovascular disease—1,269 with heart failure, 1,337 with atrial fibrillation, 696 with coronary heart disease, and 559 with stroke—and 210 patients developed kidney failure.

The incidence of major cardiovascular disease was associated with a higher risk of kidney failure, with the highest risk for heart failure. Participants hospitalized with heart failure had an 11.4-times higher risk of developing kidney failure than participants without cardiovascular disease.

“Individuals with a history of cardiovascular disease should be recognized as a high risk population for kidney failure. In this context, physicians should be aware of cardiovascular disease as an important risk condition, and thereby minimize treatments that are toxic to the kidneys in such individuals,” said Dr. Ishigami. “Additionally, our findings may have implications for monitoring kidney function, although current cardiovascular disease guidelines do not necessarily specify the frequency of evaluating kidney function following the incidence of cardiovascular disease.”

Study co-authors include Logan Cowan, PhD, MPH, Ryan T. Demmer, PhD, MPH, Morgan E. Grams MD, PhD, Pamela L. Lutsey, PhD, MPH, Juan-Jesus Carrero, PhD, and Josef Coresh, MD, PhD.

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The article, entitled “Incidence of major cardiovascular diseases and subsequent risk of end-stage renal disease: the Atherosclerosis Risk in Communities (ARIC) Study,” will appear online at <http://jasn.asnjournals.org/> on January 9, 2020, doi: 10.1681/ASN.2019060574.

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