

Toward a urine test for diagnosing heart disease

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Researchers in Australia are reporting an advance toward the first urine test for diagnosing coronary artery disease (CAD), the condition responsible for most of the 1.5 million heart attacks that occur in the United States each year. The test could save lives in the future by allowing earlier diagnosis and monitoring of the disease, which is the No. 1 cause of death in the United States, the researchers say. Their report is in the Nov. 19, 2008 issue of *ACS' Journal of Proteome Research*.

In the new study, Karlheinz Peter and colleagues note that the most reliable test for diagnosing CAD is angiography, an invasive test in which doctors inject special dyes into the body to visualize, via X-rays, fatty plaque deposits in the arteries of the heart. However, the technique is invasive, expensive, time-consuming, and may miss CAD in its earliest stages, they say.

To develop a faster, more convenient test, the scientists collected urine samples from a group of 67 patients — 41 with CAD and 26 without — and analyzed the samples for differences in protein content. Using a newly developed method, they identified a group of 17 peptides (building blocks of proteins) that appear to be directly associated with CAD. These urine-based peptides indicated the presence of the disease with an 84 percent accuracy rate when compared to CAD cases confirmed using angiography, the researchers say, underscoring their potential for diagnostic screening.

More information: "Evaluation of Urine Proteome Pattern Analysis for Its Potential To Reflect Coronary Artery Atherosclerosis in Symptomatic Patients"

pubs.acs.org/stoken/presspac/p.../10.1021/pr800615t

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