

Cocaine users experience abnormal blood flow, risk heart disease

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Cocaine users complaining of chest pain may have abnormal blood flow in the heart's smallest blood vessels that may not be detected in regular testing, putting these patients at risk for heart complications or death, according to research presented at the American Heart Association's Scientific Sessions 2014.

"Cocaine use is unfortunately very common, and we see many emergency room admissions because patients experience [chest pain](#) following cocaine use," said Varun Kumar, M.D., lead study author and an internist at Mount Sinai Hospital in Chicago. "But there can be a discrepancy because the patient has symptoms, but their angiograms appear normal. The microvascular dysfunction in the heart's circulation that's occurring after cocaine use is not being picked up routinely by the angiogram."

Microvascular dysfunction refers to improper blood flow through the smallest blood vessels.

The study compared heart imaging tests of 202 [cocaine users](#) to 210 randomly chosen non-cocaine users. All had undergone coronary angiography testing at Mount Sinai Hospital in Chicago from 2005 to 2013.

The study showed that among cocaine users, during angiogram, the dye failed to clear instantly from the smallest vessels and also over-dilated [blood vessels](#) resulting in faster blood flow. The findings suggest that

even when there's no sign of coronary artery disease among cocaine users, they have blood vessel damage that may produce symptoms such as chest pain and shortness of breath.

Abnormalities in [blood flow](#) were significant in comparison to non-cocaine users with diabetes, high blood pressure and family history of coronary artery disease.

Cocaine users are an understudied population, Kumar added. He advised that these patients may also be candidates for standard heart preventive therapies such as aspirin and cholesterol-lowering drugs.

"We need more research on this, but there's some evidence to suggest cocaine itself can stimulate clot formation and may contribute to atherosclerosis and [coronary artery disease](#)," he said. "This patient population may be small, but cocaine use is prevalent and we don't want these patients to fall through the cracks."

Provided by American Heart Association

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