

# Aspirin may not prevent blood clots that cause heart attacks and strokes among diabetics

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Many patients with type 2 diabetes may be aspirin resistant. That means the standard aspirin dose may not protect them against blood clots that cause heart attacks and strokes among diabetics, a new clinical study finds. The results to be presented at The Endocrine Society's 94th Annual Meeting in Houston.

"This result adds to our understanding of the prevalence of this problem, which varies considerably among studies," said lead author Subhashini Yaturu, M.D., section chief of the [Endocrinology and Metabolism](#) Department at Stratton VA Medical Center in Albany, NY. "The standard baby aspirin may not be adequate for subjects with diabetes for cardiovascular protection."

Low doses of aspirin are recommended for the prevention of strokes and heart attacks. Aspirin is considered the usual treatment to prevent dangerous blood clots from forming. It is recommended for patients with diabetes and other high-risk medical conditions. In some cases, however, patients are resistant to aspirin's anti-clotting effects. This resistance can be identified by measuring the level of a particular chemical called 11-dehydro-thromboxane beta-2, or 11DhTx2, which is formed during the clotting process. High urinary levels of this chemical indicate resistance to aspirin and its beneficial anti-clotting effects.

The most common form of diabetes, type 2, affects nearly 11 million people age 65 and older in the United States, according to the National Diabetes Information Clearinghouse. The leading causes of death among people with this disease are [heart disease](#) and stroke.

In this clinical study, investigators found that more than half-53 percent-of study participants with type

2 diabetes were aspirin resistant. In addition, 11DhTx2 levels were greater among patients with a longer duration of diabetes and increased urinary levels of a particular protein, called micro albumin, an indicator of early kidney disease in diabetes. At the same time, 11DhTx2 concentrations were not associated with insulin levels, insulin resistance, or certain markers of inflammation.

High blood pressure and abdominal-fat distribution are associated with the risk of heart and blood-vessel disease. A surprising finding, according to Yaturu, was that patients with relatively higher blood-pressure readings and a greater waist circumference had lower 11DhTx2 measurements, compared to other patients.

"These results provide new information about the factors associated with aspirin resistance," Yaturu said. "This may help doctors identify people who are likely to be aspirin resistant, so that higher doses or different drugs can be prescribed to prevent [blood clots](#). Further studies are required to clarify the appropriate dose of aspirin and or other therapies for subjects with diabetes to prevent clots. "

Participants included 142 male patients with [type 2 diabetes](#). Their average age was 48 years, and most were Caucasian. The samples for this clinical study were collected at Overton Brooks VAMC, Shreveport, LA between 2006 and 2009 and funded by a VA Merit Review grant for a separate study entitled, "Effect of Pioglitazone on Bone density and bone markers." For the study of [aspirin](#) resistance, supplemental analyses of the samples were carried out at Stratton VAMC and Research Pharmacy Institute at Albany. The residual funds from the Merit Review grant partly supported the study.

Provided by The Endocrine Society

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