

New aspirin-like substances may provide safer way to fight heart disease

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Researchers in Italy report development of a new group of aspirin-like substances that may be safer and as effective as conventional aspirin for fighting heart disease, the leading cause of death in the developed world. Their study is scheduled for the March 27 issue of the ACS' *Journal of Medicinal Chemistry*.

Physicians have known for years that daily low-doses of aspirin, or acetylsalicylic acid, reduce the risk of developing heart attacks and stroke in some people. However, prolonged use of aspirin can damage the stomach lining, causing bleeding and ulcers that can be life-threatening. A safer form of aspirin is needed, researchers say.

In the new study, Alberto Gasco and colleagues designed a new form of aspirin by attaching a special chemical structure — called a nitrooxy-acyl group — that allows the drug to resist breakdown by stomach acidity while promoting its absorption by the blood.

In laboratory tests using animal models, the new “aspirin-like” substances showed anti-inflammatory activities similar to regular aspirin and caused reduced or no damage to stomach tissue in comparison to equivalent amounts of regular aspirin. Some molecules also reduced platelet aggregation and promoted artery expansion, which are hallmarks of improved heart health, the researchers note.

Source: ACS

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