

Silver nanoparticles show 'immense potential' in prevention of blood clots

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Silver nanoparticles (shown) could help prevent blood clots. Credit: The American Chemical Society

Scientists are reporting discovery of a potential new alternative to aspirin, ReoPro, and other anti-platelet agents used widely to prevent blood clots in coronary artery disease, heart attack and stroke. Their study, scheduled for the June 23 issue of *ACS Nano*, a monthly journal, involves particles of silver -- 1/50,000th the diameter of a human hair -- that are injected into the bloodstream.

Debabrata Dash and colleagues point out that patients urgently need new anti-thrombotic agents because traditionally prescribed medications toooften cause dangerous bleeding. At the same time, aging of the population, sedentary lifestyle and spiraling rates of certain diseases have



increased the use of these drugs. Researchers are seeking treatments that more gently orchestrate activity of platelets, disk-shaped particles in the blood that form clots.

The scientists describe development and lab testing of <u>silver</u> <u>nanoparticles</u> that seem to keep platelets in an inactive state. Low levels of the nanosilver, injected into mice, reduced the ability of platelets to clump together by as much as 40 percent with no apparent harmful side effects.

The nanoparticles "hold immense potential to be promoted as an antiplatelet agent," the researchers note. "Nanosilver appears to possess dual significant properties critically helpful to the health of mankind — antibacterial and antiplatelet — which together can have unique utilities, for example in coronary stents."

More information: <u>ACS Nano</u>, Journal Article: "Characterization of Antiplatelet Properties of Silver Nanoparticles"

Provided by American Chemical Society (<u>news</u> : <u>web</u>)

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