

Benefit seen for ticagrelor alone, without aspirin, in patients with ACS

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Patients with acute coronary syndrome (ACS) who stopped taking aspirin three months after the insertion of a coronary stent and then took the antiplatelet medication ticagrelor alone for nine months had fewer episodes of bleeding and no increase in heart attacks, stroke or other adverse events caused by blockages in the arteries, compared with patients who took both aspirin and ticagrelor for a year. The research was presented at the American College of Cardiology's Annual Scientific Session Together with World Congress of Cardiology (ACC.20/WCC).

"This is the first randomized trial to compare ticagrelor monotherapy with dual antiplatelet therapy—the standard of care—exclusively in a population with [acute coronary syndrome](#)," said Yangsoo Jang, MD, Ph.D., professor of cardiology at Yonsei University College of Medicine in Seoul, South Korea, and senior author of the study. "Our findings suggest that for patients with ACS who are treated with stents, ticagrelor monotherapy could be an optimal strategy for reducing bleeding risk without increasing the risk for adverse events caused by arterial blockages."

Most heart attacks and strokes are caused by a [blood](#) clot in an artery that's been narrowed by a buildup of fatty deposits, or plaque. ACS is an umbrella term used to describe problems that occur when there isn't enough blood flow to the heart. Examples are heart attack and unstable angina, a condition in which [blood clots](#) form, dissolve and form again in an artery carrying blood to the heart.

Blood cells known as platelets help the blood to clot. Both ticagrelor and [aspirin](#) stop platelets from forming a clot that can block blood flow. Use of the two drugs together is known as dual antiplatelet therapy, or DAPT. Aspirin, however, also heightens the risk of bleeding, particularly in the gastrointestinal tract.

Stenting, also known as [coronary angioplasty](#) or percutaneous coronary intervention, is a minimally invasive procedure in which a flexible tube (catheter) is threaded through an artery under local anesthesia. At the site of the blockage, a tiny balloon at the tip of the catheter is inflated to unblock the artery and a stent, a tiny mesh tube, is inserted to prop it open.

This trial, known as TICO, enrolled 3,056 patients with ACS whose average age was 61 years; 79% were men, 39% were aged over 65 and 27% had diabetes. Everyone received ticagrelor plus aspirin for three months, then the patients were randomly assigned to one of two groups. For nine months, one group continued treatment with ticagrelor and aspirin, while the second group received ticagrelor alone. The study was conducted at 38 centers in South Korea. The primary study endpoint was the combined occurrence of death, [heart attack](#), stroke, a blood clot inside a stent, the need for a second procedure to unblock the same artery or [major bleeding](#) (defined as fatal bleeding, bleeding inside the skull or symptomatic internal bleeding) 12 months after stenting.

After a median follow-up of 12 months, 59 patients (3.9%) who had been randomly assigned to ticagrelor alone had a primary-endpoint event, compared with 89 patients (5.9%) who had continued treatment with both ticagrelor and aspirin, a statistically [significant difference](#). This difference was driven by a [reduced risk](#) of major bleeding in the group treated with ticagrelor alone (1.7%), compared with the group treated with ticagrelor and aspirin (3%). Rates of other adverse events were similar in the two groups.

A limitation of the study is that patients with an elevated risk for bleeding (defined as aged 80 years or older, having had a stroke within the past year, or having had [brain surgery](#) or a traumatic brain injury within the past six months) were excluded, Jang said, adding that such patients

account for about 40% of patients undergoing stenting outside of clinical trials.

"Our results cannot be extrapolated to this group of patients," he said.

Provided by American College of Cardiology

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