

Intravascular imaging identifies some heart attack patients who can forego stenting

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More than one quarter of [heart attack patients](#) who are normally treated with stents to re-open their blocked arteries might be able to forgo this procedure and receive anti-thrombotic medications only, according to results of a pilot study.

Results of the EROSION (Effective Anti-thrombotic Therapy without Stenting: Intravascular OCT-based Management in Plaque Erosion) study, presented in a Hot Line session at ESC Congress 2016, and published simultaneously in the *European Heart Journal*, suggest "a potentially major change in the treatment of a significant number of patients with [acute coronary syndromes](#) (ACS)," said lead investigator Ik-Kyung Jang, MD, PhD, from Harvard Medical School, Massachusetts General Hospital in Boston, MA, USA.

"If this conservative approach without a metallic stent or polymer scaffold proves to be effective and safe, it may become a new treatment paradigm for over a quarter of patients with ACS, thereby abrogating stent-related early and late complications," he said.

Most (60%) cases of ACS are caused by plaque rupture, but plaque erosion is responsible for 25%-44% of cases, and has a distinctly different pathology that is amenable to anti-thrombotic therapy, said Dr. Jang.

The study used an intracoronary imaging technique called optical coherence tomography (OCT) to differentiate plaque erosion from

plaque rupture among 405 ACS patients presenting at the emergency department and undergoing coronary angiography.

Plaque erosion was identified as the underlying pathology in 103 (25.4%) patients, of whom 60 had a residual diameter stenosis of less than 70% on angiogram, Thrombolysis In Myocardial Infarction (TIMI) flow grade of 3, and were stable without symptoms.

These patients were deemed suitable to receive anti-thrombotic medications alone without stent placement and were treated with dual antiplatelet therapy (aspirin and ticagrelor), as well as the addition of a glycoprotein IIb/IIIa inhibitor in 63.6%.

At one month follow-up 47 of the 60 patients (78.3%) met the primary endpoint of the study which was a more than 50% reduction in the size of their clot, with 22 of these patients having no visible clot at all, reported Dr. Jang.

Overall, clot volume decreased from 3.7 to 0.2 mm³ and minimal flow area increased from 1.7 to 2.1 mm².

One patient died of gastrointestinal bleeding while on DAPT and another one had no improvement in the stenotic artery at one month, with the decision to undergo percutaneous coronary intervention.

"Currently all patients with ACS are uniformly treated with stenting regardless of underlying pathology. This study, for the first time, demonstrates that patients with ACS caused by erosion may benefit from a tailored therapy with anti-thrombotic medications," said Dr. Jang. "If we can identify ACS patients with erosion without an invasive procedure, those [patients](#) may be triaged to a conservative therapy pathway instead of invasive catheterization and stent implantation."

Provided by European Society of Cardiology

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