

Heart stents may offer alternative to chest pain medication for angina patients

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Some patients with chest pain from reduced blood flow to the heart may benefit from having a stent implanted, instead of chest pain medications.

These are the findings of a study, led by researchers at Imperial College London and Imperial College Healthcare NHS Trust, which evaluated the impact of stents on reducing [pain](#) in [patients](#) with angina.

It finds that implanting a stent—a tiny tube-shaped device that helps keep narrowed [blood vessels](#) open—improved chest pain and the patient's ability to do exercise compared to patients who had not received a stent but had undergone a placebo procedure instead.

According to the researchers the results of the ORBITA-2 trial suggest that the American and European guidelines should be updated.

The findings were presented at the American Heart Association's [Scientific Sessions 2023](#) and are [published](#) as "A Placebo-Controlled Trial of Percutaneous Coronary Intervention for Stable Angina" in the *New England Journal of Medicine*.

Dr. Rasha Al-Lamee, from the National Heart & Lung Institute at Imperial and a cardiologist at Imperial College Healthcare NHS Trust, who led the study, said, "The reality of clinical practice tells us that taking multiple chest pain medications for the long term is often not realistic for patients who are experiencing uncomfortable angina symptoms.

"Going forward, patients and medical teams have a choice of two pathways for chest pain relief: anti-anginal chest pain [medication](#) or implanting a stent as an anti-anginal procedure. All patients will need to continue medications that reduce their risk of future events such as heart attacks and death."

Previous findings

Findings from a previous trial from the team in 2017 (ORBITA),

suggested that stents had no significant additional benefit on exercise capacity, symptoms, or quality of life compared to medication.

Participants in the ORBITA trial received stents (or placebo procedure) according to the current guidelines for treating patients with angina, which state patients should be offered three different types of chest pain medication to treat the angina before a stent is considered.

Researchers suspected the lack of benefit from stents shown in the previous trial may have been due to the high levels of chest pain medication these patients were taking, suggesting stents did not have additional benefit.

To explore this further, patients in the ORBITA-2 study stopped taking their chest pain medication before receiving a stent or placebo procedure. Patients continued taking other medications, including aspirin and statins that reduce the risk of heart attack.

Analysis showed that more than one-third of patients who received a stent in the ORBITA-2 trial were free of angina symptoms at the end of the trial. Patients in the stent group were also three times more likely to have no angina than patients who received the placebo procedure.

But stenting was not effective for all patients and 59% of those who received a stent continued to experience chest pain even after a successful procedure.

Combined insight

Dr. Al Lamee added, "The key finding from looking at our two trials together is that the first treatment offered seems to have the maximum effect. Stents are not risk or cost-free but their use as an upfront procedure can now be considered evidence-based and potentially

effective for some patients.

"The ORBITA and ORBITA-2 trials suggest the American and European guidelines for stable coronary artery disease may require updating to offer more flexibility for patients and clinicians to decide which treatment is most appropriate. Our study suggests that by restricting stenting to patients with inadequate response to [chest](#) pain medications, we may inadvertently be selecting the group of patients with the least to gain."

Researchers found that the positive effect of stenting was immediate and continued throughout the 12-week follow-up period, where patients scored their symptoms daily.

Patients who received a stent were also able to exercise for around one minute longer than those who received the placebo procedure. This is noted to be a smaller effect than many cardiologists would have believed from existing data and thought to be similar to the effect of one full dose of [chest pain](#) medication.

In total, 301 patients were enrolled in the study across 14 sites in the U.K. Participants and research teams were unaware if they had received a stent or placebo procedure during the trial.

Patients had 24-hour access to clinical research teams who were also unaware if patients had received a stent or not and medication was restarted if any participants complained of symptoms. Four patients in the stenting group and six in the placebo group experienced a heart attack.

More information: Christopher A. Rajkumar et al, A Placebo-Controlled Trial of Percutaneous Coronary Intervention for Stable Angina, *New England Journal of Medicine* (2023). [DOI:](#)

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