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New Drug Reduces Heart Damage, Study Suggests

A single dose of an investigational anti-inflammatory drug called inclacumab significantly reduces damage to heart muscle during angioplasty, a recent international clinical trial has found.

The study, which was led by Dr. Jean-Claude Tardif, Director of the Research Centre at the Montreal Heart Institute, affiliated with the University of Montreal, was presented at the American College of Cardiology conference, San Francisco, on 10 March.

To study the effects of the drug, Dr. Tardif and his team administered a single dose of inclacumab to patients and then measured their levels of troponin I, which is a marker used clinically to diagnose heart attack. They found that inclacumab reduced troponin I levels by 24%.

The trial involved 530 patients with myocardial infarction whose median age was 61, and 78.9% of whom were men. Patients were randomised to receive an infusion of inclacumab at 20 mg/kg, inclacumab at 5 mg/kg, or placebo one to 24 hours before angioplasty.

"Inclacumab could indeed become an integral part of the therapeutic arsenal of modern cardiology if we can reproduce these results in subsequent studies. We could use the drug for a broader patient population, or for all patients who present with a heart attack, but this will require further study," explained Dr. Tardif.

Each year, approximately 35,000 coronary artery angioplasty procedures are conducted in Canada to treat atherosclerosis, while more than one million are conducted in the US. Atherosclerosis occurs when the arteries are obstructed with deposits of fat (cholesterol), calcium and cellular waste, and over time lose their elasticity and narrow, thus slowing down or blocking blood flow. Resulting complications, such as angina, heart attack and stroke, ultimately call the need of an angioplasty, which is a percutaneous intervention that dilates the narrowed artery to re-establish blood flow. However, heart tissue can become damaged during an angioplasty, and an inflammatory cascade can lead to other complications.

Inclacumab is an antibody that blocks P-selectin, a molecule that drives inflammation and plays an important role in vascular disease. A single dose of inclacumab may provide benefits, stressed Dr. Tardif.

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