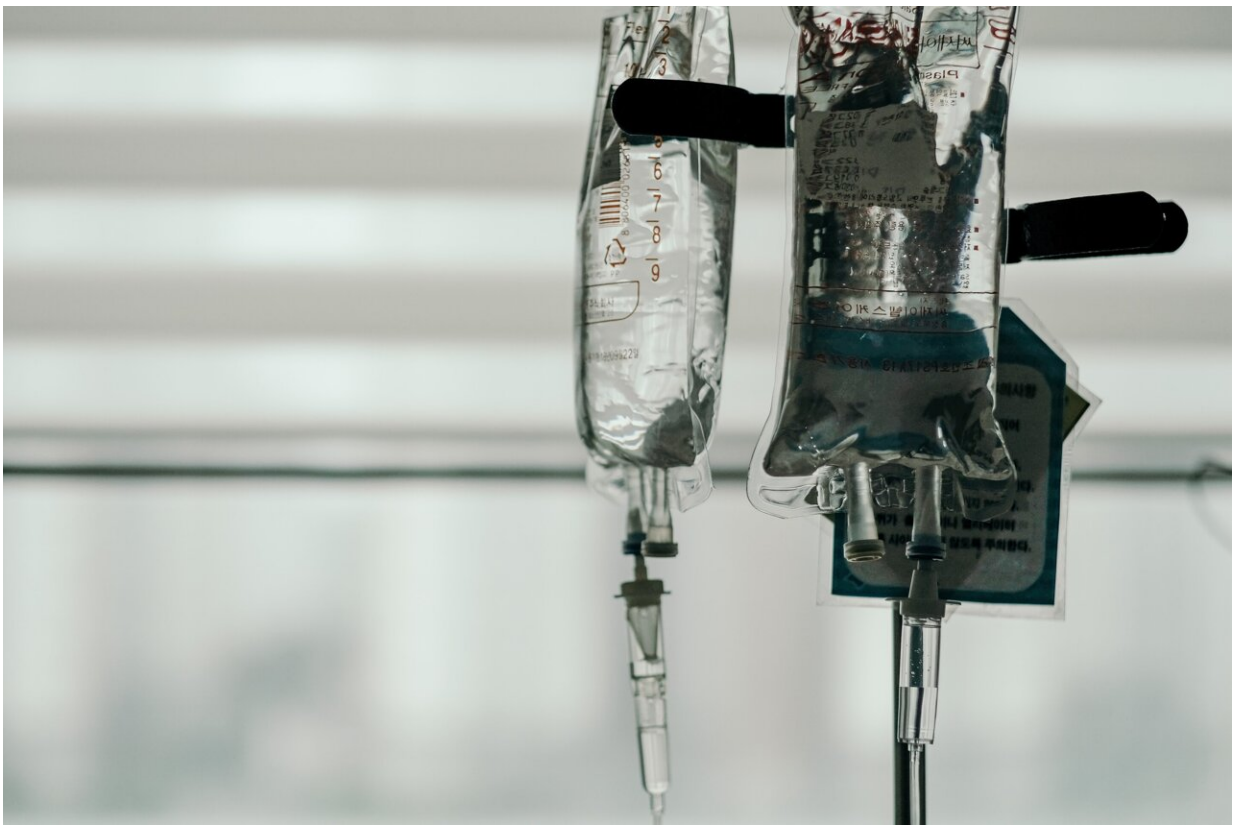
Anticoagulation shows no benefit after primary percutaneous coronary intervention, says research

August 29 2023



Credit: Unsplash/CC0 Public Domain

Anticoagulation after primary percutaneous coronary intervention (PCI) does not prevent adverse outcomes in patients with ST-segment elevation

myocardial infarction (STEMI), according to late breaking research presented in a Hot Line session August 28 at ESC Congress 2023.

ESC guidelines recommend the use of intravenous anticoagulation during primary PCI with unfractionated heparin, enoxaparin or bivalirudin in patients presenting with STEMI. Prolonged post-procedural anticoagulation (PPA) aims to prevent recurrent ischemic events. However, no randomized study has evaluated the risk-benefit of stopping or prolonging anticoagulation after the procedure. Some real-world data suggest that PPA is frequently used after primary PCI and may be associated with improved outcome.

The RIGHT trial was an investigator-initiated, multicenter, randomized, double-blind, placebo-controlled, superiority trial led by a collaborative effort between two academic research organizations, the CREATE group (China) and the ACTION group (France). It was designed to test whether routine use of low-dose PPA (enoxaparin, unfractionated heparin, or bivalirudin) was superior to placebo after primary PCI for STEMI in contemporary practice.

The trial was conducted at 53 centers in China. Prior to trial initiation, each center selected one of three PPA regimens (enoxaparin 40 mg once daily subcutaneously, unfractionated heparin 10 units/kg/hour intravenously adjusted to maintain activated clotting time between 150 and 220 seconds, or bivalirudin 0.2 mg/kg/hour intravenously). Patients were randomized in a 1:1 fashion to receive low-dose PPA or matching placebo for at least 48 hours.

The primary efficacy objective was to demonstrate superiority of PPA to reduce the primary efficacy endpoint of all-cause death, non-fatal myocardial infarction, non-fatal stroke, definite stent thrombosis, or urgent revascularization of any vessel within 30 days. The key secondary objective was to evaluate the effect of each specific anticoagulation

regimen (enoxaparin, unfractionated heparin, or bivalirudin) on the primary endpoint. The primary safety endpoint was major bleeding (defined as Bleeding Academic Research Consortium [BARC] type 3 to 5) at 30 days.

Between 10 January 2019 and 18 September 2021, a total of 2,989 patients with STEMI undergoing primary PCI were enrolled and randomized. The mean age of the patients was 60.9 years, with 20.7% being female, 24.5% having diabetes mellitus, and 54.5% having hypertension.

Among 2,989 low-to-intermediate risk patients randomized to PPA (n=1,494) or placebo (n=1,495), the primary efficacy endpoint occurred in 37 patients (2.5%) in both the PPA and placebo groups (hazard ratio [HR], 1.00; 95% confidence interval [CI], 0.63 to 1.57). However, a significant interaction was observed for the type of anticoagulant and the primary endpoint (p=0.015): enoxaparin vs. placebo, HR 0.46, 95% CI 0.22 to 0.98; unfractionated heparin vs. placebo, HR 3.71, 95% CI 1.03 to 13.28; and bivalirudin vs. placebo, HR 1.24, 95% CI 0.60 to 2.59. There was no excess major bleeding globally or in any of the three anticoagulant groups.

Principal investigator Professor Shaoping Nie of Capital Medical University, Beijing, China said, "Overall, the results of the RIGHT trial suggest that anticoagulation after primary PCI for STEMI is safe but does not appear to reduce ischemic events in a low-to-intermediate risk population. Whether enoxaparin anticoagulation may be beneficial after primary PCI requires further study."

Provided by European Society of Cardiology

Citation: Anticoagulation shows no benefit after primary percutaneous coronary intervention,

says research (2023, August 29) retrieved 6 May 2024 from https://medicalxpress.com/news/2023-08-anticoagulation-benefit-primary-percutaneous-coronary.html