

# Peran Kolkisin dalam Menurunkan Cedera Reperfusi pada Pasien Infark Miokard Akut-Elevasi Segmen ST yang Menjalani Intervensi Koroner Perkutan Primer: Uji Klinis Tersamar Ganda = Role of Colchicine in Reducing Reperfusion Injury in STEMI Patients Who Undergo Primary Percutaneous Coronary Intervention: A Randomized Clinical Trial

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## Abstrak

Latar belakang: Inflamasi memegang peranan penting dalam IMA-EST, terutama kejadian cedera reperfusi. Kolkisin merupakan sediaan obat anti inflamasi, yang dapat menekan inflamasi saat terjadi cedera reperfusi. Kami menilai keefektifan dari pemberian kolkisin pada pasien IMA-EST yang menjalani IKPP dalam menekan cedera reperfusi.

Metode: Penelitian ini merupakan uji klinis, tersamar ganda, dengan plasebo, yang dilakukan multisenter di dua rumah sakit di Jakarta dengan fasilitas IKPP dari Desember 2022 hingga April 2023. Pasien IMA-EST yang menjalani IKPP diberikan dosis muat kolkisin 2 mg, kemudian dosis pemeliharaan 2x0,5 mg selama 2 hari, dan amilum pada kelompok plasebo. Pasien diamati kejadian cedera reperfusi berupa TIMI flow, kejadian aritmia, syok dan aritmia akibat reperfusi.

Hasil: Sebanyak 77 subyek IMA-EST dengan rerata usia  $55.2 \pm 9.9$  tahun menjalani IKPP. 37 subyek mendapat kolkisin, 40 subyek mendapat placebo. Kebanyakan subjek ialah laki-laki (77.5%), menderita 3 vessel disease (44,1%), oklusi di LAD ( 53,2%). Pemberian kolkisin tidak berhasil menurunkan kejadian cedera iskemia reperfusi (51.5% vs. 42.4%;  $p = 0.437$ ). Analisis komorbiditas ( hipertensi, gagal ginjal, diabetes mellitus, dan obesitas) dan hasil angiografi ( jumlah pembuluh darah coroner yang sakit, diameter pembuluh darah, dan lokasi penyumbatan yang menyebabkan IMA-EST) tidak berhasil menunjukkan kemaknaan secara statistic. Kejadian efek samping sama pada kedua kelompok (21.6% vs. 15%).

Kesimpulan: Pemberian kolkisin pada pasien IMA-EST yang menjalani IKPP tidak berhasil menurunkan kejadian cedera reperfusi.

.....Background: Inflammation plays a role in ST-segment elevation myocardial infarction (STEMI), especially in reperfusion injury (RI). Colchicine, an anti-inflammatory drug, can suppress inflammation during RI. We assessed the effectiveness of administering colchicine to STEMI patients undergoing primary percutaneous coronary intervention (PPCI) in suppressing RI events.

Methods: This study was a randomized, double-blind, placebo-controlled clinical trial conducted in a multicenter manner at two hospitals in Jakarta with IKPP facilities from December 2022 to April 2023. STEMI patients that underwent PPCI received 2 g of colchicine as a loading dose and a maintenance dose of 0.5 g every 12 hours for two days or amylum at a similar dose. Patients were observed for RI events (low-flow thrombolysis in myocardial infarction (0–2) during angiography procedure, reperfusion arrhythmia, cardiogenic shock, or persistent chest pain).

Results: Seventy-seven STEMI patients with a mean age of  $55.2 \pm 9.9$  years underwent PPCI. Of these patients, 37 received colchicine, and 40 received a placebo. Most subjects were male (77.5%), suffered three-vessel disease (44.15%), and occlusion in left anterior descending coronary artery (53.24%). Colchicine was found to fail to reduce the incidence of ischemia-RI (51.5% vs. 42.4%;  $p = 0.437$ ). Analysis of comorbidities (hypertension, chronic kidney disease, diabetes mellitus, and obesity) and angiography results (vessel disease, lesion diameter, and culprit artery) failed to demonstrate a statistical difference in RI. Side effects were similar in the colchicine and placebo groups (21.6% vs. 15%).

Conclusion: Colchicine administration in STEMI patients undergoing PPCI failed to reduce RI.