

Pengaruh pemberian trimetazidine terhadap jumlah netrofil pada pasien infark miokardium akut dengan elevasi segmen ST yang menjalani intervensi koroner perkutan primer = Impact of trimetazidine administration with amount of neutrophil among acute ST segment elevation myocardial infarct patients which undergo primary percutaneous coronary intervention / Taka Mehi

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Abstrak

[<b>ABSTRAK</b><br>

Latar belakang : Pada masa sekarang, reperfusi miokardium dengan trombolitik atau intervensi koroner perkutan primer ( IKPP) adalah terapi utama pada pasien yang mengalami IMA EST. Tujuan utama IKPP untuk mengembalikan patensi arteri epikardial yang mengalami infark dan mencapai reperfusi mikrovaskular secepat mungkin. Namun keberhasilan mengembalikan patensi dari arteri koroner epikardial setelah oklusi tidak selalu menjamin cukupnya reperfusi ke level mikrovaskular, yang disebut sebagai fenomena no reflow atau microvascular obstruction (MVO). Terdapat dua mekanisme yang berperan pada no reflow yaitu disfungsi mikrovaskular dan kerusakan integritas mikrostruktur endotel. Kerusakan endotel dapat diakibatkan berbagai hal, diantaranya jejas reperfusi yang akan mengaktifasi netrofil. Netrofil teraktivasi akan mengeluarkan radikal bebas oksigen, enzim proteolitik dan mediator proinflamasi yang secara langsung menyebabkan kerusakan jaringan dan endotel. Trimetazidine adalah obat antiangina yang dapat menurunkan netrofil yang dimediasi oleh trauma jaringan setelah jantung mengalami iskemia. Akan tetapi belum diketahui secara luas pengaruh pemberian trimetazidine terhadap akumulasi netrofil pada kejadian IMA EST yang dilakukan tindakan IKPP.

Metode : Sebanyak 68 pasien IMA EST yang menjalani IKPP dipilih secara konsekutif sejak Januari 2015 sampai Juni 2015 diambil saat masuk UGD, dilakukan pengambilan darah vena perifer untuk menghitung jumlah netrofil sebelum IKPP, kemudian pasien menjalani IKPP. Setelah 6 jam paska IKPP dilakukan pengambilan kembali darah vena perifer untuk menghitung kembali jumlah netrofil paska IKPP. Hitung netrofil diperiksa dengan Sysmex 2000i. Perhitungan statistik dinilai dengan SPSS 17.

Hasil : Dari 68 subyek, dibagi menjadi 28 subyek pada kelompok yang diberikan trimetazidine dan 40 subyek yang diberikan plasebo. Tidak didapatkan perbedaan jumlah netrofil pada kelompok perlakuan dan kelompok kontrol baik sebelum maupun sesudah IKPP, netrofil pre IKPP pada trimetazidine vs plasebo  $10.71 \pm 3.263$  vs  $10.99 \pm 3.083$ , nilai  $p:0,341$ . Nilai netrofil post IKPP pada trimetazidine vs plasebo  $9.49 \pm 3.135$  vs  $9.92 \pm 3.463$ , nilai  $p:0,664$ .

Kesimpulan : Tidak terdapat penurunan jumlah netrofil pasca pemberian trimetazidine pada pasien IMA EST yang menjalani IKPP.

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<b>ABSTRACT</b><br>

#### Background

Nowadays, reperfusion strategy, either with thrombolytic or Primary Percutaneous Coronary Intervention (PPCI), is the core treatment for Acute ST-Segment Elevation Myocardial Infarct (STEMI). The goal of PPCI is to restore the patency of infarcted epicardial artery and establish microvascular reperfusion as soon as possible so that necrotic myocardial area can be reduced. However, successful restoration of infarcted epicardial artery is not always followed by enough reperfusion to the microvascular part. Trimetazidine is an antianginal drug, can reduce neutrophil which was mediated by tissue trauma during ischemic heart condition. Trimetazidine is currently approved and widely known as antianginal drug which affect metabolism. Unfortunately, its influence over neutrophil accumulation in acute STEMI patients which undergo PPCI is not well understood.

#### Method

There were 68 consecutive-selected acute STEMI patients which undergo PPCI since January 2015 until Juni 2015. They were admitted in emergency department. Peripheral vein blood sampling was taken to measure neutrophil before PPCI was performed. Six hour after PPCI was conducted, another peripheral vein blood sampling was taken for another neutrophil measurement. Neutrophil measurement was performed with Sysmex 2000i. Statistical analysis was performed by using SPSS 17.

#### Result

Among 68 patients, divided in two groups, trimetazidine 28 patients and plasebo 40 patients. There were no differences amount of neutrophils in trimetazidine or plasebo group, before or after PPCI. Neutrophil pre PPCI in trimetazidine vs plasebo group  $10.71 \pm 3.263$  vs  $10.99 \pm 3.083$ ,  $p:0,341$ . Neutrophil post PPCI in trimetazidine vs plasebo group  $9.49 \pm 3.135$  vs  $9.92 \pm 3.463$ ,  $p:0,664$ .

#### Conclusion

There were no reducing amount of neutrophils after trimetazidine was given in patients STEMI which underwent PPCI., Background

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