Heart rate turbulence in patients after primary percutaneous coronary intervention and fibrinolytic treatment for acute myocardial infarction

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Abstrak

Turbulensi laju jantung (heart rate turbulence [HRT]) baru-baru ini dianggap sebagai prediktor terbaru paling kuat untuk terjadinya kematian mendadak (sudden cardiac death [SCD]) melebihi prediktor lain yang telah ada sebelumnya. Pasien penyakit jantung koroner yang menjalani reperfusi koroner ternyata memberikan hasil HRT lebih baik dan hal ini mencerminkan pulihnya respon baroreseptor.Penelitian ini akan membandingkan nilai turbulence onset (TO) dan turbulence slope(TS) pada dua jenis reperfusi (PCI dan fibrinolitik) Subjek menjalani monitoring EKG selama 24 jam setelah dilakukan revaskularisasi. TO ditentukan dengan cara mengukur perubahan relatif dua interval RR irama sinus setelah ekstrasistol ventrikel dan dua RR interval terakhir sebelum ekstrasistol ventrikel. TS dihitung dengan dengan mengukur slope maksimum yang dibuat tiap 5 buah RR interval. Terdapat 13 pasien (usia rata-rata 56 + 9 tahun) yang memenuhi syarat untuk ikut dalam penelitian. Sepuluh pasien menjalani fibrinolitik dan tiga pasien menjalani PCI. Terdapat perbedaan bermakna nilai TO antara kelompok PCI dan fibrinolitik (-3,3 + 1,7 % vs -0,2 + 0,9 %; P=0,03). Terdapat kecenderungan kelompok PCI memberikan nilai TS yang lebih baik dibanding kelompok fibrinolitik, walaupun secara statistik tidak signifikan (7,7 + 4,4 msec/RR interval vs 3,4 + 2,6 msec/RR interval; P = 0,056). Disimpulkan bahwa subjek dengan STEMI akut yang menjalani PCI mempunyai nilai TO yang lebih baik dibanding subjek yang menjalani terapi fibrinolitik.
<hr>Heart rate turbulence (HRT) as novel predictor of sudden cardiac death were superior to all other presently available indicators. HRT significantly was improves after successful reperfusion reflecting rapid restoration of baroreceptor response. We investigated turbulence onset (TO) and turbulence slope (TS) values among patients with acute ST-elevation myocardial infarction (STEMI) underwent revascularization by means of primary PCI or fibrinolytic. We hypothesized that the values of TO and TS were different in two kinds of revascularization treatment. The subjects underwent 24 hours ECG recording after revascularization therapy. TO was quantified by the relative change of the first two sinus RR intervals following a ventricular premature beat (VPB) and the last two sinus RR intervals before the VPB. TS was quantified by the maximum positive slope of a regression line assessed over any sequence of five subsequent sinus rhythm RR intervals within the first two sinus rhythm intervals after a VPB. Thirteen patients (mean of age 56 + 9 years old) who underwent revascularization treatment of acute STEMI were eligible as subject of this study.Ten patients underwent fibrinolytic therapy and three patients underwent primary PCI. TO value was significantly different between PCI group and fibrinolytic group (-3.3 + 1.7 % vs -0.2 + 0.9 % ; P=0.03). The Primary PCI group has better outcome on turbulence slope value (TS) than fibrinolytic group but not significance (7.7 + 4.4 msec/RR interval vs 3.4 + 2.6 msec/RR interval; P = 0.056). In conclusion, TO was better in acute STEMI patient undergone PCI compare to that undergone fibrinolytic therapy.