

INTISARI

PERBANDINGAN KEJADIAN ARITMIA VENTRIKULER BERDASARKAN VENTRICLE LATE POTENTIAL POSITIF DAN HEART RATE VARIABILITY MENURUN PADA PASIEN IMAEST YANG BERHASIL DIREPERFUSI

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Latar Belakang : Telah banyak dipahami bahwa penurunan mortalitas pasien IMAEST terjadi akibat revaskularisasi yang tepat dan adekuat dikombinasikan dengan prevensi sekunder yang baik sehingga mampu menurunkan kejadian aritmia ventrikel pada pasien IMAEST. Namun, di satu sisi dilaporkan aritmia ventrikel tetap muncul pada 1,5-4,4% pasien IMAEST setelah revaskularisasi. Terdapat dua jalur utama timbulnya aritmia ventrikel pada pasien IMAEST yang telah berhasil direperfusi, yaitu *reentry* terkait heterogenitas substrat anatomis dan gangguan sistem otonom jantung. Beberapa parameter yang telah diteliti meliputi pengukuran *left ventricular ejection fraction* (LVEF) dengan ekokardiografi, dokumentasi aritmia ventrikel dengan holter, indusibilitas takikardi ventrikel dalam studi elektrofisiologi, deteksi potensial akhir ventrikel (*ventricle late potentials*-VLP) dengan *signal averaged electrocardiography* (SAECG), dan HRV (*heart rate variability*-HRV) dengan holter jangka pendek. Kombinasi VLP positif dan HRV menurun diduga dapat berperan mengidentifikasi subset yang mengalami aritmia ventrikel pada suatu episode perawatan.

Tujuan : Mengetahui apakah terdapat kejadian aritmia ventrikel yang lebih tinggi pada pasien IMAEST yang berhasil dilakukan reperfusi dengan VLP positif dan HRV menurun

Metode: Dilakukan studi potong lintang melibatkan pasien IMAEST yang telah berhasil direperfusi untuk selanjutnya dibandingkan kejadian aritmia ventrikel berdasarkan VLP positif dan HRV menurun. Perbandingan rasio prevalensi aritmia ventrikel diuji dengan *Chi Square*, sedangkan variabel perancu yang bermakna dilakukan analisis multivariat dengan uji regresi logistik

Hasil: Sejumlah 13,09 % (11 dari 84) pasien IMAEST setelah dinyatakan berhasil dilakukan reperfusi tetap mengalami aritmia ventrikel. Sebanyak 43 dari 84 sampel (51,1%) memiliki hasil VLP positif dan HRV menurun, namun, dari 43 sampel tersebut, hanya 3 yang mengalami aritmia ventrikel, sehingga saat dilakukan tabel kotak 2x2, rasio prevalensi didapatkan 0,409 dengan p 0,277, CI 95 % 0,113-1,474 (tidak bermakna signifikan secara statistik). Analisis multivariat menunjukkan tidak terdapat variabel perancu yang mempengaruhi hasil penelitian.

Simpulan: Tidak terdapat kejadian aritmia ventrikel yang lebih tinggi pada pasien IMAEST yang berhasil dilakukan reperfusi dengan VLP positif dan HRV menurun.

Kata Kunci: IMAEST, aritmia ventrikel, reperfusi, VLP positif, HRV menurun

ABSTRACT

VENTRICLE ARRHYTHMIA INCIDENCE COMPARISON BASED ON POSITIVE VENTRICLE LATE POTENTIALS AND DECREASING HEART RATE VARIABILITY IN SUCCESSFULLY REPERFUSED STEMI PATIENTS

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Background : Mortality reduction of STEMI patients has been attributed to prompt and adequate revascularization combined with good secondary prevention. These two modalities has been responsible in causing lower incidence of ventricle arrhythmia nowadays. However, as much as 1,5 - 4,4 % patients still suffered from ventricle arrhythmia even after successful reperfusion happens. There were two main pathways causing ventricle arrhythmia in this subset, consist of substrate of anatomical heterogeneity that closely related with reentry, and cardiac autonomic imbalance. Some parameters has been investigated based on those two mechanisms above, such as left ventricular ejection fraction (LVEF) by echocardiography, documenting ventricle arrhythmia by holter, ventricle tachycardia inducibility by electrophysiology study, ventricle late potentials (VLP) with signal averaged electrocardiography (SAECG), and heart rate variability (HRV) with short term holter. As no single parameter performed satisfying in this reperfusion era, parameter combinations has gained attention to improve prognostic capability in predicting ventricle arrhythmia. Combination of VLP positive and decreasing HRV has been hypothesized to identify this subset in an index hospitalization period.

Aim : Know whether there is higher prevalence of ventricle arrhythmia in successfully reperfused STEMI patients that fulfilling VLP presence criteria and decreasing HRV criteria.

Method: A cross sectional study involving successfully reperfused STEMI patients, tested prevalence ratio of ventricle arrhythmia based on VLP presence and decreasing HRV compared to the one who did not fulfill VLP and HRV criteria. This ratio prevalence tested by *Chi Square*, and in the other hand, multivariate analysis were done to confounding variable that significantly affect study result.

Result: As many as 13,09 % (11 from 84) successfully reperfused STEMI patients still suffered from ventricle arrhythmia. Forty three (51,1 %) has positive VLP result and decreasing HRV, but only three that had ventricle arrhythmia documentation. From 2x2 table, prevalence ratio were 0,409 with p 0,277 CI 95 % 0,113-1,474 (statistically not significant). Multivariate analysis showed no confounding variable affecting study result.

Conclusion: There were no higher prevalence of ventricle arrhythmia in successfully reperfused STEMI patients that has VLP positive and decreasing HRV.

Keywords: STEMI, ventricle arrhythmia, reperfusion, positive of VLP, decreasing HRV