Korelasi kadar ST2 terlarut (sST2) dengan miokardial longitudinal strain speckle tracking dua dimensi untuk menilai disfungsi ventrikel kiri subklinis pada subjek stenosis aorta berat = Asscociation of the biomarkers soluble ST2 and subclinical left ventricular systolic dysfunction assessed by myocardial global longitudinal strain in patients severe aortic stenosis

Hervin Ramadhani, author

Abstrak

ABSTRAK
 Latar belakang.
Pada pasien SA fraksi ejeksi ventrikel kiri dapat normal bahkan supra normal untuk jangka waktu yang lama walaupun proses remodeling ventrikel kiri sudah mulai terjadi.. Ekokardiografi speckle tracking dua dimensi (EST) mempunyai kelebihan untuk digunakan dalam menilai penurunan fungsi kontraktilitas miokard subklinis, dimana keadaan tersebut dapat mempengaruhi prognosis pasien SA. sST2 merupakan biomarker yang relatif baru, dapat meningkat pada regangan otot jantung (myocardial stretch), fibrosis, inflamasi, dan injuri miokard, apakah berhubungan dengan disfungsi dini ventrikel kiri masih belum diketahui.
Tujuan. Mengetahui korelasi sST2 terhadap nilai GLS EST pada pasien SA berat dengan FEVK normal
Metode. Merupakan studi potong lintang. Evaluasi dilakukan pada 29 pasien stenosis aorta berat dengan fraksi ejeksi normal yang datang ke poliklinik RS Jantung Harapan Kita periode Februari 2015 sampai November 2015. Dilakukan pengambilan figur ekokardiografi untuk menilai severitas SA dan untuk perhitungan nilai global longitudinal strain speckle tracking kemudian dilakukan pengambilan sampel darah di laboratorium RS Jantung Harapan Kita untuk menilai sST2.
Hasil Penelitian. Dua puluh sembilan subjek ikut dalam penelitian ini dengan rerata usia adalah 59.7±12.1 tahun. Fungsi intrinsik ventrikel kiri pasien SA berat pada penelitian ini mengalami penurunan dengan nilai rerata GLS -11±4.5%. Hasil uji korelasi menunjukan terdapat korelasi positif dengan kekuatan korelasi sedang yang bermakna (r=0.429, p=0.02). Analisis multivariat tetap menunjukkan adanya hubungan antara kadar sST2 dengan nilai GLS EST (r=0,282 p=0.036).
Kesimpulan. Terdapat korelasi sST2 dengan global longitudinal strain speckle tracking pada pasien SA berat dengan fraksi ejeksi normal.ABSTRACT
 Background. In severe aortic stenosis (AS), cardiac performance measured at the ventricular chamber is typically normal or supranormal, whereas Global Longitudinal Strain providing comprehensive information on LV myocardial contractility and is superior in detecting subtle deteriorations. Impaired LV GLS is associated mortality risk and reflect fibrosis. sST2 is a novel biomarker of mechanical stress, fibrosis, inflamation, and myocardial injury. Whether sST2 is increased in relation to the subclinical LV

dysfunction assessed by GLS in AS is unknown.
Objectives. To study correlation beetwen sST2 and GLS in patients with AS severe
Methods. This is a correlation study with cross sectional design. The subject was aortic stenosis severe patient (aortic valve area <1.0 cm2) with preserved EF (>50%) at our outpatient clinic in Harapan Kita Hospital from February 2015 until Novenber 2015. A comprehensive transthoracic echocardiography was performed to evaluate severity of aortic stenosis. and echocardiographic figure recordings were stored in digital for off-line subsequent GLS analysis. sST2 measurements were drawn after echocardiography.
Results. Twenty nine patient were enrolled in this study. The mean ages was 59.7±12.1 years. left ventricle intrinsic function in aortic stenosis patient was decreased with GLS 11±4.5%. A Pearson correlate revealed significant positive correlation between sST2 and

GLS

(r=0.429, p=0.02). Multivariate analysis with introduced confounding factor still showed a positive correlation between sST2 and GLS (r=0,282 p=0.036).
Conclusion. This cross sectional study demonstrated a moderate correlation between sST2 with left ventricle global longitudinal strain speckle tracking in patients with severe aortic stenosis with preserved EF.
;Background. In severe aortic stenosis (AS), cardiac performance measured at the ventricular chamber is typically normal or supranormal, whereas Global Longitudinal Strain providing comprehensive information on LV myocardial contractility and is superior in detecting subtle deteriorations. Impaired LV GLS is associated mortality risk and reflect fibrosis. sST2 is a novel biomarker of mechanical stress, fibrosis, inflamation, and myocardial injury. Whether sST2 is increased in relation to the subclinical LV dysfunction assessed by GLS in AS is unknown.
Objectives. To study correlation beetwen sST2 and GLS in patients with AS severe
Methods. This is a correlation study with cross sectional design. The subject was aortic stenosis severe patient (aortic valve area <1.0 cm2) with preserved EF (>50%) at our outpatient clinic in Harapan Kita Hospital from February 2015 until Novenber 2015. A comprehensive transthoracic echocardiography was performed to evaluate severity of aortic stenosis. and echocardiographic figure recordings were stored in digital for off-line subsequent GLS analysis. sST2 measurements were drawn after echocardiography.

Results. Twenty nine patient were enrolled in this study. The mean ages was 59.7±12.1 years. left ventricle intrinsic function in aortic stenosis patient was decreased with GLS 11±4.5%. A Pearson correlate revealed significant positive correlation between sST2 and

GLS

(r=0.429, p=0.02). Multivariate analysis with introduced confounding factor still showed a positive correlation between sST2 and GLS (r=0,282 p=0.036).
Conclusion. This cross sectional study demonstrated a moderate correlation between sST2 with left ventricle global longitudinal strain speckle tracking in patients with severe aortic stenosis with preserved EF.
;Background. In severe aortic stenosis (AS), cardiac performance measured at the ventricular chamber is typically normal or supranormal, whereas Global Longitudinal Strain providing comprehensive information on LV myocardial contractility and is superior in detecting subtle deteriorations. Impaired LV GLS is associated mortality risk and reflect fibrosis. sST2 is a novel biomarker of mechanical stress, fibrosis, inflamation, and myocardial injury. Whether sST2 is increased in relation to the subclinical LV dysfunction assessed by GLS in AS is unknown.
Objectives. To study correlation beetwen sST2 and GLS in patients with AS severe
Methods. This is a correlation study with cross sectional design. The subject was aortic stenosis severe patient (aortic valve area <1.0 cm2) with preserved EF (>50%) at our outpatient clinic in Harapan Kita Hospital from February 2015 until Novenber 2015. A comprehensive transthoracic echocardiography was performed to evaluate severity of aortic stenosis. and echocardiographic figure recordings were stored in digital for off-line subsequent GLS analysis. sST2 measurements were drawn after echocardiography.
Results. Twenty nine patient were enrolled in this study. The mean ages was 59.7±12.1 years. left ventricle intrinsic function in aortic stenosis patient was decreased with GLS 11±4.5%. A Pearson correlate revealed significant positive

correlation
between
sST2
and

GLS

(r=0.429, p=0.02). Multivariate analysis with introduced confounding factor still showed a positive correlation between sST2 and GLS (r=0,282 p=0.036).
Conclusion. This cross sectional study demonstrated a moderate correlation between sST2 with left ventricle global longitudinal strain speckle tracking in patients with severe aortic stenosis with preserved EF.
;Background. In severe aortic stenosis (AS), cardiac performance measured at the ventricular chamber is typically normal or supranormal, whereas Global Longitudinal Strain providing comprehensive information on LV myocardial contractility and is superior in detecting subtle deteriorations. Impaired LV GLS is associated mortality risk and reflect fibrosis. sST2 is a novel biomarker of mechanical stress, fibrosis, inflamation, and myocardial injury. Whether sST2 is increased in relation to the subclinical LV dysfunction assessed by GLS in AS is unknown.
Objectives. To study correlation beetwen sST2 and GLS in patients with AS severe
Methods. This is a correlation study with cross sectional design. The subject was aortic stenosis severe patient (aortic valve area <1.0 cm2) with preserved EF (>50%) at our outpatient clinic in Harapan Kita Hospital from February 2015 until Novenber 2015. A comprehensive transthoracic echocardiography was performed to evaluate severity of aortic stenosis. and echocardiographic figure recordings were stored in digital for off-line subsequent GLS analysis. sST2 measurements were drawn after echocardiography.
Results. Twenty nine patient were enrolled in this study. The mean ages was 59.7±12.1 years. left ventricle intrinsic function in aortic stenosis patient was decreased with GLS 11±4.5%.
A
Pearson
correlate
revealed
significant
positive
correlation
between
sST2
and

GLS

(r=0.429, p=0.02). Multivariate analysis with introduced confounding factor still

showed a positive correlation between sST2 and GLS (r=0,282 p=0.036).
Conclusion. This cross sectional study demonstrated a moderate correlation between sST2 with left ventricle global longitudinal strain speckle tracking in patients with severe aortic stenosis with preserved EF.
;Background. In severe aortic stenosis (AS), cardiac performance measured at the ventricular chamber is typically normal or supranormal, whereas Global Longitudinal Strain providing comprehensive information on LV myocardial contractility and is superior in detecting subtle deteriorations. Impaired LV GLS is associated mortality risk and reflect fibrosis. sST2 is a novel biomarker of mechanical stress, fibrosis, inflamation, and myocardial injury. Whether sST2 is increased in relation to the subclinical LV dysfunction assessed by GLS in AS is unknown.
Objectives. To study correlation beetwen sST2 and GLS in patients with AS severe
Methods. This is a correlation study with cross sectional design. The subject was aortic stenosis severe patient (aortic valve area <1.0 cm2) with preserved EF (>50%) at our outpatient clinic in Harapan Kita Hospital from February 2015 until Novenber 2015. A comprehensive transthoracic echocardiography was performed to evaluate severity of aortic stenosis. and echocardiographic figure recordings were stored in digital for off-line subsequent GLS analysis. sST2 measurements were drawn after echocardiography.
Results. Twenty nine patient were enrolled in this study. The mean ages was 59.7±12.1 years. left ventricle intrinsic function in aortic stenosis patient was decreased with GLS 11±4.5%. A Pearson correlate revealed significant positive correlation between sST2 and

GLS

(r=0.429, p=0.02). Multivariate analysis with introduced confounding factor still showed a positive correlation between sST2 and GLS (r=0,282 p=0.036).
Conclusion. This cross sectional study demonstrated a moderate correlation between sST2 with left ventricle global longitudinal strain speckle tracking in patients with severe aortic stenosis with preserved EF.