Hubungan brain natriuretic peptide dengan fungsi sistolik ventrikel kiri pada non-st elevasi infark miokard akut = Correlation between Brain Natriuretic Peptide (BNP) with left ventricular systolic fuction in acute non st-elevation myocardial infarction (nonstemi)

Ilham Uddin, author

Abstrak

Pendahuluan BNP adalah asam amino peptida yang disintesa dan dilepas terutama dan miokard ventrikel sebagai respon terhadap regangan miosit Kadar BNP dilepas juga saat iskemi maupun nekrosis miokard Pada NonSTEMI terjadi keadaan hipoksia iskemia sampat nekrosis di subendokard dalam berbagai derajat gangguan sehingga perlu adanya petanda yang bisa menggambarkan gangguan fungsi ventrikel mi Pada NonSTEMI terjadi lepasnya BNP dan terganggunya kontraktilmtas miokard dalam berbagai tingkatan.
Tujuan Penelitian Mencari hubungan antara besarnya kadar BNP yang keluar akibat kerusakan subendokard dihubungkan dengan gangguan fungsi ventrikel kiri yang dmnilam dengan ekokardiografi.
Metode Penelitian merupakan studi deskrmptif analitik yang bersifat cross sectional dilakukan di PJNHK antara bulan Nopember 2005-Juni 2006 Penelitian dilakukan pada 36 pasien NonSTEMI yang pertamakali mnfark tanpa ada riwayat gagal Jantung dan kelainan katup sebelumnya Sampel darah EDTA diambil saat pasien datang di UGD kemudian diekstraksi plasmanya untuk dmperiksa kadar BNP Fungsi sistolik ventrikel kin dinilai ekokardiografi dengan mengukur Wall Motion Score Index (WMSI) 16 segmen sistem dan ejection fraction (EF) metode Simpson Pemeriksaan ekokardiografi
dilakukan setelah melewati fase perawatan intensif.
Hasil Terdapat kenaikan kadar BNP pada subyek penelitian (278 71 ± 394 60) dan berbeda bermakna dengan kadar BNP populasi normal (20 00 ±23 73) dengan (p<0 00 1) pada uji TTest Dengan uji korelasi Pearson terdapat hubungan bermakna antara BNP (278 71 ± 394 60) dan EF Simpson (51 46 ± 10 62) dengan p trend = 0 024 r = 0376 maupun antara BNP (278 71 ± 394 60) dan WMSI (1 31 ± 0 37) dengan p trend = 0 013 r= 0 411 Dengan uji perbedaan Chi square Tidak ada perbedaan yang
bermakna kadar BNP pada kelompok sampel dengan EF<40 dan kelompok sampel dengan EF>40 (c>O 05).
Kesimpulan Kadar BNP meningkat pada pasien pasien Non STEMI Kenaikan BNP berhubungan dengan kecenderungan penurunan fungsi ventrikel kiri semakmn tinggi kadar BNP semakmn cenderung menurun fungsi ventrikel kiri.
.....Background BNP is an aminoacid synthesized by myocyte in respons to myocardial stretching Myocardial ischemia and necrosis could also induced BNP production In NonSTEMI various degree of hypoxia ischemia and subendocardial necrosis occur to the myocardium and could compromise LV function Thus a marker that could predict LV dysfuction in this setting is very much needed Various degree of LV dysfunction and BNP production could be observed in NonSTEM.
The Aim of Study To investigate the relationship between BNP level induced by subendocardial damage with LV systolic function assessed by echocardiography in NonSTEMI.
Methods This is an analytical descriptive study cross sectional in design conducted in National Cardiovascular Center 1-larapan Kita between November 2005-June 2006 Subjects are 36 patients with NonSTEMI without previous history of infarction heart failure or valvular abnormality EDTA blood

samples were obtained during examination in the Emergency Department then the plasma were extracted to measure BNP level LV systolic function assessed by echocardiography with 16 segments Wall Motion Score Index (WMSI) and Ejection Fraction (EF) Simpson Methode The echocardiographic evaluation was performed after the intensive care phase.

Results There was a significant increase in BNP level among study subjects (278 71 ± 394 60) compared to normal population (20 00 ± 23 73) (Ttest with p<O 001) Using

Pearson correlation test we observed a significant correlation between BNP level (278 71 ± 394 60) and LV Ejection Fraction (51 46 ± 10 62) with p trend = 0024 r = -0376 and also between BNP level and WMSI (1 31 ± 0 37) with p trend = 0 013 r= 0 411 We analyzed the BNP level in patients with EF<40% and EF>40% with Chi-Square Test and found no significant difference (iO 05)

Conclusion The BNP level was increased in patients with NonSTEMI The BNP level was correlated with tend the severity of LV systolic dysfunction The higher BNP level tend to the lower LV fuction.