Perbandingan NADPH serum dan korelasinya dengan estimasi laju filtrasi glomerulus pada pasien diabetes melitus tipe 2 yang mendapat angiotensin converting enzyme inhibitor dan angiotensin receptor blocker = Comparison of serum NADPH and its correlation with estimated filtration rate in type 2 diabetes mellitus patients who received angiotensin converting enzyme inhibitor and angiotensin receptor blocker

Muhammad Fajar Dwi Putra, author

Abstrak

Nefropati diabetik disebabkan oleh peningkatan aktivitas NADPH oksidase NOX yang diinduksi angiotensin II dan hipergikemia. Terapi ACE-inhibitor dan ARB memiliki potensi dalam menghambat aktivitas NOX. Namun perbandingan efektivitas keduanya belum diketahui. Peningkatan Aktivitas NOX ditandai oleh penurunan NADPH serum dan laju filtrasi glomerulus LFG. Namun hubungan antara NADPH serum dengan LFG juga belum diketahui. Tujuan dari penelitian ini adalah membandingkan kadar NADPH serum dan eLFG pada pasien diabetes melitus DM tipe 2 yang mendapat terapi ACE-inhibitor dan ARB serta menilai hubungan NADPH serum dengan eLFG. Penelitian ini menggunakan metode cross sectional. Pengambilan sampel dilakukan pada periode April hingga Mei 2018 di RSCM dan Puskesmas Kecamatan Pasar Minggu. Subjek dibagi menjadi 2 kelompok, yaitu kelompok yang mendapat terapi ACE-inhibitor n=11 dan kelompok yang mendapat terapi ARB n=25. Kadar NADPH dan kreatinin serum diukur menggunakan metode kolorimetri. Kelompok ARB memiliki rata-rata konsentrasi NADPH yang lebih tinggi 9,61 1,33 dibandingkan dengan kelompok ACE-Inhibitor 6,56 1,5 namun tidak memiliki perbedaan yang bermakna p>0,05. Selain itu kelompok ARB juga memiliki rata-rata eLFG 66,24 3,95 yang lebih tinggi dibandingkan dengan kelompok ACE-Inhibitor 61,11 7,41 namun tidak memiliki perbedaan yang signifikan p>0,05. Namun demikian terdapat hubungan yang bermakna dan positif antara kadar NADPH serum dengan eLFG r= 0,383.

.....Diabetic nephropathy is caused by increased activity of NADPH oxidase NOX induced angiotensin II and hyperglycaemia. ACE inhibitor and ARB therapy have the potential to inhibit NOX activity. But the comparison of the effectiveness of both is unknown. Increased NOX activity is characterized by decreased serum NADPH and glomerular filtration rate GFR. However, the association between serum NADPH and GFR is also unknown. The purpose of this study was to compare serum NADPH and eGFR levels in type 2 diabetes mellitus DM patients who receiving ACE inhibitor and ARB therapy and also to evaluate serum NADPH association with eGFR. This research use cross sectional method. Sampling was conducted from April to May 2018 at RSCM and Puskesmas Kecamatan Pasar Minggu. Subjects were divided into 2 groups, the group receiving ACE inhibitor therapy n 11 and the group receiving ARB therapy n 25. NADPH and serum creatinine levels were measured using colorimetric method. The ARB group had a higher mean serum NADPH concentration 9.61 1.33 than the ACE Inhibitor group 6.56 1.5 but did not have a significant difference p 0.05 . In addition the ARB group also had an average eGFR 66.24 3.95 higher than the ACE Inhibitor group 61.11 7.41 but did not have a significant difference p 0.05. However, there was a significant and positive relationship between serum NADPH levels and eGFR r 0.383.