

Hubungan metformin dan sindrom frailty pada orang usia lanjut dengan diabetes mellitus tipe 2 = The relationship of metformin and frailty syndrome in elderly with type 2 diabetes mellitus

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Abstrak

Latar belakang: Diabetes tipe 2 ditandai dengan resistensi dan defisiensi insulin, selain itu seiring dengan penuaan kejadian resistensi insulin juga semakin meningkat. Pada studi-studi klinis, resistensi insulin dan diabetes tipe 2 terbukti meningkatkan kejadian sindrom frailty pada usila. Obat antidiabetik oral metformin telah dikaitkan dengan penghambatan proses penuaan. Namun demikian, sampai saat ini belum ada data yang menunjukkan manfaat terapi metformin terhadap kejadian sindrom frailty. Penelitian ini bertujuan untuk melihat apakah ada efek protektif metformin terhadap sindrom frailty.

Metodologi: Studi ini dilakukan secara kasus kontrol pada subyek berusia 60 tahun yang berobat di poliklinik Geriatri dan Diabetes FKUI-RSCM, bulan Maret-Juni 2013. Diagnosis frailty dilakukan dengan menggunakan indeks frailty-40 item (FI-40). Analisis statistik dilakukan dengan metode chi-square untuk analisis bivariat dan regresi logistik untuk analisis multivariat, semua data disertai dengan interval kepercayaan 95%.

Hasil: Sindrom frailty didapatkan pada 25% (n=59) subyek penelitian, sedangkan pre-frail pada 72% (n=170) subyek dan sisanya fit. Metformin ditemukan mempunyai hubungan dengan sindrom frailty pada usila dengan diabetes mellitus tipe 2, yang tetap bermakna setelah dilakukan analisis multivariat (adjusted OR 0,043; IK 95% 0,019 – 0,099; p<0,001).

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Background: Type 2 diabetes (T2DM) was characterised with insulin resistance and deficiency, furthermore with advancing age the was also an increase in insulin resistance. Clinical studies has proven that insulin resistance and T2DM increase the incidence of frailty syndrome in the elderly. Oral antidiabetics metformin was associated with the inhibition of aging process. Eventhough, there was no data that showed the relationship of metformin therapy to frailty syndrome. This study aimed to explore the possibility of metformin protective effect on frailty syndrome.

Methodology: This was a case control study conducted in subjects 60 years old who visited the Geriatrics and Diabetes outpatient clinic of Cipto Mangunkusumo National Referral Hospital between March and June 2013. Diagnosis of frailty was established using the FI-40 item criteria. Statistical analysis was done with chi-square method for bivariate and logistic regression method in multivariate analysis, all data was accompanied with 95% confidence interval.

Results: Frailty syndrome was found in 25% of subjects (n=59), with median age of 72 years old (SD 6.27) and median of FI-40 item score was 0.18 (SD 0.085). Metformin was found to have a significant relationship with frailty syndrome in the elderly diabetics, which retained significant value after multivariate analysis (adjusted OR 0.043; 95% CI 0.019-0.099; p<0.001).

Conclusion: Metformin was shown to have protective effect against frailty syndrome in elderly diabetics.