

Perbandingan Akurasi Diagnostik Lingkar Paha, Lingkar Betis, Subjective Global Assessment, dan Kekuatan Genggam Tangan sebagai Penapis Sarkopenia pada Pasien Inflammatory Bowel Disease (IBD) = Diagnostic Accuracy Comparison of Thigh Circumference, Calf Circumference, Subjective Global Assessment and Handgrip Strength as a Screening Modality of Sarcopenia in Inflammatory Bowel Disease (IBD) Patient

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Abstrak

Latar Belakang: Sarkopenia memiliki dampak yang signifikan pada pasien IBD sehingga kondisi tersebut perlu dievaluasi. Pemeriksaan sarkopenia mencakup penilaian massa otot (menggunakan DXA), kekuatan otot, dan performa fisik. Walaupun pemeriksaan DXA amat penting namun memiliki keterbatasan seperti pembiayaan yang tidak ditanggung oleh BPJS kesehatan, harga cukup mahal, dan membutuhkan operator khusus. Terdapat pemeriksaan alternatif yang lebih murah dan mudah seperti lingkar paha (LP), lingkar betis (LB), subjective global assessment (SGA), dan kekuatan genggam tangan (KGT) namun akurasi diagnostiknya belum diketahui pada pasien IBD. Tujuan: Studi ini bertujuan mencari titik potong dan akurasi diagnostik LP, LB, SGA untuk mengidentifikasi sarkopenia serta KGT untuk mengidentifikasi penurunan massa otot pada pasien IBD. Metode: Penelitian uji diagnostik ini dilakukan dengan merekrut subjek IBD di poliklinik gastroenterologi RSCM selama November 2020-Juni 2021. Analisis uji diagnostik digunakan untuk mencari titik potong beserta nilai sensitivitas, spesifisitas, nilai duga positif (NDP), nilai duga negatif (NDN), rasio kemungkinan positif (RKP), dan rasio kemungkinan negatif (RKN) LP, LB, SGA dalam menapis sarkopenia serta nilai diagnostik KGT dalam mengidentifikasi penurunan massa otot. Hasil: Dari total 85 subjek IBD, terdapat 29,4% lelaki dan 70,6% perempuan dengan median usia 42 tahun (min-maks:18-58 tahun). Proporsi sarkopenia pada perempuan didapatkan 11,67%. Pada kelompok IBD perempuan didapatkan titik potong lingkar betis 31 cm dengan sensitivitas, spesifisitas, NDP, NDN, RKP, dan RKN yaitu 100%; 60,38%; 25%; 100%; 2,52; 0. Pada kelompok IBD perempuan dengan titik potong lingkar paha 50 cm didapatkan sensitivitas, spesifisitas, NDP, NDN, RKP, dan RKN adalah 100%; 83,02%; 43,75%; 100%; 5,89; dan 0. Pada kelompok IBD perempuan, SGA memiliki sensitivitas, spesifisitas, NDP, NDN, RKP, dan RKN sebesar 42,86%; 84,91%; 27,27%; 91,84%; 2,84; dan 0,67. Area under curve (AUC) KGT mencapai 33,3% sehingga tidak lagi dilakukan penilaian akurasi diagnostik. Subjek lelaki belum memenuhi target sampel sehingga tidak dilakukan analisis. Simpulan: Titik potong optimal LP dan LB adalah 50 cm dan 31 cm berturut-turut pada pasien IBD perempuan. Akurasi diagnostik LP dan LB sangat baik untuk menyingkirkan sarkopenia pada pasien IBD perempuan. Akurasi diagnostik SGA tidak cukup baik untuk menyingkirkan maupun mendiagnosis sarkopenia pada pasien IBD perempuan. Akurasi diagnostik KGT kurang baik dalam mengidentifikasi penurunan massa otot pada pasien IBD perempuan.Background: Sarcopenia is affecting IBD outcome significantly and it should be evaluated in all IBD patients. To diagnose sarcopenia, one needs muscle mass measurement (by utilizing DXA), muscle strength and physical performance evaluation. Although DXA is of utmost importance, it has several drawbacks as its cost is expensive and not covered by national insurance program and it requires skilled operator. Those

disadvantages need to be addressed by evaluating other inexpensive and simple alternative examinations, for example thigh circumference (TC), calf circumference (CC), subjective global assessment (SGA) and handgrip strength (HGS) although the diagnostic accuracies are not known yet. Objective: The purpose is to explore cut-off point and diagnostic accuracy of TC, CC, SGA to identify sarcopenia and HGS to identify decrease of muscle mass in IBD patient. Methods: The diagnostic study was conducted in Cipto Mangunkusumo Hospital gastroenterology clinic during November 2020-June 2021. Statistical analysis was performed to discover the cut-off point and to further explore sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), positive likelihood ratio (PLR), and negative likelihood ratio (NLR) of TC, CC, and SGA to identify sarcopenia and diagnostic value of HGS to identify decrease of muscle mass. Results: From 85 patients, there were 29.4% male and 70.6% female subjects. The median age was 42 years old (min-max: 18-58 years old). The proportion of sarcopenia in women IBD patients was 11.67%. In female patients with CC cut-off of 31 cm, the sensitivity, specificity, PPV, NPV, PLR and NLR were 100%; 60.38%; 25%; 100%; 2.52; 0, respectively. In female patients with TC cut-off of 50 cm, the sensitivity, specificity, PPV, NPV, PLR and NLR were 100%; 83.02%; 43.75%; 100%; 5.90; 0, respectively. In female patients, SGA has sensitivity, specificity, PPV, NPV, PLR and NLR of 42.86%; 84.91%; 27.27%; 91.84%; 2.84; 0.67, respectively. The area under curve of HGS was 33.3% and diagnostic accuracy was not investigated. Male subjects had not reach sampling target and therefore it was not analyzed yet.

Conclusions: The optimal cut-off points of TC and CC was more than 50 cm and 31 cm, respectively in women IBD patients. The diagnostic accuracy of both TC and CC is very good to exclude sarcopenia in women IBD patients. Subjective global assessment is not accurate enough to exclude nor diagnose sarcopenia in female IBD patients. Handgrip strength is not accurate enough to identify the decrease of muscle mass in female IBD patients.