Uji diagnostik serum soluble transferrin receptor dan indeks soluble transferrin receptor dengan marker Besi pada pasien hemodialisis rutin dalam tata laksana anemia defisiensi besi = Diagnostic study of soluble transferrin receptor and index soluble transferrin receptor with iron marker in routinely hemodialysis patients in the management of iron deficiency anemia

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Abstrak

Defisiensi besi pada pasien penyakit ginjal kronis dengan hemodialisis (PGK-HD) merupakan penyebab terapi erythropoietin-stimulating agent (ESA) menjadi tidak responsif. Soluble transferrin receptor (sTfR) merupakan marker evaluasi status besi serta respons eritropoiesis yang tidak dipengaruhi inflamasi. Indeks sTfR (rasio sTfR/log feritin) diperkirakan dapat meningkatkan performa sTfR. Tujuan penelitian adalah mengevaluasi performa diagnostik sTfR dan indeks sTfR dalam tatalaksana anemia defisiensi besi pada PGK-HD. Penelitian merupakan studi potong lintang yang melibatkan 127 pasien PGK-HD di Unit Hemodialisis RS Cipto Mangunkusumo pada bulan Agustus-September 2018. Setiap subjek diperiksakan sTfR, indeks sTfR, marker besi, feritin, reticulocyte hemoglobin equivalent (RET-He), serta darah perifer lengkap. Saturasi transferin (TSAT) dan RET-He digunakan sebagai baku emas. Uji diagnostik menggunakan Chi Square dan kurva receiver operating characteristic (ROC). Pada penelitian ini didapatkan titik potong sTfR 2,71 mg/L (sensitivitas 83,3%, spesifisitas 56,5%) dan titik potong indeks sTfR 1,39 (sensitivitas 76,2%, spesifisitas 70,6%). Parameter sTfR dapat bermanfaat sebagai skrining dalam penentuan status besi serta respon eritropoiesis pada pasien PGK-HD. Tata laksana terapi besi yang adekuat akan membuat terapi ESA menjadi efektif, sehingga anemia dapat teratasi, dan kualitas hidup pasien membaik.

.....Iron deficiency in patients with chronic kidney disease and hemodialysis (CKD-HD) can cause unresponsiveness to erythropoietin-stimulating agent (ESA). Soluble transferrin receptor (sTfR) is a potential marker to evaluate iron status and erythropoiesis response, that’s not influenced by inflammation. The sTfR index (sTfR/log ferritin ratio) has been proposed could increase the diagnostic efficacy than sTfR alone. We evaluated the diagnostic performance of sTfR and sTfR index for management of iron deficiency in CKD-HD. This cross-sectional study was conducted at Cipto Mangunkusumo Hospital, Indonesia from August-September 2018, involving 127 CKD-HD patients. The sTfR level, sTfR index (sTfR/log ferritin), iron status, ferritin level, reticulocyte hemoglobin equivalent (RET-He), and complete blood count were assessed. Transferrin saturation (TSAT) and RET-He were used as references. Diagnostic tests were analyzed using the chi-square test and receiver operating characteristic curve analysis. We identified sTfR cutoff of 2.71 mg/L (sensitivity 83.3%, specificity 56.5%) and sTfR index cutoff of 1.39 (sensitivity 76.2%, specificity 70.6%). The sTfR might be useful as a screening parameter to evaluate iron status and erythropoietin response in CKD-HD patients. Appropriate iron therapy will make ESA therapy more effective, which will help to overcome anemia, and finally will improve the quality of life of CKD-HD patients.