Faktor faktor yang memengaruhi terbentuknya aloantibodi terhadap sel darah merah pada pasien thalassemia mayor = Factors influencing red blood cell alloantibody production in thalassemia beta major

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Abstrak

Latar belakang: Thalassemia merupakan kelainan hemoglobinopati yang cukup banyak di Indonesia. Terapi utama thalassemia mayor adalah transfusi seumur hidup. Transfusi berulang memiliki efek samping. Salah satunya adalah terbentuknya aloantibodi sel darah merah. Prevalens dan faktor-faktor yang memengaruhi aloantibodi pada pasien thalassemia masih belum ada di Indonesia. Uji Coombs sebagai standar diagnosis merupakan pemeriksaan yang mahal dan hanya tersedia di pusat tertentu. Metode lain yang lebih mudah diperlukan untuk memprediksi terbentuknya aloantibodi tersebut.
Tujuan: Untuk mengetahui prevalens aloantibodi sel darah merah di populasi Indonesia dan mendapatkan faktor-faktor yang memengaruhinya. Membuat sistem skoring untuk memprediksikan probabilitas terbentuknya aloantibodi sel darah merah berdasarkan faktor-faktor tersebut.
Metode: Analisis terhadap 162 rekam medis subjek yang telah dilakukan uji Coombs di Pusat Thalassemia Jakarta pada tahan 2005-2013.
Hasil: Dari 162 subjek didapatkan 31 (19%) subjek memiliki aloantibodi dan 4 (2,4%) subjek menderita AIHA. Jenis aloantibodi terbanyak yang terdeteksi adalah anti-M (29%). Faktor-faktor yang memengaruhi terbentuknya aloantibodi adalah tingginya volume transfusi, jarak antar transfusi, lama transfusi, kadar leukosit dan pajanan PRC biasa. Berdasarkan faktor-faktor risiko tersebut, sistem skoring didisain untuk memprediksi kemungkinan terbentuknya aloantibodi.
Kesimpulan: Prevalens aloantibodi pada pasien thalassemia di Indonesia cukup tinggi. Pemberian PRC leukodeplesi pelu direkomendasikan pada pasien dengan transfusi berulang. Prediksi terbentuknya aloantibodi dapat dilakukan melalui sistem skoring terutama di tempat yang tidak tersedia uji Coombs.
.....Background: Thalassemia major is a common genetic disease in Indonesia. The principal treatment of thalassemia major is lifelong blood transfusion, which is frequently complicated by alloantibody. Limited data are available on the frequency of RBC alloantibody and factors influencing in major -thalassemia patients. Coombs test, as a standard tool to diagnose alloantibody, is only available on particular Red Cross Centre. Therefore, it is necessary to find another tool to predict the probability of alloantibody formation.
Aim: To investigate the prevalence of RBC alloantibody among thalassemia major patients in Thalassemia Centre Jakarta. To describe factors influencing RBC alloantibody production and develop scoring system to predict its probability.
Methods: We analyzed the clinical and transfusion records of 162 thalassemia major patients who have been examined for Coombs test. All of the patients were registered in Thalassemia Center, Cipto Mangunkusumo hospital from 2005 until 2013.
Results: Of the 162 subjects, 31 (19%) developed RBC alloantibody and four patients (2,4%) developed autoimmune hemolytic anemia. The most common alloantibody was anti-M (29%).Several factors were found to contribute to high alloantibody rate in this study, including high volume of transfusion, duration of transfusion, white blood count level, transfusion interval, and PRC exposure. From those factors, scoring

system has been developed to predict alloantibody formation in thalassemia patients.
Conclusion: We concluded that there is a high rate of RBC alloantibody in major thalassemia patients in our center. We also suggest that leukocyte-poor PRC should be given to all patients with multiple transfusions. In remote area where Coombs test is not available, scoring system can be used to predict the probability of alloantibody formation.