

# Target pencapaian kadar hemoglobin pra dan pascatransfusi darah pasien dewasa thalassemia beta bergantung transfusi: faktor-faktor risiko dan hubungannya dengan ukuran limpa = Target achievement of hemoglobin levels pre and post blood transfusion in adult transfusion dependent beta thalassemia patients: risk factors and the relationship to the size of the spleen.

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## Abstrak

Latar Belakang: Pencapaian target transfusi darah pada pasien thalassemia beta bergantung transfusi dipengaruhi oleh berbagai faktor diantaranya adalah genotip, hipersplenisme, kompatibilitas darah, kecukupan darah donor dan interval transfusi. Ukuran limpa dapat dijadikan salah satu indikator keberhasilan pencapaian target transfusi darah selain kadar hemoglobin.

Tujuan: Mengetahui proporsi pasien yang mencapai target optimal kadar hemoglobin pra dan pascatransfusi, menentukan faktor-faktor yang terkait dengan pencapaian target kadar hemoglobin pra dan pascatransfusi dan menilai hubungan antara pencapaian target kadar hemoglobin pra dan pascatransfusi dengan ukuran limpa pada pasien dewasa thalassemia beta bergantung transfusi.

Metode: Penelitian cohort retrospective dengan pengambilan 200 subjek secara total sampling pada pasien dewasa rawat jalan Poliklinik thalassemia Rumah Sakit Cipto Mangunkusumo. Data dianalisis dari 110 subjek berupa anamnesis, pemeriksaan fisis dan laboratorium.

Hasil: Sebanyak 200 pasien thalassemia beta bergantung transfusi yang rutin kontrol ke poliklinik thalassemia Kiara RSCM, diikuti secara kohort sejak bulan Juni 2017 sampai Juni 2018. 110 subjek penelitian memenuhi kriteria inklusi diantaranya subjek thalassemia beta mayor 53 (48,2%) dan beta HbE bergantung transfusi 57 (51,8%). Proporsi subjek yang mencapai target kadar Hb pratreansfusi yaitu 18 (16,4%) dan 22 (20,0%) subjek yang mencapai target Hb pasca. Sebanyak 8 (7,3%) subjek mencapai target kadar Hb pra dan pascatransfusi darah. Faktor kecukupan darah donor berhubungan dengan pencapaian target kadar Hb pra dan pascatransfusi ( $p=0,008$ ) yaitu subjek yang hanya memiliki selisih permintaan darah  $< 30\text{ml/KgBB/tahun}$ . Pada 93 subjek penelitian tahap 2, didapatkan perbedaan bermakna antara kelompok yang tercapai kadar Hb pra dan pascatransfusi darah dengan yang tidak tercapai terhadap delta ukuran limpa ( $p < 0,001$ ).

Simpulan: Faktor kecukupan darah donor berhubungan dengan pencapaian target kadar hemoglobin pra dan pascatransfusi. Pencapaian target kadar hemoglobin pra dan pascatransfusi berhubungan dengan ukuran limpa.

.....Background: Achieving the target of blood transfusion in transfusion-dependent beta thalassemia patients is influenced by various factors including genotype, hypersplenism, blood compatibility, donor blood adequacy and transfusion interval. The size of the spleen can be one indicator of the success of achieving blood transfusion targets in addition to hemoglobin levels.

Objective: Determine the proportion of patients who achieve the optimal target hemoglobin level pre and post transfusion, determine the factors that are related to achieving pre and post transfusion hemoglobin levels and assess the relationship between achieving pre and post transfusion hemoglobin levels with spleen

size in adult beta thalassemia transfusion dependent patients.

Methods: A cohort retrospective study, with total sampling of 200 adult thalassemia transfusion dependent patient at Cipto Mangunkusumo Hospital. Data taken from 110 eligible subject in the form of medical history, physical examination and laboratory.

Result: 200 transfusion-dependent beta thalassemia patients who routinely visit the RSCM thalassemia Kiara polyclinic, followed in cohort from June 2017 to June 2018. 110 study subjects fulfilled the inclusion criteria including 53 (48.2%) major beta thalassemia subjects and transfusion-dependent HbE beta 57 (51.8%). The proportion of subjects who achieved pre-transfusion Hb target levels was 18 (16.4%) and 22 (20.0%) subjects who achieved the post Hb target. A total of 8 (7.3%) subjects achieved pre and post transfusion Hb levels. The donor blood adequacy factor is related to the achievement of pre and post transfusion Hb target levels ( $p = 0.008$ ), namely subjects who only have a blood demand difference of  $<30\text{ml/KgBB/year}$ . In 93 research subjects, there was a significant difference between groups who achieved pre and post-transfusion Hb levels with those that were not reached against the delta of spleen size ( $p < 0.001$ ).

Conclusion: Adequacy factor of donors blood is related to achieving target pre and post transfusion hemoglobin levels. The achievement of the target pre and post transfusion hemoglobin levels is related to the size of the spleen.