

INTISARI

Latar belakang: *Cancer related anemia* (CRA) merupakan komplikasi yang sering terjadi pada penderita keganasan, sebagai efek langsung dari keganasan dan/atau akibat dari pengobatan keganasan itu sendiri. Transfusi *packed red cells* (PRC) dapat meningkatkan peningkatan hemoglobin (Hb) dan hematokrit (Hmt) secara cepat sehingga menjadi pilihan yang ideal untuk koreksi anemia segera. Sampai saat ini masih terdapat perbedaan pendapat mengenai waktu yang tepat untuk memantau kadar Hb setelah transfusi PRC. Homogenitas kadar hemoglobin setelah transfusi diperkirakan memakan waktu sekitar 24 jam. Waktu pemeriksaan Hb setelah transfusi PRC yang diinstruksikan oleh DPJP di RSUP Dr. Sardjito adalah 6 jam setelah transfusi PRC. Pemeriksaan hemoglobin pascatransfusi direkomendasikan dilakukan 24 jam setelah transfusi untuk menetapkan hemoglobin pasien setelah terjadi homogenitas sempurna.

Tujuan: Untuk mengetahui rerata peningkatan kadar Hb pada 6 jam dan 24 jam setelah transfusi PRC, dan menguji perbedaan delta kadar Hb 6 jam dan 24 jam setelah transfusi PRC, masing-masing dibandingkan dengan Hb awal pada pasien keganasan non hematologi

Metode: Penelitian ini merupakan penelitian observasional analitik prospektif dengan melakukan pemeriksaan hemoglobin menggunakan alat hematologi Sysmex XN 1000 pada 6 jam dan 24 jam setelah transfusi PRC. Uji beda antara delta kadar Hb 6 jam setelah transfusi PRC dibanding Hb awal, dan delta kadar Hb 24 jam setelah transfusi PRC dibanding Hb awal, dianalisis menggunakan *paired t test*. Analisis data penelitian menggunakan Medcalc versi 13.

Hasil: Dari 52 subjek penelitian yang memenuhi kriteria inklusi dan eksklusi, didapatkan rerata \pm SB kadar Hb awal, Hb 6 jam setelah transfusi PRC, dan Hb 24 jam setelah transfusi PRC secara berurutan adalah $8,34 \pm 1,13$ g/dL; $10,09 \pm 1,2$ g/dL; $10,23 \pm 1,23$ g/dL. Didapatkan perbedaan yang signifikan secara statistik antara kadar Hb awal dan Hb 6 jam setelah transfusi PRC ($p < 0,0001$) dan perbedaan signifikan secara statistik antara kadar Hb awal dan Hb 24 jam setelah transfusi PRC ($p < 0,0001$). Hasil delta kadar Hb 6 jam setelah transfusi PRC dibanding Hb awal adalah $1,76 \pm 0,78$ g/dL sedangkan delta kadar Hb 24 jam setelah transfusi PRC dibanding Hb awal adalah $1,9 \pm 0,78$ g/dL. Uji beda antara delta kadar Hb 6 jam setelah transfusi PRC dibanding Hb awal, dan delta kadar Hb 24 jam setelah transfusi PRC dibanding Hb awal, didapatkan perbedaan yang signifikan secara statistik ($p = 0,0024$).

Simpulan: Pada penelitian ini didapatkan rerata peningkatan kadar Hb $1,76 \pm 0,78$ g/dL pada 6 jam setelah transfusi PRC dan $1,9 \pm 0,78$ g/dL pada 24 jam setelah transfusi PRC pada pasien keganasan non hematologi. Didapatkan perbedaan delta kadar Hb 6 jam dan 24 jam setelah transfusi PRC, masing-masing dibandingkan dengan Hb awal pada pasien keganasan non hematologi, yang bermakna secara statistik, namun tidak bermakna secara klinis.

Kata kunci: Keganasan non hematologi, anemia, hemoglobin, transfusi, PRC

ABSTRACT

Background: Cancer related anemia (CRA) is a complication that often occurs in patients with malignancy, as a direct effect of malignancy and/or as a result of the treatment of malignancy itself. Packed Red Cells (PRC) transfusion can rapidly increase hemoglobin (Hb) and hematocrit (Hct) making it an ideal choice for immediate anemia correction. Until now there are still differences of opinion regarding the appropriate time to monitor Hb levels after PRC transfusion. Equilibrium of hemoglobin levels after transfusion is estimated to take about 24 hours. Hb examination time after PRC transfusion instructed by attending doctors at RSUP Dr. Sardjito was 6 hours after the PRC transfusion. It is recommended that post-transfusion hemoglobin examination be carried out 24 hours after transfusion to determine the patient's hemoglobin after complete equilibrium occurs.

Objective: To determine the mean increase in Hb levels at 6 hours and 24 hours after PRC transfusion and to examine the difference in Hb levels 6 hours and 24 hours after PRC transfusion, respectively compared with the baseline Hb levels in non-hematological malignancy patients.

Methods: This study was a prospective analytic observational study by examining hemoglobin using the hematology analyzer Sysmex XN 1000 at 6 hours and 24 hours after the PRC transfusion. The differential test between the delta of Hb levels 6 hours after PRC transfusion compared to the baseline Hb levels, and the delta of Hb levels 24 hours after PRC transfusion compared to the baseline Hb levels, were analyzed using paired t test. Analysis of research data using Medcalc version 13.

Results: Of the 52 study subjects who met the inclusion and exclusion criteria, the mean \pm SD baseline Hb levels, Hb 6 hours after PRC transfusion, and Hb 24 hours after PRC transfusion respectively were 8.34 ± 1.13 g/dL; 10.09 ± 1.2 g/dL; 10.23 ± 1.23 g/dL. There was a statistically significant difference between baseline Hb levels and Hb levels 6 hours after PRC transfusion ($p < 0.0001$) and a statistically significant difference between baseline Hb levels and Hb levels 24 hours after PRC transfusion ($p < 0.0001$). The result of the delta of Hb levels 6 hours after PRC transfusion compared to the baseline Hb levels was 1.76 ± 0.78 g/dL while the delta of Hb levels 24 hours after PRC transfusion compared to the baseline Hb levels was 1.9 ± 0.78 g/dL. The differential test between the delta of Hb levels 6 hours after PRC transfusion compared to the baseline Hb levels, and the delta of Hb levels 24 hours after PRC transfusion compared to the baseline Hb levels, obtained a statistically significant difference ($p = 0.0024$).

Conclusion: In this study, the mean increase in Hb levels was 1.76 ± 0.78 g/dL at 6 hours after PRC transfusion and 1.9 ± 0.78 g/dL at 24 hours after PRC transfusion in non-hematological malignancy patients. There were differences of delta Hb levels 6 hours and 24 hours after PRC transfusion, respectively compared with the baseline Hb levels in non-hematological malignancy patients, which were statistically significant, but not clinically significant.

Key words: non-hematological malignancy, anemia, hemoglobin, transfusion, PRC