Pengaruh Transfusi Packed Red Cell (PRC) terhadap Status Besi Bayi Prematur Usia Gestasi 28-32 Minggu = Effect of Packed Red Cell (PRC) Transfusion on The Iron Status of Preterm Infants 28-32 Weeks Gestasional Age

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Abstrak

Prematuritas merupakan penyebab mortalitas dan morbiditas neonatus tertinggi. Sebagian besar prematur mendapat transfusi PRC berulang selama perawatan. Sementara itu, transfusi PRC berulang dapat meningkatkan kadar zat besi. Namun, hingga saat ini belum ada konsensus mengenai suplementasi besi pada prematur yang telah mendapat transfusi PRC berulang. Penelitian ini bertujuan untuk mengetahui status besi pada bayi prematur usia gestasi 28-32 minggu yang telah mendapat transfusi PRC berulang dan membuat rekomendasi mengenai pemberian suplementasi besi. Penelitian ini adalah penelitian kohort prospektif terhadap 70 bayi prematur yang lahir di RSCM bulan Maret 2021 – Mei 2021. Profil besi diperiksa usia kronologis 1, 2 dan 3 bulan. Hasil penelitian menunjukkan profil besi bayi prematur yang mendapat transfusi PRC > 2 kali lebih tinggi secara signifikan dibandingkan 2 kali (p<0,05). Titik potong total volume transfusi PRC yang menyebabkan status besi berlebih adalah PRC 50 mL/kgBB. Median feritin serum pada usia kronologis 1 bulan adalah 498,11 µg/L (358-885,62 µg/L), dua bulan adalah 232,66 µg/L (60,85-538,44 µg/L), tiga bulan adalah 42 µg/L (40,1-168,63 µg/L). Faktor risiko yang memengaruhi status besi berlebih pada bayi prematur adalah riwayat sepsis (OR 5,918 (IK 95%: 2,027-17,277)). Dari hasil penelitian disimpulkan bahwa bayi prematur yang mendapat transfusi PRC >2 kali memiliki profil besi yang lebih tinggi dibandingkan 2 kali pada usia kronologis 1 bulan. Bayi premtur yang mendapat transfusi PRC 50 mL/kgBB memiliki status besi berlebih di usia kronologis 1 bulan sehingga suplementasi besi sebaiknya diberikan pada usia kronologis 2 bulan.

.....Prematurity is the most common cause of neonatal mortality and morbidity. Most of the preterm infants received multiple PRC transfusions during hospitalization. Meanwhile, multiple PRC transfusions can increase iron levels. However, to date there is no consensus regarding iron supplementation in preterm who have received multiple PRC transfusions. The objective of this study are to determine iron status in premature infants aged 28-32 weeks who have received multiple PRC transfusions and make recommendations regarding iron supplementation. This study is a prospective cohort study of 70 preterm infants born at the Cipto Mangunkusumo Hospital in March 2021 – May 2021. Iron profiles were examined chronologically age at 1, 2 and 3 months of age. The result are the iron profile of preterm infants who received PRC transfusion was > 2 times significantly higher than 2 times (p<0.05). The cut-off point for the total volume of PRC transfusion that causes iron overload status is 50 mL/kgBW. The median serum ferritin at 1 month of age was 498.11 g/L (358-885.62 g/L), two months was 232.66 g/L (60.85-538.44 g/L), three months is 42 g/L (40.1-168.63 g/L). The risk factor influencing iron overload status in preterm infants was a history of neonatal sepsis (OR 5.918 (95% CI: 2.027-17.277)). The conclusion of this study are preterm infants who received PRC transfusion >2 times had a higher iron profile than 2 times at 1 month chronological age. Preterm infants who received PRC transfusions 50 mL/kgBW had iron overload status at 1 month of chronological age and therefore iron supplementation should be given at 2 months of

chronological age.