

Trombocytosis in childhood relapsing nephrotic syndrome

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Abstract

Background Thrombosis is a serious complication of nephrotic syndrome (NS). Long-term steroid treatment may induce thrombocytosis in relapsing NS that may predispose to thrombosis. Most children with idiopathic NS respond to steroids; however, a substantial number of patients will relapse frequently and require repeated high dose steroid therapy, thus increase the risk of thrombocytosis.

Objective To compare the occurrence of thrombocytosis between children with frequent relapses of NS (FRNS) and those with infrequent relapses (IFRNS).

Methods We reviewed the medical records of children aged 1-14 years diagnosed as FRNS and IFRNS at the Department of Child Health, Hasan Sadikin General Hospital Bandung from 2000-2005. We excluded children with iron deficiency anemia, hemolytic anemia, acute haemorrhage, malignancy, and those who received cyclophosphamide.

Results There were 33 children (26 males, 7 females) with FRNS and 33 children (27 males, 6 females) with IFRNS. The mean platelet level of children with FRNS ($517,909 \pm 165,670/\text{ml}$) was higher than that of children with IFRNS ($416,272 \pm 145,763/\text{ml}$) ($P=0.005$). The occurrence of thrombocytosis in children with FRNS (18) was higher than that of children with IFRNS (7) ($P=0.005$).

Conclusion This study shows that thrombocytosis is more common in FRNS than IFRNS, therefore we should take more precaution to the occurrence of thrombosis in FRNS. [Paediatr Indones 2007;47:100-103].

Keywords: thrombocytosis, steroid, frequent relapses nephrotic syndrome, infrequent relapses nephrotic syndrome

Thrombosis, a serious complication in children with nephrotic syndrome (NS), occurs in 28-42% patients, 8.1% among them have recurrent episodes of thrombosis.^{1,2}

The risk factors of thrombosis are increased thrombocyte aggregation, increased coagulation factors, hypovolemia, corticosteroid treatment, and increased platelet count (thrombocytosis).³

Thrombocytosis occurs in 57.5% of NS patients.⁴ In general, the risk factors for thrombocytosis include myeloproliferative disorder, malignancy, iron deficiency anemia, hemolytic anemia, chronic or acute inflammation, acute haemorrhage, surgery, cyclophosphamide, longterm steroid treatment, and nephrotic syndrome.⁵

Most children with idiopathic NS respond to initial steroid treatment; however approximately 60-80% of cases will undergo relapse and half of them have frequent relapses or steroid dependence,^{3,6-8} needing high dose steroid administration to achieve remission. During the relapse episode, NS patients tend to have increased platelet count compared to that in the initial attack. Frequent relapse nephrotic syndrome

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