Serum Thrombopoietin Levels in Cyclic Thrombocytopenia

To the Editor:

Cyclic thrombocytopenia is a rare disorder characterized by periodic decreases and increases in platelet levels. Recent data suggest these fluctuations result from periodic failure of effective platelet production or periodic immune-mediated platelet destruction. However, the pathogenesis of this disorder is uncertain. We developed an enzyme-linked immunosorbent assay (ELISA) of serum thrombopoietin levels and monitored this in a patient with cyclic thrombocytopenia.

A 51-year-old Japanese woman was diagnosed with idiopathic thrombocytopenia in 1993. There was a good response to prednisone therapy and she was symptom-free off prednisone until April 1995 when she developed purpura. Two cyclic fluctuations in platelet count were observed in this patient and she was referred to our hospital on May 26, 1995. Physical examination was unremarkable, platelet count was $189 \times 10^9/L$. This decreased to $6 \times 10^9/L$ and increased to $222 \times 10^9/L$ during the next 3 weeks. Figure 1 shows reciprocal changes in serum thrombopoietin levels and platelets. Thrombopoietin increased to 4.432 fmol/mL at the nadir of the platelet cycle and decreased as platelets increased. Thrombopoietin after the recovery was above normal (0.762 ± 0.32 fmol/mL, $n=50$).

These data indicate an inverse correlation between serum thrombopoietin level and platelets in cyclic thrombocytopenia. This suggests that endogenous thrombopoietin produced may regulate platelet production and may underlie cyclic thrombocytopenia.

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Fig 1. Platelet (O) and TPO (O) levels in cyclic thrombocytopenia. (O), Normal range of TPO.

REFERENCES
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