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Letter to the Editor: High-Dose Methylprednisolone in Children With Acute Nonlymphoblastic Leukemia

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We read with interest the paper by Motoji et al. entitled "Successful treatment of refractory anemia with high-dose methylprednisolone" [1]. Although they were successful in the treatment of some patients with refractory anemia (RA) with high-dose methylprednisolone (1,000 mg daily for 3 days), no improvement was observed in patients who had refractory anemia with an excess of myeloblast (RAEB).

Recently, we have obtained remarkable antileukemic effect with high-dose intravenous methylprednisolone (HIVMP) in children with acute nonlymphoblastic leukemia (ANLL). Complete remission was achieved with HIVMP treatment without using any other antileukemic agents [2–4]. In our study methylprednisolone was administered in a dose of 30 or 20 mg/kg/day for at least 2 weeks; each dose given in 2–5 min. Therefore the difference of the dosage and the duration of HIVMP administration from our trial could be taken into consideration for the ineffectiveness of their treatment in patients with RAEB. More effective results on the proliferation of mouse myeloid leukemic cells had been also shown in vitro by using much higher than the physiological concentration of glucocorticoids or prolongation of its duration [5]. From these observations we assume that steroid dosage and the duration of its administration would be very important for achieving successful results in patients with RAEB.

The mechanisms of the HIVMP effect on ANLL patients are not clear. However, the differentiation effect of steroid on some mouse myeloid leukemic cell [6,7] and the inhibition of leukemia associated inhibitor from human myeloid leukemic cells was shown in vitro [8], which supports our findings. In addition, with HIVMP, restoration of normal hematopoiesis as indicated by Motoji et al. could also be possible in patients with ANLL. Because of the above considerations, we suggest HIVMP treatment for patients with RAEB as was used in our trial.

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