letter to the editor
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MORE ON CD10-POSITIVE CELLS IN BONE MARROW OF CHILDREN WITH IMMUNE THROMBOCYTOPENIA

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Sir,

we read with interest the paper by Melillo et al.[1] dealing with increased CD10$^+$ cell: in the bone marrow (BM)of a child with immune thrombocytopenia (ITP). In this context we would lime to report our experience based on the bone marrow immunological analysis, carried out at the time of diagnosis, in 13 ITP children observed at our institution in the last year. Results were compared with those of 13 ITP adult patients intentionally selected for statistical comparison.

Diagnosis of ITP was made in all instances according to well established criteria.[3,4] Other immune disorders were excluded on the basis of Coombs. test and ANA negativity. A panel of monoclonal antibodies which included CD10, CD34, CD19, HLA-DR, CD20, CD38, CD3, CD4, CD8, CD5, CD23 was used for BM immunophenotyping. All BM samples were taken at diagnosis and more than 5×10^9/L cells were analyzed in flow cytometry.

Result of BM immunophenotype are depicted in Table 1. As shown, adult patients had an increased percentage of T-cells in BM in comparison to younger ones. In contrast, children with ITP displayed a significant increase of B-cell lineage antigens. The same applied for both CD10 and CD34.

The FACS profile from a representative patient stained for CD10 is presented in Figure 1B. As shown, the histogram suggest the presence of a CD10$^+$ cell population with weak fluorescence. On the other hand, mean fluorescence intensity (MFI) in our ITY cases was significantly lower (86.5±10.9) than that encountered in CD10$^+$ ALL patients (119±12.6)(Figure 1a).

In order to verify whether CD10-expression was an age-related phenomenon rather than a feature of ITP we attempted a correlation with patient age. Results are consistent with a negative correlation between CD10-positivity and patient-age ($r=-0.709$; $p<0.01$). In other words, the higher CD10-expression the lower patient-age.

Previous study from Cornelius et al.[2] stressed that ITP children may have an increased number of BM CD10$^+$ cells than normals. However,

Table 1. Group characteristics and marrow immunophenotype.

n	mean age (yrs)	CD3	CD4	CD8	CD10	CD19	CD20	CD34	CD38	CD74
		mean percent value								
C° (13)	5.15±3.3	29.3±11.1	17.5±14.9	15.6±6.7	47.6±19.9	53.3±13.2	32.3±11.2	28.4±10.2	76.7±13.4	51±16.9
A° (6)	38.16±18.6	51.9±13.1	31±6.4	25.2±4.7	3.8±3.2	14.5±4.3	14.5±11.8	14.4±6.8	40.7±12.5	15.2±2.4
p		0.001	0.025	0.005	0.0001	0.0001	0.01	0.025	0.0001	0.0001

°C: children; A: adults.

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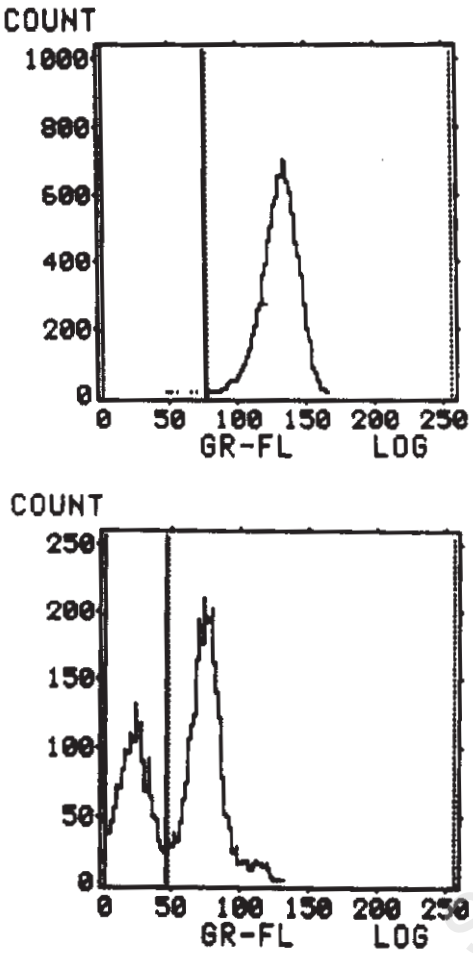

Figure 1. CD10 intensity distribution in acute lymphoblastic leukemia (A) and immune thrombocytopenia (B) patient, respectively.

3 out of 5 children used for comparative purpose suffered from hematological diseases (one Fanconi's aplastic anemia and two transient erytroblastopenia).

As far as the present study is concerned, we conclude that is common to meet an increased proportion of immature lymphocytes in the marrow of children with ITP. Such a finding not being peculiar of this disease. In keeping with these results is our previous observation dealing with ALL off-therapy children in whom an expansion of BM $CD10^+$ was found without clinical and/or hematological evidence of leukemic relapse.[3]

References

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