REFERENCES


EXPRESSION OF IMMUNOLOGIC MARKERS IN MEGAKARYOBLASTS

To the Editor:

We read with interest the recent paper by Koike et al1 in which they analyzed the expression of myeloid markers on megakaryoblasts and proposed a model for the order of appearance of markers in megakaryoblast maturation. We would like to comment on the immunophenotype of megakaryoblasts based on our experience with 27 of 240 patients with acute leukemia other than lymphoblastic in which a megakaryoblastic component was detected. All cases were studied systematically with a panel of 22 monoclonal antibodies in which included four specific for platelet glycoproteins (GP): two against GP IIb/IIIa (CD41), one for GP Ib (CD42), and one for GP IIIa.

Regarding the expression of myeloid markers on megakaryoblasts, from our study, and according to Koike et al,1 it can be concluded that megakaryoblasts are generally negative for the CD13 antigen, and this antigen would thus be restricted to the granulomonocytic lineage. Nevertheless, in two of the 27 cases there was a clear-cut overlap of MY7 (CD13) and J15 (CD41) positive cells, which suggests that individual blast cells simultaneously express granulomonocytic and platelet antigens, although specific doublelabeling was not performed. In addition, our results show that megakaryoblasts are also negative for specific monocytic (CD14) and granulocytic (CD15) markers.

Conflicting results have been reported regarding HLA-DR expression by megakaryoblasts,2,4 and the possibility of its being the first antigen expressed in this lineage, which would be lost subsequently, as proposed by Koike et al,1 is attractive. Nevertheless, the results from one of our patients suggest that on some occasions at least, the expression of GP IIb/IIIa may precede that of HLA-DR. In our patient, J15 (GP IIb/IIIa) detected twice the number of cells, as compared with FMC25, which would point to a relatively immature population of megakaryoblasts; these cells were almost completely negative for HLA-DR. In Koike's model the expression of GP IIa, probably the first GP to be acquired by the megakaryoblast,4 is not considered. In one of our pure megakaryoblastic cases, the cells displayed a high reactivity for GP IIIa (70% of the blast cells) while GP IIb/IIIa and GP Ib were expressed in a minority of cells (15%), indicating that we were dealing with very early megakaryoblasts.4 These cells were lacking in HLA-DR and CD34 (BI-3C5) antigens, which would indicate that GP IIIa is acquired earlier than the HLA-DR marker in the megakaryoblasts maturation.

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REFERENCES


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