About the Increased Frequency of Acute Promyelocytic Leukemia Among Latinos: The Experience From a Center in Spain

To the Editor:

Recently, Douer et al found that Latinos with acute myeloid leukemia (AML) have a higher likelihood of the acute promyelocytic leukemia (APL) subtype of disease, which may suggest either a genetic predisposition to APL and/or exposure to distinct environmental factor(s). The Latino ethnic group was defined in their report based on the origin of the patient: Central and South America, although we assumed that patients from Mexico (North America) were also included in the Latino group. This definition is, in our opinion, based more on cultural features than on racial or even ethnic reasons, because an important mixture of races occurred after the Spanish colonization of America that involved people from the Iberian peninsula, the aautochonous American natives, and, in some areas, black people from Africa. Thus, what was described as the Latino group is an heterogeneous group of races. Nevertheless, we have also found a high incidence of APL in our center in Madrid (Spain) when compared with other regions in North Europe or white people from the United States. From January 1986 to December 1994, 104 Spanish patients who were mainly from the region of Madrid were diagnosed as having de novo acute myeloblastic leukemia in our center. Their median age was 47 years (range, 13 to 82 years), and 24 cases corresponded to APL (23%). The rest of the cases were M6 (1), M1 (14), M2 (22), M4 (11), M5 (25), M6 (5), and M7 (2). Patients with APL were significantly younger, with a median age of 29 years (range, 16 to 59 years) versus 49 years (range, 13 to 82) for those without APL (P < .001 t-test). This finding and the increased frequency of APL in the Italian population could favor the hypothesis of a racial predisposition for APL, although other environmental factors cannot be completely excluded.

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REFERENCES

Response

As Drs Thomas and Fernández-Rañada correctly comment, we defined Latinos as people originating in Central and South America and Mexico. We agree that the genetic background of these populations is indeed heterogeneous and includes ancestors from Europe, different American Indian tribes, and other races. The patient populations that we studied were not large enough to examine more homogeneous Latino subgroups for the frequency of APL. Whether the high frequency of APL seen in Los Angeles County relates to place of residence before diagnosis of APL, to dietary or lifestyle habits, or to a specific genetic background is as yet undetermined. We are currently beginning an international study involving patient populations from the United States, Mexico, and Argentina in an attempt to address the specific issue of Latino subpopulations.

As referred to in our report, a higher than expected frequency of APL has also been noted in a series of AML patients from different countries in Central and South America and Italy, and the information provided in the letter of Drs Thomas and Fernández-Rañada extends this observation to AML patients in Spain. However, it is important to recognize several potential biases in studying the frequency of APL among AML patients. Thus, data from hospitals could be biased by distinct referral patterns. For example, APL is a disease of younger adults, whereas other AML subtypes are more common in older patients. Referral of elderly patients with AML to a hospital for intensive treatment could be lower because of an expected poor outcome. This could favor a higher rate of hospitalization of APL cases than other AML patients and could artificially increase the proportion of APL. In addition, careful pathologic verification of non-APL cases is extremely important. The morphologic criteria for APL are the most specific, sensitive, and reliable of all French-American-British (FAB) subtypes. However non-APL cases, in particular FAB subtypes M0 and M1, if erroneously misclassified, are more likely to be defined as acute lymphoblastic leukemia rather than APL. In that case, the number of non-APL cases and the total number of AML cases would decrease, resulting in a spurious increase in the proportion of APL among AML cases. Our study tried to minimize these biases by comparing Latinos with non-Latinos, by adjusting the risk of APL for age, and by using population-based data with central pathologic subgroup verification of all AML cases. We believe that our conclusion that APL is more frequent in Latinos with AML is valid. The observation of Drs Thomas and Fernández-Rañada and other similar reports point to the same conclusion, ie, that APL may have an uneven geographic or ethnic distribution and that APL may be more frequent in AML patients in certain population groups that are categorized as Latinos. Further research on the epidemiology of AML must be subgroup-specific.

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REFERENCES

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