GiC XXXIX WEB CONFERENCE 14 - 18 GIUGNO 2021
CONFERENZA NAZIONALE DI CITOMETRIA
AGGIORNAMENTI E INNOVAZIONI DELLA CITOMETRIA NELLE APPLICAZIONI CLINICHE E DI RICERCA

WHAT DOES ATYPICAL CHRONIC LYMPHOCYTIC LEUKEMIA REALLY MEANS? MORPHOLOGY VS IMMUNOPHENOTYPE.

D'Arena G.[1], D'Auria F.[2], Statuto T.[2], Valvano T.[2], Mansueto G.[3], Villani O.[3], D'Agostino S.[3], Pietrantuono G.[3]
1. Hematology, P.O. S. Luca, ASL Salerno; 2. Laboratory of Clinical Research and Advanced Diagnostics, IRCCS-CROB Referral Cancer Center of Basilicata, Rionero in Vulture; 3. Hematology and Stem Cell Transplantation Unit, IRCCS-CROB Referral Cancer Center of Basilicata, Rionero in Vulture – giovannidarena@libero.it

Atypical chronic lymphocytic leukemia (CLL) is defined according to the morphologycal features of peripheral blood lymphocytes well established by French-American-British (FAB) in 1989. However, no commonly accepted criteria have been proposed so far to differentiate atypical from typical CLL only on the basis of the immunophenotypic profile. Neverthless, some abnormalities of the typical immunophenotypic profile of CLL (i.e., high expression of CD20 and/or CD22 and/or surface membrane immunoglobulins [smIg], CD79b and/or FMC7 expression) are commonly used to identify immunophenotypic atypical form of CLL.
May-Grunwald Giemsa peripheral blood smears collected and stored at diagnosis from 72 patients (mean age 68 years; range 48-89 years, 46 [61%] males) with CLL diagnosed at our Institution and with a follow-up longer than 12 months were reviewed by two of us (G.D. and G.P.). Medical records of these patients were also evaluated aiming at establishing if there is a correlation between the morphological and immunophenotypic definition of atypical CLL and if the so-called discordant cases (patients without such a correlation, i.e., typical for morphology but with atypical immunophenotype, or otherwise) displayed relevant biological and clinical features. We have arbitrarely chosen to classify as immunophenotypic atypical CLL all cases in which the deviation from typical immunophenotypic profile was found for at least two antigens.
Twenty-eight (39%) patients were found discordant for morphology and immunophenotype and 48 (61%) concordant. No differences were found according to Binet clinical stage, leukocyte and lymphocyte count, hemoglobin levels and platelet count, IgVH (mutated or unmutated) status, FISH abnormalities according to Dohner classification, LDH and beta2-microglobulin serum concentrations. Finally, time-to-first-treatment and overall survival were also found not different.
In our hands, the discrepancy of neoplastic B lymphocytes for morphological and immunophenotypic features did not appear as a category risk of CLL. However, the small series of patients evaluated does not allow us to draw firm conclusions. Further evaluation are currently ongoing to try bo better define the significance of "atypical" CLL and the role of immunophenotype or morphology, or both, to identify patients with a better or worse prognosis.