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Cytogenetic analysis in 101 Tunisian patients with *de novo* acute myeloid leukemia

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Cytogenetic alterations represent interesting biomarkers for diagnosis, prognosis assessment and treatment adjustment of acute leukemia. We studied the cytogenetic and the molecular findings in 101 consecutive Tunisian patients who presented with *de novo* acute myeloid leukemia (AML), during 2016, from January to December. Analysis was achieved in Cytogenetic and Molecular Hematology Laboratories of Institute Pasteur of Tunis, draining most Tunis city AML cases for diagnosis and follow up. The study included pediatric and adult leukemia. Chromosomal abnormalities and genes rearrangement were detected by R-banding karyotype and RT-PCR, carried out for *PML-RARA, RUNX1-RUNX1T1 (AML1-ETO)* and *CBFb-MYH11* transcripts. 51% of patients had cytogenetic abnormalities in their karyotypes, 36% had normal karyotype and 13% of patients had no adequate metaphases for karyotype analysis. Based on karyotypes findings, analyzed AML were categorized into four cytogenetic risk groups. The first is favorable cytogenetic risk group (21% of cases), includes patients presenting t(15 ;17)(q24 ;q21), t(8 ;21)(q22 ;q22) and inv(16)(p13q22) found respectively, in 10%, 5% and 6% of cases. The second is intermediate cytogenetic risk group (49% of cases), includes patients presenting normal karyotype, trisomy 8, -Y. The third is unfavorable cytogenetic risk group (21% of cases), includes patients presenting del(5q)/-5, -7/del(7q), 11q23 translocations/ trisomy 11, t(9;22)(q34;q11), del(9q) and complex karyotype. Remaining eight patients (9% of cases) had miscellaneous clonal aberrations considered to have unknown prognostic significance because of their low frequency in AML. We have compared the incidence of specific clonal abnormalities in our series, to the results of cooperative studies including higher number of patients. In this study, we aimed to determine the frequencies and subtypes of chromosomal abnormalities among AML patients in the Tunisian population, and to report the rare detected cytogenetic alterations in this series of patients.

Biography

Hend Chaker is a Pharmacist and clinical biologist from the Faculty of Pharmacy of Monastir (Tunisia) with M.Sc. in Cytogenetic (from the faculty of medicine of university of Montreal, Canada. She is an Assistant in Medical genetics at Hospital-University, in Cytogenetic Laboratory of Institute Pasteur of Tunis and also following as student in an international course in genomics.

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