PROGNOSTIC FACTORS IN MYELODYSPLASTIC SYNDROMES.

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Introduction: Myelodysplastic syndromes (MDS) are a heterogeneous group of clonal hematopoietic disorders, characterized by peripheral cytopenias and risk of progression to acute myeloid leukemia (AML). Accurate prediction of a patient's prognosis is useful to define disease risk and treatment options. Several factors have been shown to predict prognosis: cytopenias, age, sex, bone marrow (BM) blast proportion, performance status, co-morbidities, transfusion dependence, lactate dehydrogenase (LDH), albumin, serum ferritin (SF), karyotype and mutations.

Aim: The aim of this study was to see the implication of several factors such as age, sex, cytopenias, BM blasts, transfusion dependence, SF, LDH and albumin on overall survival and progression to AML, thus enabling us to predict disease prognosis.

Material and methods: we analyzed 120 patients, 67 men, 53 women, with MDS (primary and secondary), diagnosed at the University Clinic of Hematology, Skopje, Macedonia, in the period of January 2011 to December 2013. Several factors were taken into account at presentation: age, gender, cytopenias, BM blasts, transfusion dependence, SF, LDH and albumin. Patients were distributed according to FAB classification. Patients were followed 12 to 44 months from diagnosis, with two end points - leukemic transformation or death.

Results: analysis showed that of 120 patients with MDS, 116 were with primary, and 4 with secondary MDS. According to FAB classification, distribution of patients was as follows: RA - 85, RARS - 1, RAEB - 18, RAEB-t - 3, CMML - 9. Men to women ratio was 1,26. Mean age was 66,3 (range 17-89). Mean blast percentage in BM was 6,1 (range 2-30). Cytopenias: 1 - 27 pts, 2 - 50 pts, 3 - 43 pts. Mean blood transfusions were 12,9 (range 1-87). Mean SF level was 934,1 (range 9,5-3940). Mean LDH level was 830,9 (range 217-5790). Mean albumin was 39 (range 21-49). Patients were treated mostly with transfusion as a key supportive therapy. Some patients received stimulating agents (16 pts – granulocyte colony stimulating factor (GCSF), 11 pts - erythropoietin (EPO), 3 pts - GCSF + EPO. Iron overload in 7 patients was managed with chelation therapy. 3 pts underwent transplantation. 24 patients were followed without treatment. After statistical processing we found that older age, male gender, increased blast percentage (>5), more cytopenias (>1), blood transfusion dosage (>20), increased levels of SF (>500), increased levels LDH (>1000) and decreased level of albumin (<40) showed negative impact on survival and shortened the time to progression to AML.

Conclusion: Factors like older age, male gender, increased BM blast percentage, more cytopenias, blood transfusion dosage, increased levels of serum ferritin and LDH and decreased levels of albumin have negative prognostic value on survival and leukemic transformation and are predictors of poor prognosis in MDS.