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Conference Abstract A18

Clinical and Laboratory Characteristics and Prognosis of Patients with Chronic Myelomonocytic Leukemia

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Introduction

Chronic myelomonocytic leukemia is a clonal myeloproliferative disorder characterized by dysplasia of peripheral blood and bone marrow cells, excessive production and circulation of monocytes in peripheral blood, and a high risk of transformation into acute myeloid leukemia. The objective of this study was to analyze a cohort of patients with a diagnosis of chronic myelomonocytic leukemia, to assess factors influencing overall survival, and to evaluate treatment outcomes.

Materials and Methods

This retrospective study included 112 patients with a verified diagnosis of chronic myelomonocytic leukemia who were followed at the R.M. Gorbacheva Research Institute from 2011 to 2025. Overall survival was analyzed using the Kaplan–Meier method, and factors influencing overall survival were assessed by Cox regression analysis. The median age at diagnosis was 56 years (range, 17–88); men comprised 66% (n = 74) and women 34% (n = 38). At the time of diagnosis, 34% of patients (n = 38) were classified as chronic myelomonocytic leukemia-0, 28% (n = 31) as chronic myelomonocytic leukemia-1, and 38% (n = 43) as chronic myelomonocytic leukemia-2 according to the 2016 World Health Organization classification. During follow-up, transformation into acute myeloid leukemia was documented in 29% of patients (n = 33). The median follow-up duration was 16.5 months.

Results and Discussion

Two-year overall survival for the entire population was 57% (95% confidence interval, 47.0–68.5%), with a median overall survival of 44 months. The median time to transformation into acute myeloid leukemia from diagnosis was 6.5 months. The presence of constitutional symptoms was significantly associated with worse overall survival (hazard ratio = 2.38, p = 0.009). The following factors showed a trend toward statistical significance: documented transformation into acute myeloid leukemia (hazard ratio = 1.84, p = 0.052), bone marrow blast count at disease onset (hazard ratio = 1.02, p = 0.079), and absolute monocyte count in peripheral blood (hazard ratio = 1.03, p = 0.088). Allogeneic hematopoietic stem cell transplantation was performed in 21% of patients (n = 24), 63% of whom (n = 15) were at the stage of transformation into acute myeloid leukemia. Two-year overall survival among the nine patients who underwent allogeneic transplantation in complete remission was 100%, whereas in patients without complete remission (n = 15) it was 34.4% (95% confidence interval, 17.0–67.5%, p = 0.014). Causes of death after allogeneic transplantation were relapse (46%, n = 6), primary graft failure (8%, n = 1), and infectious complications (46%, n = 6).

Conclusion

Chronic myelomonocytic leukemia is a clonal hematologic disorder characterized by a combination of features of myelodysplastic and myeloproliferative neoplasms and an unfavorable prognosis. The results obtained confirm the importance of timely diagnosis and determination of the prognostic variant of the disease to guide optimal therapeutic strategy. Therefore, further studies of molecular and genetic characteristics, predictors of disease progression, and determination of the optimal timing for allogeneic hematopoietic stem cell transplantation are required.