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# FREQUENCY OF GENETIC MUTATIONS IN CHRONIC LYMPHOCYTIC LEUKAEMIA PATIENTS AND THEIR EFFECT ON SURVIVAL

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## INTRODUCTION

Chronic lymphocytic leukaemia (CLL) is the most common type of leukaemia in western world countries. In addition to clinical variables such as gender, age and Rai/Binet stage, cytogenetic abnormalities are among the prognostic factors. In this study, we aimed to investigate whether the frequency of cytogenetic abnormalities in CLL patients followed up in our clinic and their effects on prognosis are compatible with the literature.

## METHOD

Data of 100 patients diagnosed with CLL who were older than 18 years and younger than 80 years of age and followed up in Erciyes University Faculty of Medicine, Hematology-Oncology Hospital between January 2010 and January 2022 were included retrospectively. The frequency of cytogenetic abnormalities and their effects on prognosis were evaluated by statistical analyses.

## RESULTS

Of the 100 patients included in the study, 30 (30%) were female and 70 (70%) were male. The mean age of all patients was 67.11±9.47 years and the mean age at diagnosis was 61.32±10.13 years. It was observed that 56% of the patients were positive for any cytogenetic abnormality. The most common cytogenetic abnormality was 13q14 deletion. 13q14 deletion was found to be positive in 40.3% (n:31) of the patients. 17p deletion was found positive in 17% (n:17), 11q deletion in 15.4% (n:10), and trisomy 12 in 12.5% (n:7) of the patients. Some of the characteristics of patients with 17p and 11q deletions, which were evaluated to be associated with poor prognosis, are given in the table (Table 1-2).

## CONCLUSIONS

According to our findings, the presence of cytogenetic abnormalities has an important role in disease risk determination in accordance with the literature. Therefore, cytogenetic anomaly screening should be performed in every patient before treatment. This screening is important in terms of determining the prognosis, stage and treatment options.

| Feature | | 17p deletion positive one (n:100) | | 17p deletion negative one (n:100) | | p |
|---|---|---|---|---|---|---|
| | | n | % | n | % | |
| **Survival** | Alive | 10 | 13.5 | 64 | 86.5 | 0,136** |
| | Not alive | 7 | 26.9 | 19 | 73.1 | |
| **Disease process** | Progressed | 10 | 21.7 | 36 | 78.3 | 0,244* |
| | Not Progressed | 7 | 13.0 | 47 | 87.0 | |
| **Stage** | Stage 0-1-2 | 13 | 14.4 | 77 | 85.6 | **0,064**** |
| | Stage 3-4 | 4 | 40.0 | 6 | 60.0 | |

*Table 2. Some characteristics of patients with and without 11q deletion gene mutation*

| Feature | | 11q deletion positive one (n:65) | | 11q deletion negative one (n:65) | | p |
|---|---|---|---|---|---|---|
| | | n | % | n | % | |
| **Survival** | Alive | 7 | 13.5 | 45 | 86.5 | 0,405* |
| | Not alive | 3 | 23.1 | 10 | 76.9 | |
| **Disease process** | Progressed | 8 | 27.6 | 21 | 72.4 | **0,019*** |
| | Not progressed | 2 | 5.6 | 34 | 94.4 | |
| **Stage** | Stage 0-1-2 | 8 | 13.8 | 50 | 86.2 | 0,292* |
| | Stage 3-4 | 2 | 28.6 | 5 | 71.4 | |

*Table 1. Some characteristics of patients with and without 17p deletion gene mutation*

## REFERENCES

Alkan S. Chronic lymphocytic leukemia (CLL): pathogenesis and biology. Turkish Hematology Association. 2006.

## CONTACT INFORMATION

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