



Abstract

Context: Chronic myeloid leukemia (CML) is a myeloproliferative neoplasm. Central to the pathogenesis of CML is the fusion of the ABL1 gene on chromosome 9 with the BCR gene on chromosome 22. The BCR-ABL1 protein is a constitutively active tyrosine kinase that promotes growth and replication. The introduction of the small tyrosine kinase inhibitor (TKI), imatinib, has revolutionized the treatment of CML. Currently, four TKIs have been approved for the treatment of CML. Initially, all newly diagnosed patients were treated with imatinib as first-line therapy during the chronic phase. This epidemiological study will reveal new data on the successful treatment of this disease in Kosovo and how we can improve our treatment in the future. Design: Retrospective, descriptive, epidemiological study. The data were collected during the 5-year period of 2015–2019 from patient files. Setting: The data were collected from the patient files in the Hematology Clinic of the University Clinical Center of Kosovo. Patients: Adults aged 18 years and older of both sexes diagnosed with CML in the Hematology Clinic of the University Clinical Center of Kosovo. Interventions: None. Main Outcome Measures: No main outcome was measured because this is an epidemiological study. Results: During the period from January 2015 to December 2019, 55 patients were diagnosed and treated for CML. 30 (54.5%) were female, and 25 (45.5%) were male. At the time of diagnosis, the median age was 50.7 years. 4 (7.2%) were between the ages of 18 and 29 years, 23 (41.8%) were between the ages of 30 and 49 years, 17 (30.9%) were between the ages of 50 and 65 years, and 11 (20.1%) were over 65 years. All of the patients diagnosed with CML were treated with imatinib as first-line therapy, and complete blood count (CBC) was monitored every month. Conclusions: From the patients treated with imatinib, 35 are still receiving ongoing treatment, 5 were switched to nilotinib after the loss of hematological remission, 5 patients progressed into blast crisis and died after being treated with chemotherapy, and 10 patients did not have any data available.

Keywords: CML, imatinib, nilotinib, TKI

Background

- Chronic myeloid leukemia (CML) is a myeloproliferative neoplasm. Central to the pathogenesis of CML is the fusion of the ABL1 gene on chromosome 9 with the BCR gene on chromosome 22
- Currently, four TKIs have been approved for the treatment of CML.
- In the Republic of Kosovo the majority of patients are treated with imatinib as first line treatment because of the unavailability of other TKIs.
- In the last few years, nilotinib and dasatinib have become available for patients.
- Monitoring of treatment by RT-PCR of BCR-ABL gene has also become available in the last few months for monitoring the depth of remission.

Objective

- The objective of the study was to review the epidemiological data on CML in the Republic of Kosovo and compare the efficacy of different TKIs.

Materials & Methods

- Retrospective, descriptive, epidemiological study.
- The data were collected during the 5-year period of 2015–2019 from patient files.
- The data were collected from the patient files in the Hematology Clinic of the University Clinical Center of Kosovo
- Adults aged 18 years and older of both sexes diagnosed with CML and treated with a TKI were included in the study.
- The subjects were divided by gender, age group and the type of TKI they received.

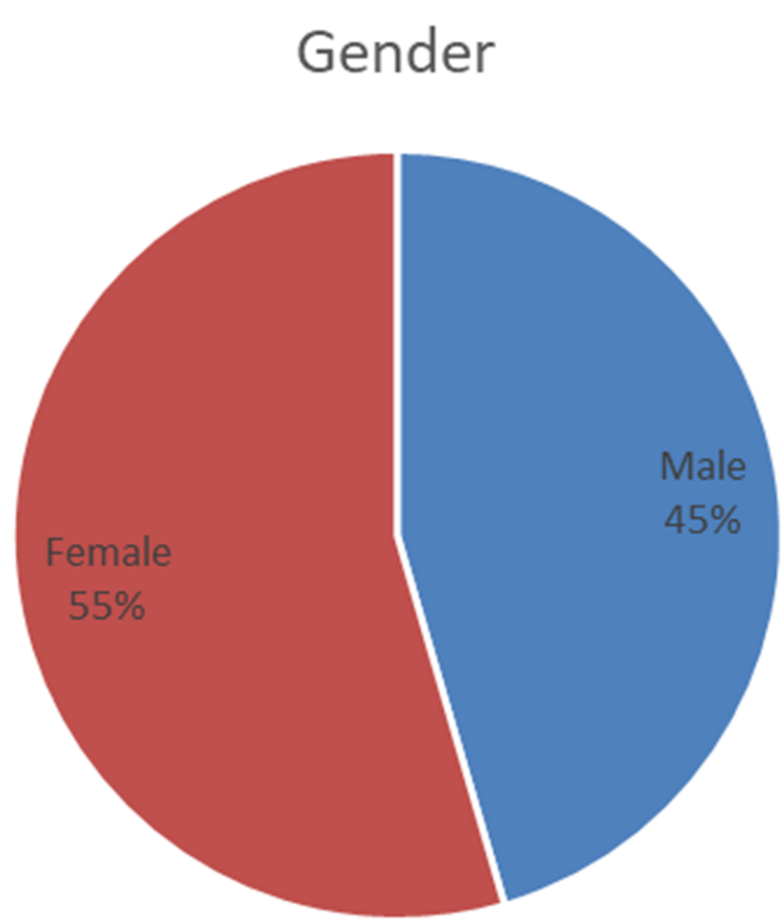


Chart 1.

Summary

- During the period from January 2015 to December 2019, 55 patients were diagnosed and treated for CML.
- At the time of diagnosis, the median age was 50.7 years.
- All of the patients diagnosed with CML were treated with imatinib as first-line therapy.
- The complete blood count (CBC) and side effects of the drugs was monitored every month.
- The type of TKI was changed after loss of hematological remission.

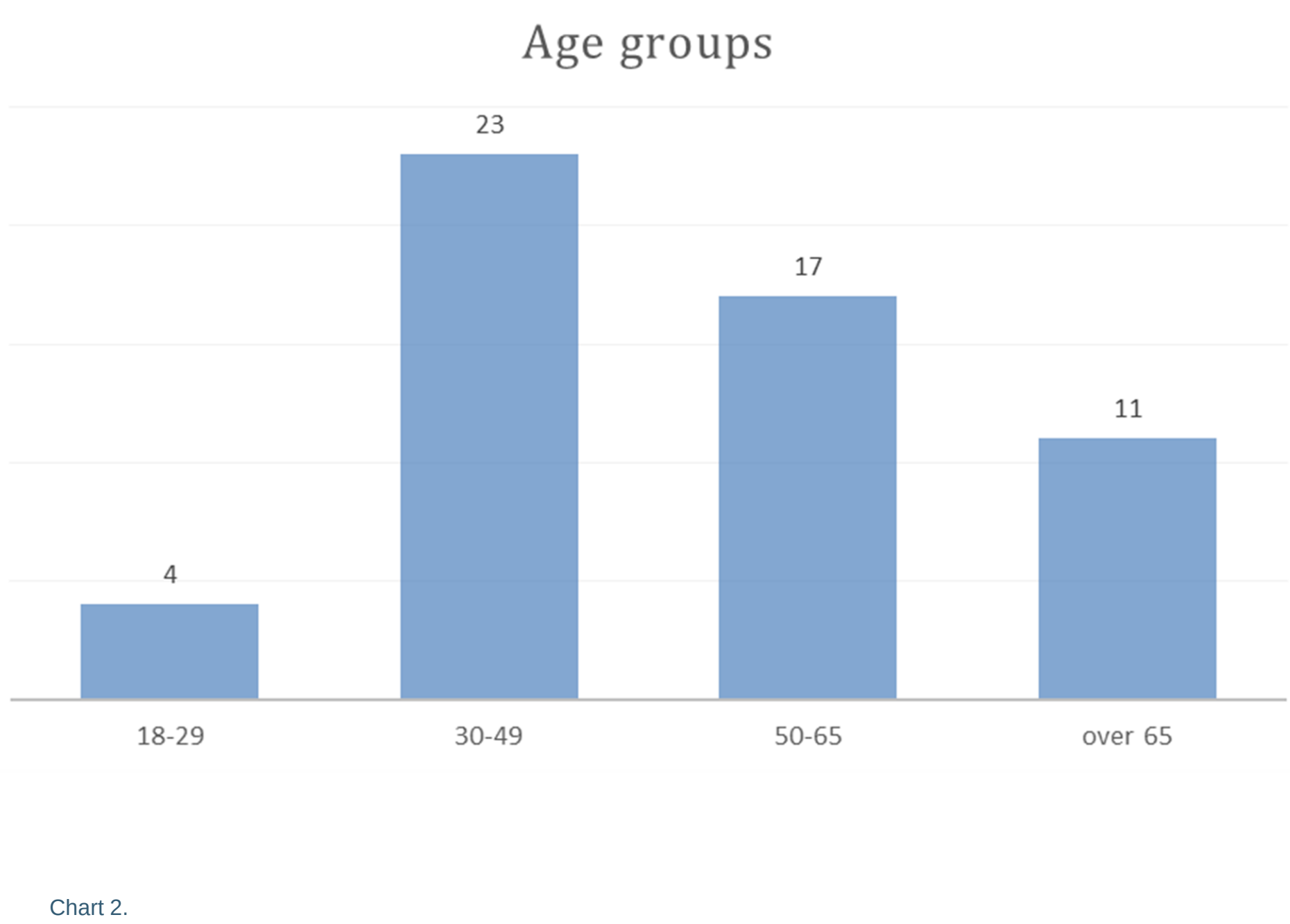


Chart 2.

Discussion

- From the 55 patients treated with imatinib, 35 are still receiving ongoing treatment.
- 5 were switched to nilotinib after the loss of hematological remission
- 5 patients progressed into blast crisis and died after being treated with chemotherapy
- 10 patients did not have any data available.

References

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