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ASSESSMENT OF MOLECULAR RESPONSE TO TYROSINE KINASE INHIBITORS IN TUNISIAN PATIENTS WITH PH+ ACUTE LYMPHOBLASTIC LEUKEMIA

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INTRODUCTION

Acute lymphoblastic leukaemia (ALL) is a heterogeneous disease that is often associated with several chromosomal and molecular abnormalities.

Patients who have the Philadelphia (Ph) chromosome and associated BCR-ABL1 oncogene have a particularly poor prognosis.

Philadelphia-chromosome positive acute lymphoblastic leukemia (Ph+ ALL) has dramatically improved following the introduction of targeted therapy with tyrosine kinase inhibitors (TKI).

AIM

This study was carried out to assess the minimal residual disease in Tunisian patients with Philadelphia-chromosome positive acute lymphoblastic leukemia (Ph+ ALL) treated by tyrosine kinase inhibitors (TKI) with chemotherapy.

METHOD

A seven years retrospective study was carried out in the Hospital University of Sfax, south of Tunisia.

A Ph+ALL patients treated with TKI (tyrosine kinase inhibitors) for a minimum duration of 3 months were enrolled in this study.

Quantitative assessment of the BCR-ABL transcript was performed using the Cepheid Xpert BCR-ABL ultra-assay. According to the European Leukemia Net (ELN) based guidelines, molecular response and outcome were evaluated.

RESULTS

Eight patients with Ph+ALL were enrolled.The median age was 45 years ([26-65years]) and the sex ratio M/F was 3.

Most patients were treated with imatinib (7 patients).

According to the ELN-based guidelines threshold values, Optimal and warning response were noted in 7 (87.5%), and one (12.5%) patients, respectively. **[Table]**

Table . Patient Demographic and Clinical Characteristics

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Characteristic	**Patients** N	%
Sex		
Male	6	75
Female	2	25
Median age, years (range)	45 [26-65]	
Prior TKI		
Imatinib	7	87,5
Nilotinib	1	12,5
Dasatinib	0	0
ELN-based guidelines threshold values		
Optimal	7	87,5
Warning	1	12,5
Failure	0	0

CONCLUSIONS

Current results are promising and show high molecular response rates in Tunisian Ph+ALL, though follow-up is still too short to determine their impact on remission duration and long-term survival.

A larger study is mandatory to elucidate prognosis impact of TKI in the management of Ph+ALL.

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