

## Mutational Analysis of JAK2V617F in Tunisian CML Patients with TKI-Resistance

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**Abstract :** Background:Chronicmyeloidleukemia (CML), a hematological disease, is characterized by t (9; 22) and related oncogene BCR-ABL formation. Although Tyrosine kinase inhibitors (TKIs) have revolutionized the treatment of CML, resistance occurs and possibly mediates by mutation in several genes independently of the bcr-abl1 kinase mechanism. It has been reported that JAK2V617F/BCR-ABL double positivity may be a potential marker of resistance in CML. Aims: This study was investigated the JAK2V617F mutation in TKI-resistant CML patients. Methods: A retrospective study was conducted in the Hospital University of Sfax, south of Tunisia, including all CML TKI-resistant patients. A Sanger sequencing was performed using a high-fidelity DNA polymerase. Results: Nine resistant CP-CML patients were enrolled in this study. The JAK2V617F mutation was detected in 3 patients with TKI resistance. Conclusion: Despite the limit of our study, our finding highlights the high frequency of JAK2V617F/BCR-ABL double positivity as an important marker of resistance. So, the combination of JAK and TKI inhibitors might be effective and potentially be guided by molecular monitoring of minimal residual disease.

**Keywords :** chronic myeloid leukemia, tyrosine kinase inhibitors, resistance, JAK2V617F, BCR-ABL

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