

HALVING TIME OF BCR-ABL1 IN CHRONIC MYELOID LEUKEMIA, IS IT BETTER THAN A 90 DAY VALUE? A MULTICENTRE STUDY FROM INDIA

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Background – Day90 Bcr-abl1 levels is widely followed in predicting the molecular response in CML. Rate of decline in Bcr-abl1 is being studied as a predictor of response though not uniformly accepted. There is paucity of evidence to predict the accuracy of rate of decline in the Indian context
Aim: To test the accuracy of rate of decline of Bcr-abl1 in predicting the molecular response compared to standard on day90 values.

Settings: The retrospective cohort study based on available patient case records from selected cancer centers in south India.

Methods and Materials: Among CML patients diagnosed between January 2013 and December 2018, serial bcr-abl1 levels were estimated on the following days: 30, 45, 90, six months and one year. Data on patient demographics, risk stratification as assessed by SOKAL and EUTOS were extracted in mobile based data capture tool.

Statistical Analysis: Halving time based on log reduction was compared with day90 Bcr-abl1 values using receiver operating characteristic curve against major and complete molecular response at 6 months and one year as standards. Accuracy was determined based on Area under Curve. Cutoff for halving time was chosen based on tradeoff between sensitivity and specificity.

Results: Rate of decline had more predictive accuracy compared to day90 bcr-abl1 values (AUC: rate of decline: 0.83, day90:0.80). Halving time of less than 20 days identified 95% of the patients who achieved MMR at 12 months whereas it was 80% for optimal day 90 BCR-ABL1 response.

Conclusion- Halving time of Bcr-abl1 appears promising in prediction of outcome in CML.