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Treatment response to imatinib mesylate in chronic phase chronic myeloid leukaemia: A single centre experience

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Introduction: Imatinib has transformed the outcome of chronic myeloid leukaemia (CML). However, there is a paucity of data from Sri Lanka on long-term patient outcomes.

Objectives: The objectives of this study were to assess the cytogenetic response in patients diagnosed with CML in the chronic phase and to correlate the outcome with risk group based on the EUTOS Long Term Survival (ELTS) score, from January 2017 to July 2021 in Teaching Hospital Jaffna.

Methods: Thirty-six (n=36) adult patients (over years) diagnosed to have BCR: ABL positive CML in chronic phase were included. All patients received Imatinib 400 mg once daily as upfront treatment. Three months after recruitment of the last patient, the molecular response was assessed by real time quantitative Reverse Transcription-Polymerase Chain Reaction (RT-PCR) method.

Results: During the period of 55 months, 36 patients with a median age of 49 years (range 27-76 years) and a male to female ratio of 19:17 were diagnosed to have CML in the chronic phase. According to the ELTS score, 38.9% (n=14), 33.3% (n=12) and 27.4% (n=10) were in the low, intermediate and high-risk groups, respectively. Among them, 30.6% (n=11) failed to continue clinic follow-up and 13.9% (n=5) died (four died due to disease progression with a median follow-up period of 11.5 months and one due to treatment related severe myelosuppression at 16 months). Molecular response was assessed in the remaining 20 patients (median follow-up 33.5 months, range 3-51 months); 65 % (n=13) showed optimal responses, 30% (n=6) showed failure and 5% (n=1) was indicated as equivocal. Among the 13 patients showing optimal response, 9 were in the low-risk group. Among the treatment failure category, 3 and 2 patients were in the intermediate and high-risk groups, respectively.

Conclusions: Patient outcomes in Sri Lanka could be improved by maximizing patient adherence by effective communication, consideration of second-generation tyrosine kinase inhibitors for intermediate and high-risk patients as upfront treatment and sequential monitoring of molecular response to detect treatment failure at an early stage.

Keywords: Chronic myeloid leukaemia, Imatinib, Molecular response