

Report of chronic myeloid leukemia from SEAROC experience, Jaipur over a period of 9 years

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ABSTRACT

SEAROC cancer center presented the data 387 patients from the city of Jaipur. This oncology center caters large number of population from Jaipur as well as from neighboring states. Out of the 387 patients, 334 (86%) patients were in chronic phase. Complete hematological response was seen in 368 (95%) of patients and no response in 5 patients. Among these patients, 33 (8.5%) progressed to blast crisis.

Key words: *Chronic myeloid leukemia, Jaipur, SEAROC*

INTRODUCTION

Chronic myeloid leukemia (CML) is a chronic myeloproliferative disorder resulting due to translocation between chromosome 9 and 22 producing BCR-ABL chimeric protein, which is a potent tyrosine kinase. This tyrosine kinase leads to cascade to signaling pathways causing malignant transformation of granulocytes and their resistance to apoptosis. The discovery of this genetic abnormality led to development of miracle drug of the decade “imatinib,” which inhibits tyrosine kinase activity.^[1,2]

PATIENTS AND METHODS

We retrospectively analyzed CML patients in last 9 years from their case summaries and records.

These patients underwent complete blood count (CBC), PBF, leukocyte alkaline phosphatase score, BM exam, BCR-ABL reverse transcription polymerase chain reaction at diagnosis followed by CBC monthly and BCR-ABL every 6 month to assess the response.

RESULTS

There were total 387 patients. Male: Female ratio was 214:173, Hindu 353 and Muslim were 34. Age ranged

from 8 to 75 years main presentation in these patients was splenomegaly, fever, wt loss, and leukocytosis. 3 patients presented with priapism. Initial presentation was chronic phase – 334, accelerated phase (AP) – 47, blast crisis-6 patients.

Of these, 304 patients were new and 83 had received some form of treatment for more than 3 months.

Hematological response was seen in 368 patients with complete hematological response (CHR) in 345 patients, partial hematological response in – 37 patients and no response in 5 patients. Sustained hematological response was observed in 305 patients while remaining patients could not maintain it due to poor compliance and loss of effect was seen with progression to blastic phase.

A total of 305 patients were taking 400 mg Imatinib to maintain CHR while 67 were switched to 600 mg dose, 3 were taking 800 mg and rest were shifted back to hydroxyurea.

The main side-effects observed were-facial puffiness, body ache, nausea and asthenia, hypo pigmentation initially with patchy hyper pigmentation later on, anemia and thrombocytopenia.

Almost 55 patients were required blood transfusion to correct anemia, which was symptomatic.

A total of 89 patients had to discontinue the Imatinib, out of which 33 patients had progression to blast crisis, 23 patients had persistent pancytopenia, 34 patients were lost to follow up due to social reason like not able to come to site etc.

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Complete molecular response at 1 year was seen in 197 patients, major molecular response in 100 patients, no response in 17 patients and rest could not be assessed due to either progression or cost constraints. Almost 257 patients continue to have complete or major molecular response.

Imatinib mutation analysis was performed in 5 patients of AP, but did not show any abnormality.

All the 3 female patients were conceived and gave birth to total 5 babies, which do not have any congenital anomaly.

DISCUSSION

Imatinib has improved the quality-of-life and outcome of patients with CML.^[3] In our patient population CHR was seen in 89% of patients, similar to published literature. Water retention manifesting as edema, facial puffiness and hematological toxicity were main side-effects seen with Imatinib. Around 22% patients had to discontinue the drug leading to progression of disease in 37% (33/89) patients. This is a matter of concern as the outcome of such patients is quite poor and need proper follow-up and strategy to minimize the problem.^[4] Another important observation seen

in our study that female getting pregnant while on Imatinib gave birth to normal babies contrary to reported cases where complex congenital abnormalities have been seen.^[5]

However, more robust studies are required before coming to any conclusion.

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