**INTRODUCTION**

Chronic myeloid leukemia (CML) is the most common adult leukemia in India. Optimizing imatinib (IM) therapy for early disease is clearly relevant to the majority of patients with CML.[1,2] In the International Randomized study of Interferon versus ST1571 study, complete cytogenetic response (CCR) was observed in 69% and major molecular responses in 40% at 1 year. Compared with western data, responses of patients from Indian Subcontinent with chronic phase (CP)-CML are sub optimal.

**RESULTS**

There were 201 treatment naive patients who presented within 6 months of diagnosis. The median follow-up for all patients was 29.5 months (range: 3-58 months). The median age at diagnosis was 32, with a range of 18-72 years. There were 139 males and 62 females. Of these, 66 (33%) patients belonged to low Hasford risk group. Complete hematologic response was seen in 195 (97%) of patients. The progression free survival (PFS) was 77% for all patients while those who achieved complete cytogenetic response, PFS was 88% at 29 months.
At a median of 29 months, 94% patients are alive and on follow-up. 9 (4%) have died and 4 (2%) are lost for follow-up. The estimated survival at 29 months for patients with CCR is 100% and 94% for the other cytogenetic response groups ($P = 0.0088$). The adverse events are shown in Table 2.

**DISCUSSION**

Most patients with CP-CML are expected to attain CCR with IM. The major cytogenetic responses in our study are higher than that previously reported for early CP patients from India. The CCR rates achieved in our patients with early CP were comparable to the CCR rates ranging from 41% to 64% reported in western studies for patients with late CP. Patients in late CP have inferior results with IM. Even patients who achieved CCR had poorer PFS with more patients losing responses every year than in western studies.

Most of the patients in this study had sub optimal monitoring with annual cytogenetics only. In fact, as cytogenetic progression was the most common form of loss of response (12%), annual cytogenetic evaluations may have overestimated the PFS. More patients in our series belonged to intermediate and high Hasford risk groups, which indicate late presentation and predict for poorer responses in chronic phase. Intrinsic differences in the biology of the disease and pharmacogenomics in our population may also be reasons for these poorer outcomes. However, until now, we do not have any laboratory evidence to support our hypothesis.

Considering the sub optimal outcomes with IM and the definite positive correlation between CCR and survival, allogeneic transplantation, higher doses of IM or alternative•

**Table 1: Response rates of chronic phase chronic myeloid leukemia to imatinib mesylate (n = 201)**

| Response                              | Number | %  |
|---------------------------------------|--------|----|
| Complete hematologic response         | 195    | (97)|
| Complete cytogenetic response         | 113    | (56)|
| Partial cytogenetic response          | 45     | (23)|
| Minor cytogenetic response            | 35     | (17)|
| No cytogenetic response               | 8      | (4 )|

**Table 2: Adverse events**

| Adverse event                  | All grades (%) |
|--------------------------------|----------------|
| Non hematologic                |                |
| Hypo/hyperpigmentation of skin | 144 (72)       |
| Superficial edema/weight gain  | 107 (53)       |
| Cramps/musculoskeletal pain    | 83 (42)        |
| Fatigue                        | 60 (30)        |
| Asthenia                       | 43 (21)        |
| Skin rash                      | 39 (20)        |
| Diarrhea                       | 23 (12)        |
| Mucositis/oral ulcers          | 21 (11)        |
| Constipation                   | 14 (7)         |
| Dyspepsia                      | 29 (10)        |
| Liver function test elevation  | 7 (4)          |
| Hematologic                    |                |
| Anemia                         | 129 (65)       |
| Neutropenia                    | 57 (28)        |
| Thrombocytopenia               | 34 (17)        |

Among all patients, 43 (21%) needed temporary discontinuations in IM therapy due to adverse events. Reasons for treatment discontinuations included myelosuppression in 26 (13%), 11 (5%) for skin reactions and unknown in 6 (3%). The mean daily dose was 346 mg or 86% of scheduled. No patient needed permanent discontinuation of IM therapy.
newer drugs may be important options for some patients at diagnosis.

REFERENCES

1. Bhutani M, Vora A, Kumar L, Kochupillai V. Lympho-hemopoietic malignancies in India. Med Oncol 2002;19:141-50.
2. Rajappa S, Varadpande L, Paul T, Jacob R, Digumarti R. Imatinib mesylate in early chronic phase chronic myeloid leukemia: Experience from a developing country. Leuk Lymphoma 2008;49:554-8.
3. Redaelli A, Bell C, Casagrande J, Stephens J, Botteman M, Laskin B, et al. Clinical and epidemiologic burden of chronic myelogenous leukemia. Expert Rev Anticancer Ther 2004;4:85-96.
4. Lee SJ. Chronic myelogenous leukaemia. Br J Haematol 2000;111:993-1009.

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