Changing trends in clinico-morphological profile of chronic myeloid leukemia-our experience

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Dear Editor,

The true incidence of chronic myeloid leukemia (CML) in India is not available. According to 6 population-based cancer registries, the incidence of CML in India varies from 0.8 to 2.2/1,00,000 population for men and from 0.6 to 1.6/1,00,000 population for women.[1] Hospital-based studies have reported a higher frequency of CML ranging from 40% to 82% of all cases of leukemia among adults.[2]

A total of 68 patients diagnosed with CML were studied. Out of these, 36 were females and 32 males. The age range at presentation was 11–70 years of median age of 35 years at diagnosis. The maximum number of patients presented in the third decade (n-15) followed by four decade. Out of 68 patients, 39 (57%) presented in chronic phase (CP) at the time of diagnosis, 10 in accelerated and 19 in blast crisis (BC) [Table 1]. Fever was the most common symptom present in 27% of patients followed by abdominal fullness and pain (18%), bleeding manifestations (11%), bony pains (9%) and thrombotic events (6%). 9% patients were asymptomatic. On examination, moderate to massive splenomegaly was present in 34 (50%) patients whereas 6 (9%) patients in CP did not have a palpable spleen. Massive splenomegaly was found in 62% of patients in accelerated and BC as compared to 38% patients in CP.

Table 1: Frequency of three phases of CML with age and gender distribution

Age	Male	Female	CP	AP	BC
0-10	-	-	-	-	-
11-20	9	4	7	3	3
21-30	5	10	8	4	3
31-40	5	9	7	2	5
41-50	10	3	7	-	6
>50	3	10	10	1	2
Total	32	36	39	10	19

CML=Chronic myeloid leukemia, CP=Chronic phase, AP=Accelerated phase, BC=Blast crisis

Table 2: Peripheral blood findings in patients according to phases

Value	CP (*n*=39)	AP (*n*=10)	BC (*n*=19)
Hb (g/dl) range	5.5-13.0	6.1-12.0	5.6-11.3
Mean±SD	9.4±4.8	8.6±4.1	8.9±2.6
Number of patients with Hb			
<10 g/dl	27	09	17
>10 g/dl	12	01	02
Platelets ($\times 10^5$/μl) range	0.6-6.2	1.0-5.0	0.1-4.4
Mean±SD	3.21±1.9	2.76±1.8	2.14±2.2
Number of patients with platelets			
<1.5	03	01	05
>1.5	36	09	14

Hb=Hemoglobin, SD=Standard deviation, CP=Chronic phase, AP=Accelerated phase, C=Blast crisis

Also, patients in the younger age group had bigger spleens as compared to old (65% vs. 42%). 11 patients also had significant lymphadenopathy, most commonly involving the inguinal group.

Hemoglobin (Hb) level was in the range of 5.5–13.0 g/dl (9.4 ± 4.8). Mean Hb levels did not differ much among the three phases [Table 2]. Average platelet count in younger group was significantly higher than in the older age group (mean 3.63 × 10^5/μl ± 1.99 vs. 2.62 × 10^5/μl ± 1.40; $P = 0.01$) [Table 2].

Available data suggest that the epidemiology of CML is different in the Indian subcontinent and in other developing countries from that of the rest of the world.[3] In our study, the median age was 35 years (range 11–70 years) which is significantly lower than reported in European[4] (median age 55 years) and American literature[5] (median age 66 years). In the study by Bhutani *et al*., the median age of onset is 38 years in India[2] while in a regional study in Pakistan mean age was 37.87 years which is quite less than the age of presentation in west.[6] Shorter life expectancy, under diagnosis in older people or a high prevalence of chronic infection in this population may be some of the reasons for younger age at presentation.[7] The frequency of all three phases of CML that is, CP, accelerated phase and BC in our study was 57%, 15% and 28% respectively as compared to 96.8%, 2.2% and 0.9% respectively in a French study.[3] The western literature describes bleeding manifestations to be more common in comparison to thrombotic events.[7] There are significant differences in age and phases at presentation in comparison to west.

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Conflicts of interest

There are no conflicts of interest.

Anshu Palta, Pratibha Dhiman, Phiza Aggarwal, Monica Gupta

Department of Pathology and Medicine, Government Medical College and Hospital-32, Chandigarh, India

Correspondence to: Dr. Pratibha Dhiman, E-mail: dhimandrpratibha@yahoo.com

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