Haematological parameters in chronic myeloid leukaemia as determinants of clinical manifestations in this disease.

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Background: Chronic myeloid leukaemia (CML) patients commonly complain of abdominal swelling and pain. Presentations like hearing loss, visual impairment and priapism are rare and poorly understood. We aimed to relate clinical presentations with haematologic parameters and BCR-ABL/ABL ratios at diagnosis. **Methods:** Patients treated at the Nairobi Hospital were studied. We analyzed demographic, physical examination, and laboratory values. Absolute, range, median and mean counts for white blood cells (wbc $x10^9$/l), neutrophils (ANC$x10^9$/l), platelets (plt$x10^9$/l) and haemoglobin (hgb, g/dl) were tested against each of the clinical presentations. Bone marrow blasts and *BCR-ABL/ABL* ratios at diagnosis were excluded from analysis due to incompleteness of data. **Results:** Total of 380 patients were included and 450 symptoms analyzed. Abdominal complaints were 207 (46%), nonspecific systemic symptoms 118 (26.2%), subcutaneous nodules 29 (6.4%), joint pains 26 (5.8%) leg swellings 24 (5.3%), bleeding tendency 14 (3.1%), impaired hearing 8 (1.8%), impaired vision 6 (1.3%), priapism 6 (1.3%), tinnitus 2 (0.4%). For abdominal presentations, total wbc ($x10^9$/litre) range was 28-703, median 230.5, ANC 17-608, median 160; plt 5-1705, median 348; hgb 2.5-18.5, median 9.7. For vague systemic symptoms wbc was 21-693, median 177; ANC 12-645, median 124; plt 29-2778, median 289; hgb 2.8-16.1, median 9.7. Patients with impaired vision/hearing/CNS manifestations had significantly higher mean total wbc counts ($p = 0.03$). Mean platelet counts were highest among patients with vague systemic symptoms, but not statistically significant ($p > 0.05$). There was a trend for patients with high/normal platelet counts to have bleeding tendency compared with those with low/normal counts but not statistically significant ($p > 0.05$). **Conclusions:** Clinical presentations of CML cannot be easily explained by haematological values alone, most probably also by complex biologic factors.