PB1901 KARYOTYPIC PROFILE OF CHRONIC MYELOID LEUKAEMIA DIAGNOSED AT TERTIARY LEVEL IN AFGHANISTAN.

**Topic:** 08. Chronic myeloid leukemia - Clinical

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**Background:** Current guidelines for chronic myeloid leukemia (CML) management include utilization of both conventional cytogenetics as well as advance molecular analysis at diagnosis and while monitoring the therapy. The reason being the fact that karyotype analysis is one of the indispensable tools for identification of additional chromosomal abnormalities of prognostic significance.

**Aims:** We conducted a descriptive case-series study of 33 patients to demonstrate the profile of karyotype abnormalities in CML.

**Methods:** A descriptive “case-series” study was conducted from 1st January, 2020 to 31st January, 2021, including 33 patients who were diagnosed with CML, after acquisition of informed consent from patient or next of kin. For inclusion in the study, patients either had to have demonstrable “pathognomonic” clinic-morphological features of splenomegaly, bone marrow and/ or peripheral blood hyperleukocytosis, and bi-modal peak of mature neutrophils with myelocytes, or presence of leucoerythroblastic picture with myeloproliferative features, where conventional karyotyping revealed presence of Ph, into chronic phase (CP), accelerated phase (AP) and blast phase/ crisis (BC) considering the recommendations by World health Organization (WHO) classifications [11]. The statistical analysis was performed using statistical package for social sciences (SPSS), version 25.

**Results:** Out of 33 patients included in our study, 18 (54.5%) were female and 15 (45.5%) were male. The age at diagnosis ranged between 12 to 75 years with median age at diagnosis being 42 years. 20 patients were permanent residents of Kabul, 3 patients were from Wardak province, two patients were from Ghazni province, while from Badakhshan, Balkh, Bamyans, Jouzjan, Khost, Nangarhar, Pakita and Parwan, there were only one patient each. Considering the disease phase at diagnosis, 30 (90.9%) of patients were in chronic phase (CP), one patient (3%) in accelerated phase (AP) and two patients (6.1%) in blast crisis phase (BC). Considering the cytogenetic profile at diagnosis, as shown in Figure 1, 25 (75.7%) patients had only a single Ph chromosome, while in addition to Ph, one patient (3%) had t (11;17), one patient (3%) had t (7;14), one patient (3%) had derivative of chromosome 22 (t (9;22) (q34q11)) resulting in double Ph, one patient had de-novo 5q deletion (5q13.3 to q35.3) that we have reported elsewhere in the literature and two patients who presented with pathognomonic clinic-morphological feature of CML had normal karyotype, thus were advised to proceed either with fluorescent in situ hybridization or Multiplex Qualitative PCR for BCR-ABL1 , for disease confirmation. Unfortunately, due to financial constrains the two patients opted to rather consider tyrosine kinase inhibitory (TKI) therapy and achieved complete hematological remission (CHR) within a span of one month.

Image:
Summary/Conclusion: Conventional cytogenetics enables to identify additional cytogenetic abnormalities that can have prognostic significance in CML patients with significant impact upon the management plan. Since most of our patients deferred follow-up, it would be ideal to counsel the patients regarding significance of regular follow-up, to ensure better outcomes.