

The Philadelphia chromosome has been discovered in 1960. This chromosomal aberration was mistakenly associated only with chronic myeloid leukaemia (CML) for decade. However, this type of translocation including chromosomes 9 and 22 was found in patients with different type of neoplasia – acute lymphoblastic leukaemia (ALL). Different lineage involvement has been found in these two types of leukaemia. Whereas in Ph-positive ALL, the Philadelphia chromosome is restricted to the lymphoid lineage, in CML patients mostly myeloid cells are those being Ph-positive. Hence it seems quite trivial to distinguish between ALL and CML. But there is a phase of CML called lymphoid blast crisis which is indistinguishable from ALL. The possibility of distinguishing between CML in lymphoid blast crisis and ALL would inhere in determining myeloid lineage involvement. Actually it had been shown that some patients with Ph⁺ ALL have involved also a myeloid lineage. Different types of treating protocols are used in CML and ALL. In addition, prognoses for both types of leukaemia are different. Thus it is crucial to distinguish between this two disorders and revealing of any difference can impact the treatment outcome of above mentioned malignancies.

Detection of minimal residual disease according to involvement of myeloid or CD34⁺ cells is also mentioned in this work.