IMAGES IN CLINICAL MEDICINE

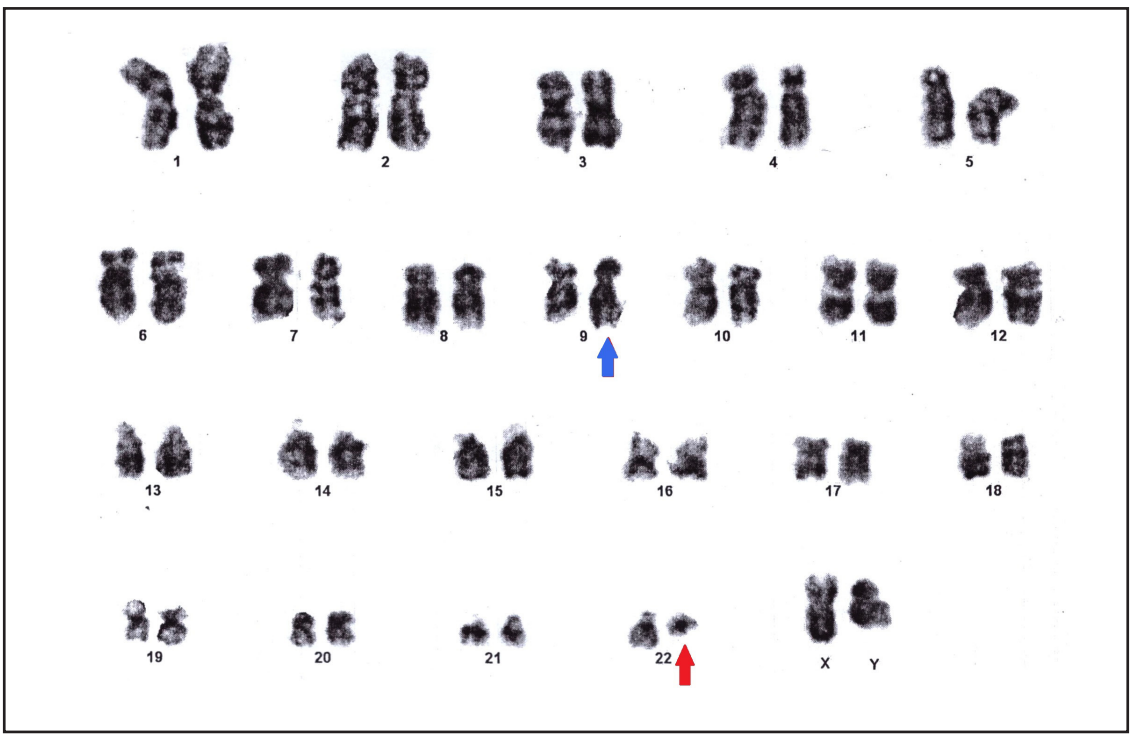

Figure 1: Cytogenetic report showing Philadelphia chromosome in a patient with chronic myelogenous leukemia t(9;22)(q34;q11.2).

PHILADELPHIA CHROMOSOME

Philadelphia (Ph') chromosome is an abnormally short chromosome 22 formed as a result of translocation between chromosome 9 and 22. As a result the ABL gene from chromosome 9 joins the BCR gene on chromosome 22. This changed chromosome 22 with BCR-ABL fusion gene is called Ph' chromosome. Philadelphia chromosome is found in most patients with chronic myelogenous leukemia (CML) and sometimes also in acute lymphoblastic leukemia and acute myelogenous leukemia. Its role in the development of CML is confirmed, and a therapy (Imatinib) directed against the gene product (Tyrosine kinase) has revolutionized the treatment of CML.

Philadelphia chromosome was first identified in 1959 by David A. Hungerford and Peter Nowell in the city of Philadelphia. Later in 1973, Janet D. Rowley at University of Chicago identified the mechanism by which Ph' chromosome is formed.

Corresponding Author:

Dr. Habibullah Khan
Consultant Physician
Rauf Medical Centre
D.I.Khan, Pakistan
E.mail: habibgmc@hotmail.com