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Fluorescence *in-situ* Hybridization (FISH) – A Rapid and Useful Technique for Diagnosis and Management in Leukemia

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ABSTRACT Fluorescence in situ hybridization (FISH) is a rapid reliable technique in molecular cytogenetics. It supplements conventional karyotyping by providing additional information in certain cases. A large number of cells are available for quantitative analysis by FISH, as even interphase nuclei can be studied. It helps in detection of minimal residual disease and disease recurrence, as a very small percentage of abnormal cells can also be identified. The FISH probes used in this study were for the detection of the BCR/ABL fusion or t(9;22) in chronic myeloid leukemia (CML), PML/RARA fusion or t(15;17) in acute promyelocytic leukemia (APML) and determination of the XX/XY ratio in sex mismatched bone marrow transplantation. One hundred and fifty eight heparinized bone marrow or leukemic blood samples referred by consultants were analysed using the above mentioned FISH probes. These included samples of patients who underwent bone marrow transplantation. Karyotyping was carried out where indicated. Cases where FISH provided additional information or a different interpretation to karyotype analysis have been described.

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