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Fish: Revolutionized cytogenetics

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Refinements in cytogenetic techniques over the past 30 years have allowed the increasingly sensitive detection of chromosome abnormalities in hematological malignancies, with the advent of Fluorescence *in situ* Hybridization (FISH) techniques providing significant advances in both diagnosis and research of hematological malignancies and solid tumors. FISH is a cytogenetic technique used to detect and localize the presence or absence of specific DNA sequences on chromosomes/cells and tissues. FISH uses DNA fragments incorporated with fluorophore-coupled nucleotides as probes to examine the presence or absence of complementary sequences in fixed cells or tissues under a fluorescent microscope. This hybridization-based macromolecule recognition tool was very effective in mapping genes and polymorphic loci onto metaphase chromosomes for constructing a physical map of the human genome. Clinical application of FISH technology had upgraded classical cytogenetics to molecular cytogenetics. The pervasiveness of this technique is largely because of its wide variety of applications and the relative ease of implementation and performance of in situ studies. Although the basic principles of FISH have remained unchanged, high-sensitivity detection, simultaneous assay of multiple species and automated data collection and analysis have advanced the field significantly. In future, this technique is likely to have significant further impact on live-cell imaging and on medical diagnostics. The purpose of this poster presentation is to showcase the role of FISH technique in field of dentistry for oral well-being.

Biography

Sanjul is a dedicated and thorough professional throughout his studies. His field of interest is oral cancer as it is one of the most common type of cancer in India and associated with smoking, tobacco chewing and alcoholism directly.

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