

Vidya Bhawan Balika Vidyapeeth Lakhisarai

Arun Kumar Gupta

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### **Molecular Diagnosis**

Conventional method of diagnosis such as serum or urine analysis is not able to early detection of disease causing pathogens or virus. Following methods can be used to diagnosed earlier-

I. Recombinant DNA technology

II. Polymerase Chain Reaction (PCR)

III. Enzyme Linked Immuno-sorbent Assay (ELISA).

- Symptoms of disease appear only when the concentration of pathogen get increased significantly. Low concentration of bacteria and virus can be detected by amplification of nucleic acid by PCR. It detects the mutation in the gene in cancer patient. PCR is routinely used to detect the HIV in suspected AIDS patients. Genetic disorder can be also detected by using PCR technique.
- A single stranded DNA or RNA having radioactive molecule is allowed to hybridise to its complementary DNA in a clone of cells followed by detection using autoradiography. The clone having the mutated gene will not appear on the photographic film.
- ELISA is based on the principle of antigen-antibody interaction. Infection by pathogen can be detected by the presence of antigens like proteins, glycoproteins etc. or by detecting the antibodies synthesised against the pathogen.