



## Epigenetic and Cancer Diagnosis, Prognosis and Therapy

Gene regulation is the directory of life, which may interfere by hereditary or non hereditary effect(s). Epigenetic a new and effective science is another view of gene regulation that is a kind of non hereditary changes on genomes that don't involve a change in the DNA sequence or the sequence of the proteins associated with DNA. Methylation of DNA is the most features of epigenetic changes that will guide the normal cells to malignant one. Both hypo and hyper methylation contribute to tumorigenesis. The methylation of DNA is a known characteristic finding that can introduce tumor genesis very early, so it is important to detect the malignancy earlier by epigenetics which is responsible to good survival and quality of life. Sensitive methylation assays can detect changes in DNA methylation introduce of cancer in body fluids and serum which means there is a probability of DNA methylation analysis and cancer diagnosis. It is also important in cancer prognosis due to genome wide profile methylation, although there is some doubtful relation between cancer clinical staging and variety of DNA methylation. Histone modification is also important in diagnosis and prognosis of cancer. Regarding these facts targeting DNA methylation and histone acetylating is a new and promising world in cancer treatment. It is good news for medical society that in the future just analysis of saliva for example will detect the cancer very early and the new target will be an accessible goal for achieving the therapeutic goals in cancer management. Theoretically any kind of stimulus in the environment can produce epigenetic disturbances which can lead to tumor neo genesis, it may be food and water, smoking, physical activity or even the psychological behavior and thinking, or religious believes.

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