

NOVEL DIAGNOSIS AND TREATMENT OF CANCER BY NANOTECHNOLOGY: A REVIEW

DHAVAL N PANDYA*, HINALI M THAKAR, MR. SAMIP S. SHAH, DR. ATANU KUMAR BEHERA, DR.D B MESHRAM

Department of Pharmaceutics, Pioneer Pharmacy Degree College, Vadodara, Gujarat.

Email: dhavalpandya300@gmail.com

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ABSTRACT

Nanotechnology is the manipulation of matters on an atomic & molecular scale. It works with material devices & other structure with at dimension of sized 1 to 100 nanometers. Cancer is caused by mutation of genes which control the growth and division of cells. Detection or treatment is possible by detecting the growth of the cells and treated by destroying cancer cells. Nanoparticles (NP) being a very small sized, have the ability to enter inside the cells and can access the DNA molecules or genes and therefore, there is a possibility that the defect in the genes can be detected. Treatment of cancer is also possible by nanotechnology drug delivery system. It includes certain NP, that can be designed to absorb preferentially certain wave length of radiation and if they enters in the cancerous cells, they will destroy them. Nanotechnology can be used to create therapeutic agents that target specific cells and deliver toxin to kill them. The NP will circulate through the body, detect cancer associated molecular changes, assist with imaging, release a therapeutic agent and then monitor the effectiveness of the intervention.

Keywords: Nanotechnology, Cancer, nanotools, diagnosis, treatment

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