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COMMENTARY

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The Potential Application of Drugs in Chemoprevention of Cancer

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Description

Chemoprevention is the use of a drug, vitamin, or dietary supplement to thwart the development of cancer. The high chances of getting cancer are the most frequently utilised. The risk may be increased by a long family history, a gene anomaly, or a history of personal illness. Healthy cells begin to alter and expand out of control in cancer. A tumour is a mass that results from this. It often takes years for a healthy cell to develop into a malignant one are like several nutritional, lifestyle, genetic variables, including smoking and may affect this process.

Chemoprevention employs drugs to inhibit the growth of cancer. These compounds might be created in a lab or naturally. A physician uses chemotherapy to reduce a patient's chance of getting cancer. The use of natural, synthetic, or biological chemical agents to stop, slow down, or reverse the development of cancer or the progression of neoplastic cells into cancer is known as cancer chemoprevention. This covers those who have a family history of cancer or an inherited cancer syndrome. Chemoprevention can reduce the risk of cancer development or recurrence. When cancer returns after therapy and it is said to have to be recurred.

Every drug, vitamin, or dietary supplement may cause unwanted consequences. These can occasionally be quite severe by healthcare practitioner, discuss any chemoprevention's dangers. Some people may decide that chemoprevention is not suited for them because the hazards outweigh the benefits. In certain individuals, the benefit of cancer prevention may outweigh the drawbacks. They should consider own cancer risk and medical history.

Other malignancies including head and neck, lung, and skin cancer are also being examined in relation to chemoprevention. Only extensive, long-term clinical trials can establish if a substance lowers the risk of cancer. The risks and advantages of each chemo preventive medication should be discussed by patients and their healthcare professionals.

Chemoprevention in clinical trials

Clinical trials are used by researchers to examine the safety and efficacy of chemoprevention drugs in postponing or preventing cancer. Clinical trials are research projects in which people participate. Numerous clinical studies have demonstrated the potential benefits of specific chemoprevention strategies. However, some have shown to be harmful.

Chemoprevention in breast cancer

Trials on chemoprevention for breast cancer have established the benchmark for other cancer types to follow. Medications that selectively modulate the oestrogen receptor include tamoxifen and raloxifene (also called SERMs). SERMs prevent breast cancer by blocking oestrogen, a female hormone that promotes the formation of the disease. Both of these drugs have been shown to cut the risk of breast cancer in women at high risk by as much as 50%.

Chemoprevention in prostate cancer

Since prostate cancer is the most prevalent cancer in males, it is an ideal target for chemotherapy. Numerous studies have examined the effectiveness of drugs, vitamins, and supplements (vitamin E, selenium, beta-carotene) in preventing prostate cancer. The results of research on finasteride and dutasteride revealed that the hazards exceeded the benefits. Both beta-carotene and selenium did not lower the risk of prostate cancer. The incidence of prostate cancer was actually increased by large doses of vitamin E. These trials show that chemoprevention does not work to stop prostate cancer.

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