

Anti-Inflammatory Agents in Chronic Inflammation Induced Cancer

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Most of all cancers more than 90 percent of all cancers are associated with external environmental factors. Chronic inflammation or infectious agents is a seventh hall mark of cancer accounts 25% of all cancers. 1/3rd of all cancers are related to dietary factors. Current advanced treatment protocols consist of surgery, chemotherapy and radiotherapy has not improved the prognosis of cancer patients with adverse effects and expensive. There is no treatment till now to kill only cancers cells without killing normal cells. Current treatment should focus on only to kill cancer cells without killing normal cells. Chronic inflammation associated cancer includes head and neck cancer, liver cancer, colon cancer, pancreatic cancer, prostate cancer, esophageal cancer, lung cancer, prostate cancer, bladder cancer etc. by activating inflammatory mediators such as IL-1, TNF- α , IL-6, EGF from inflammatory cells such as macrophages, neutrophils and mast cells involved in tumor progression by activation NF-KB, a key transcription factor, which involve in cell proliferation by (cyclin D, E), cell survival (BCL-2, BCL-XL), angiogenesis (IL-8, VEGF, HIF-1 α), genomic instability (NO, AID, arginase-1, ROS, RNS), immunomodulation (TGF- β , IL-4, IL-5, IL-13, IL-10), invasion and metastasis (UPA, Mmp's-2,9). Anti-inflammatory dietary agents such as proteins, Vitamin A, C, E rich foods such as tomatoes, raspberry, blue berry, oranges, nuts, soya. Other dietary agents include curcumin, ginger, garlic, pepper will have anti-inflammatory activity, anti-tumor activity by inhibiting NF-KB, a key transcription factor involved in progression of cancer and anti-viral activity.

Some of the cytokines such as IL-2, IL-12 and IFN- γ release by immune cells have anti-inflammatory and anti-tumor activity. In human body only 23,000 genes are present but 100 trillion germs are present in involved in homeostasis. Majority of germs are present in gut, where out immune system lies. Gut microbiome consists of symbiotic colonies bacterial, viral and fungal species involved in anti-inflammatory, immune stimulatory and anti-tumor activity. Some Probiotic species involved in anti-inflammatory and anti-tumor activity.

How effective is this anti-inflammatory diet in prevention or limiting the progression of tumor at various stages?

How effective is anti-inflammatory cytokines in limiting the progression of tumor at various stages?

How effective is the gut microbiome in prevention or limiting the progression of tumor at various stages? To improve the prognosis and survival rate of cancer patients without adverse effects and inexpensive.

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