



AYURVEDA - AN APPROACH TO CANCER PREVENTION AND TREATMENT

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INTRODUCTION:-

Indian population is considered to be prone to various types of cancers. In 2014, WHO ranked 9th, 51st, 52nd, 75th and 95th in accordance to death caused by oral cancer, cervical cancer, esophagus cancer, stomach cancer and ovarian cancer respectively. Erroneous life style like smoking, alcoholism etc. Is considered to be a main contributing factor in keeping Indian population in the radar of cancer prone group. Cancer is a lifestyle disease and to an extent can be prevented by lifestyle modifications like consuming anti-cancerous fruits, vegetables, spices etc.

Cancer is a disease with multi-factorial etiology like life style, diet, environment etc. So contemporary medicine itself cannot provide a cure. Low prognosis, Painful chemo and radiation, and high cost make cancer treatment unsatisfactory. Ayurveda can be a ray of hope for cancer patient as it emphasizes on safe medicine, life style changes and preventive measures.

Etiology of Cancer:-

- **Influence of life style on cancer**

Erroneous life style provides an opportunistic environment for carcinogenesis. Use of narcotics, types of utensils used for cooking, cooking in high

temperature, micro wave oven, food adulteration, food habits, pesticides, pollution, artificial sweeteners (Saccharine, Aspartame, Acesulfame potassium, Cyclamate, Sucralose, Neotame), unwholesome conducts and stimulant forced by various radiation are favorable for carcinogenesis.

- **Cooking in high temperature can make food carcinogenic**

Carcinogens produced by high temperature cooking are mainly heterocyclic amines (HCA) and polycyclic aromatic hydrocarbons (PAH). When amino acids and creatine (muscle meat) are either fried and grilled produces the carcinogen heterocyclic amines (HCA). Polycyclic aromatic hydrocarbons (PAH) are formed when animal meat and oils are cooked in open fire and smoke. Repeated usage of cooking oil also produces various carcinogens.

- **‘Asthama’ an Etiological Basis Of Cancer:-**

Any action done by us which affects the nature and its resources negatively is considered as “asthma”. The nature and its resources are made filthy by initiation of industrial revolution in this scientific era. It has contaminated air, water, soil and even our life style. Social mobility and configuration brought up sabotage to

biodiversity and health. Last fifty years have brought about ominous changes in all facets of life and environment. Now human beings are entrapped in their own intellectual blasphemy and facing pathological war of mutagens and a vast group of oncogens just owing to the practice of “adharma”.

- **Role of free radicals in carcinogenesis:-**

Free radicals are endogenous waste by-product formed during various metabolic processes in living cell. They are reactive oxygen species like hydroxyl radical, hydrogen peroxide, superoxide anion radical, nitric oxide radical, singlet oxygen, hypochlorite radical and lipid peroxides. Free radicals production in living bodies is stimulated by toxins, pollution, radiation, alcohol etc.

Free radical causes damage cell membrane phospholipids by a reaction called lipid peroxidation. Free radical thereby enters the cell causing oxidative stress and extreme reactivity resulting in DNA damage. Aftermath of DNA damage can be mutation, oncogenic activation and carcinogenesis. Free radical also attacks the protein and thereby may provoke immune response.

Cancer Prevention and Treatment:-

- **Role of antioxidants in cancer prevention and treatment:-**

Anti-oxidants (FRS-Free Radical Scavengers) are molecules which neutralize free radicals effect on the cell. They are produced exogenously from dietary vitamins like Ascorbic acid (Vitamin-C), Alpha Tocopherol (Vitamin-E), Retinol (Vitamin-A) and Beta Carotene (Precursor of Vitamin-A). Antioxidants blocks free

radicals and oxidative change by supplying an electron to reactive oxygen there by protects the cell, protein and DNA.

- **Dharmik approach to cancer prevention:-**

Ayurveda believes that being a **Dharmik** can prevent cancer. Dharmik in its true sense is a person who follows nature friendly life style, follow correct food habits and conduct, correct cooking style and avoid harmful and carcinogenic food items and beverages.

Ayurveda believes in balancing body humor by prescribing safe medicine, balanced diet and wholesome conducts, thereby providing a harmonic internal environment which averts carcinogenesis. Life process is build upon the food one takes, one can design his/her own pattern of internal environment responsible for either health or diseases. Ayurveda advises natural antioxidants to prevent cancer in the form of herbs and other bioproducts.

- **Food items which are wholesome in cancer:-**

The wholesome spices are –turmeric, garlic, onion, cloves, black pepper, cardamom, cinnamon, star anise (illicium verum), fenugreek and black cumin (Centratherum Anthelminticum)

The wholesome vegetables and fruits include ipomea aquatica, amaranthus spinus, apium graveolens, kappa (Manihot utilisima), sweet potato, cabbage, broccoli, beet, tomato, lemon, carrot, gooseberry, blueberry, black berry, passion fruit, apple, wall nut and pumpkin seeds.

- **Tea and cancer prevention:-**

Tea (camellia sinensis) contain polyphenols, alkaloids (caffeine, theophylline and theobromine), amino acids, carbohydrates, proteins, volatile organic compounds, fluoride, minerals and trace elements.

Pharmacological benefits of tea include-

- Antioxidant activity.
- Free radical scavenging activity.
- Protect cell from DNA damage caused by reactive oxygen.
- Inhibit tumour cell proliferation.

- Induce apoptosis.
- Modulate immune system function.
- Activate detoxifying enzyme.
- Reduce damage caused by UV radiation.

Cow urine and cancer prevention:-

Cow urine enhances the immune competence and general health of an individual. It prevents free radical formation and act as an anti-aging factor. It also reduces apoptosis in lymphocytes and helps to survive and efficiently repairs DNA damage.

Food items with pharmacological properties for cancer:-

Cancer type	Wholesome	Pharmacological Properties
All cancers	Citrus fruit	<ul style="list-style-type: none"> • Contain flavonoid-Quercetin which is anti inflammatory, antioxidant and apoptotic • Quercetin also prevent colon and lung cancer by preventing NF-kB activation • Supply antioxidants • Inhibit metastasis of cancer cells
	Coconut Broccoli Cabbage Cauliflower	<ul style="list-style-type: none"> • Micronutrients and antioxidants • Contain a flavonoid- Indole 3-carbinole which blocks cancer cell growth • Inhibits invasion of carcinogen into cell
	Cruciferous vegetables	<ul style="list-style-type: none"> • Contain sulfurophane which prevent side effects of chemotherapy • Contain phase-2 enzymes which detoxify carcinogens, induces apoptosis, inhibit NF-kB and scavenges free radical
	Green tea	<ul style="list-style-type: none"> • Contain polyphenol
Squamous cell carcinoma	Onion	<ul style="list-style-type: none"> • Rich source of Quercetin which prevents cell DNA damage
Cancer of the breast, prostate, stomach, pancreas and colon	Grapes Dark chocolate	<ul style="list-style-type: none"> • Contain resveratrol which induces apoptosis, suppress NFkB activation • Inhibit growth and metastasis of cancer cells • Impedes tumour by reducing the ability to grow blood vessels



Breast cancer	Centratherum anthelminticum	<ul style="list-style-type: none">• Antioxidant properties
Colon cancer	Fenugreek	<ul style="list-style-type: none">• Binds to toxin in the food and flush it out which protects mucous membrane of colon from cancer

Conclusion:-

Cancer is an elusive, complex, and difficult disease to treat. Conventional treatments such as chemotherapy, radiation and surgery are usually the only options initially offered to cancer patients, but they aren't always effective. Fortunately integrative, naturopathic and other types of alternative medicine frequently offer more effective solutions which have been proven in clinical outcome studies. Let's explore these new avenues of therapy to fight the dread of cancer.