

Natural and Herbal Remedies for Cancer Treatment

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Abstract: Among all the diseases prevailing in the world, cancer has become a big threat to humans. The mortality rate has been increasing in the world from the past five years due to cancer. There are different types of cancers like skin, lung, breast, rectum, stomach, prostate, liver, cervix, oesophagus etc. The causes of these cancers may be both internal (genetic, mutations, poor immune conditions, hormonal problems) and external or environmental factors (food habits, industrialization, over growth of population etc.). To cure these types of cancers herbal remedies are more useful than synthetic treatment. Herbal treatment is the best replacement for treating /avoiding various physical side effects caused by the chemotherapy and radiation therapy. This treatment option can effectively avoid the damaging of normal, healthy cells near cancer cells. The present article discusses various natural herbs useful for the treatment of cancer. Various effective natural treatments for curing cancer were also described.

INTRODUCTION

Cancer is a collection of related diseases in which body cells begin to divide without stopping and spread into surrounding tissues. [1] There are different types of cancers like carcinomas which include breast, prostate, lung, pancreas and colon cancer. Sarcoma, lymphoma, germ cell tumour, blastoma etc. [2] According to the recent mortality statistics of 2016, around the world there are about 215 cases of cancer, among them 80 had died. In Asia, there are 128 cases of cancer and the numbers of deaths are 46. In Europe, there are 18 cases of cancer and 3.3 had died. In Africa there are 36 cases and 21.4 had died of cancer. In North America, there are 10.8 cases and 1.6 had died of cancer. In Latin America there are 20.8 cases of cancer and 7.4 had died of cancer. This indicates that there is a growing need for an effective therapy to cancer such that the mortality rate decreases significantly.

The main reasons for the cause of various types of cancers as shown in Figure 1-2 is the use of tobacco, poor diet, lack of physical activity, drinking alcohol, exposure to ionizing radiation, environmental pollutants, hepatitis and genetic defects inherited from a person's parents. Many cancers are prevented by reducing smoking, taking vegetables, fruits and whole grains, eating less meat, maintaining a healthy weight, doing physical exercise, reducing exposure to sun and being vaccinated against certain infectious diseases. [2]

Various cancer treatments available are surgery, radiation therapy, chemotherapy targeted therapy, immunotherapy etc. has their own respective physical side effects. Hence, herbal treatment stands as an effective replacement for the existing therapies.

The main reasons for using herbal remedies than synthetic treatment are:

1. There will be less side effects when compared to synthetic treatment.
2. The impact of dose variation will be less.
3. The cost of herbal products will be economically less.
4. These will be widely available.
5. These are easily biodegradable.
6. There will be no tedious steps in synthesis of herbal products.

7. The synthetic treatment may or may not cure completely.

Herbal treatment for cancer avoids various physical side effects like pain, nausea, vomiting, fatigue, anaemia, lymphedema, fertility problems and ostomies caused by different cancer treatments like chemo therapy, radiation therapy etc. which are synthetic treatments.

DIFFERENT NATURAL HERBS USEFUL FOR THE TREATMENT OF CANCER

Astragalus

This herb belongs to the family-Fabaceae, genus-Astragalus, species-*Astragalus onobrychis*. The natural gum tragacanth is made from several species of astragalus.

Berberis

This herb belongs to the family-Berberidaceae, genus-Berberis, species-*Berberis vulgaris*. The dried fruit of berberis vulgaris is used as herbal medicine.

Blood Root

This herb belongs to the family-Papaveraceae, genus-Sanguinaria, species-*Sanguinaria canadensis*. It is an ornamental plant which has antineoplastic activity and used as an emetic, respiratory aid and other treatments.

Butcher's Broom

This herb belongs to the family-Asparagaceae, genus-Ruscus, species-*Ruscus aculeatus*. It is used as laxative, diuretic and anti-inflammatory agent.

Cat's Claw

This herb belongs to the family-Rubiaceae, genus-Uncaria, species-*Uncaria tomentosa*. It is used as immuno-stimulant and also helps in phagocytosis.

Chapparal

This herb belongs to the family-Zygophyllaceae, genus-Larrea, species-*Larrea mexicana*. It is a shrub land which is anti-bacterial, anti-fungal, anti-oxidant and anti-inflammatory.

Curcumin

This herb belongs to the family-Zingiberaceae. It is used in cosmetics and also used as food colour.

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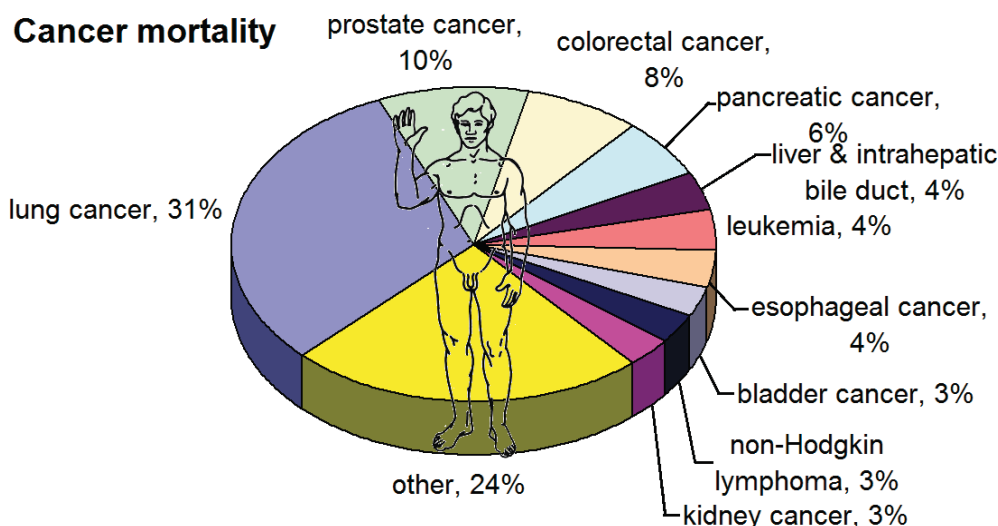


Figure 1: Cancer mortality in males

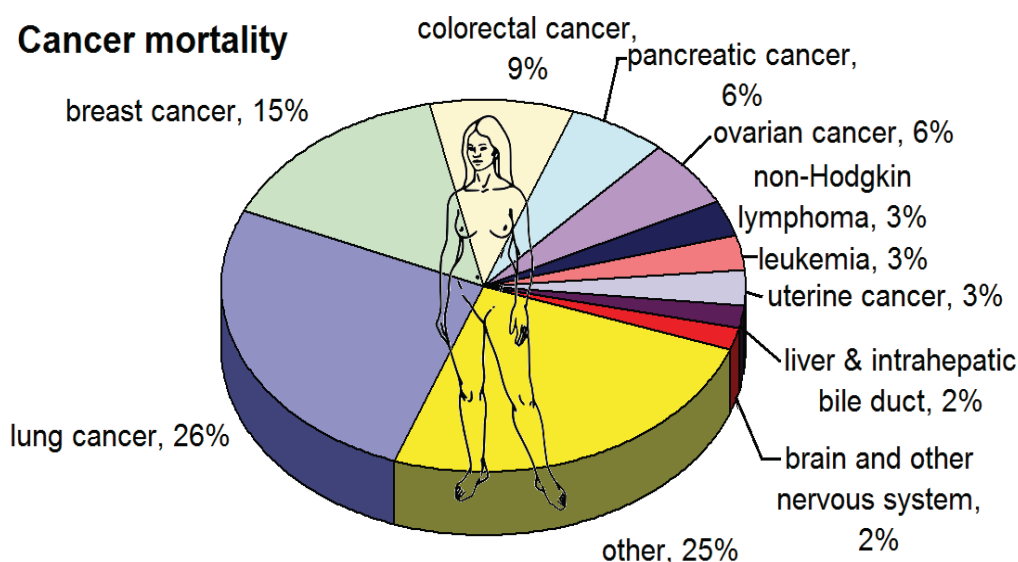


Figure 2: Cancer mortality in females

Dang Shen Root

This herb belongs to the family-Campanulaceae, genus-Codonopsis, species-*Codonopsis pilosula*. It is used as herbal mix to improve appetite and energy.

Echinacea

This herb belongs to the family-Asteraceae, genus-Echinacea, species-*Echinacea angustifolia*. These are ornamental plants which are also used to treat cold, cough, sore throat etc.

Fever Few

This herb belongs to the family-Asteraceae, genus-Tanacetum, species-*Tanacetum parthenium*. These are used to reduce fever, kills leukaemia cells and anti-inflammatory, treats head ache, arthritis and digestive problems etc.

Golden Seal

This herb belongs to the family-Ranunculaceae, genus-Hydrastis, species-*Hydrastis canadensis*. This is used as laxative and also as a colouring material.

Milk Thistle

This herb belongs to the family-Asteraceae, genus-Silybum, species-*Silybum marianum*. This is mainly used to treat liver diseases and cancer.

Pau d'arco

This herb belongs to the family-Bignoniaceae, genus-Tabebuia, species-*Tabebuia serratifolia*. The bark of paud'arcois used for treating fungal infections.

Red Clover

This herb belongs to the family-Fabaceae, genus-Trifolium, species-*Trifolium pratense*. This is commonly used to make sweet tasting herbal tea and is an ingredient in some recipes of essaic tea.

Sheep's Sorrel

This herb belongs to the family-Polygonaceae, genus-Rumex, species-*Rumex acetosella*. This is used in preparation of food including garnish, a tart flavouring agent and curdling agent for milk in cheese making etc.

Table 1: Various Herbal Ingredients Useful for Natural Treatment of Cancer

S. No.	Name of Herbal Product	Type of Cancer Cured	Uses	Key Ingredients
1	Astragalus [3]	All types of cancers [3]	immune system booster [3]	Astragloside, triterpeneglycosides, polysaccharides [4]
2	Berberis [3]	Ovarian cancer, prostate cancer [3]	Slowactive purgative [3]	Alkaloids [5]
3	Bloodroot [3]	Breast and skin cancer [3]	Anti-neoplastic, anti-angiogenic, cytotoxic, antioxidant [6]	Sanguinarine, alkaloids[6]
4	Butchers broom [3]	Breast cancer [3]	Laxative, diuretic, anti-inflammatory [7]	Ruscogenins and related saponins [3]
5	Cat's claw [3]	Skin cancer [3]	Phagocytosis, adaptogen, immune stimulant [3]	Astragalus and Echinacea [3]
6	Chapparral [3]	Breast cancer [3]	Anti-oxidant, anti-microbial with low toxicity [3]	oak, chamise, Manzanita, ceanothus, red shanks [8]
7	Curcumin [3]	Colon cancer [3]	Anti-oxidant, anti-microbial, anti-inflammatory [3]	Nicotinamide, ferulic acid, hydroquinone, p-hydroxy benzoic acid, L-tartaric acid [9]
8	Dangshen root [3]	Cancer [10]	Anti-oxidant, anti-inflammatory, anti-microbial, anti-bacterial [10]	Rosmarinic acid, salvianolic acid, dihydrotanshinone, cryptotanshinone, tanshinone IIA [10]
9	Echinacea [3]	Brain cancer, pancreatic and colon cancer [11]	Immune system booster, anti-viral, anti-inflammatory [11]	Alkylamides [11]
10	Fever few [3]	Different types of cancers	Anti-inflammatory and kills leukemia cells [12]	Parthenolide, eudesmanolides, germacranolides and guaianolides [12]
11	Golden seal [3]	Different types of cancers	Anti-bacterial, anti-microbial, anti-catarrahal, laxative, oxytocic [13]	Berberine [13]
12	Milk thistle[3]	Liver cancer [3]	Anti-hepatotoxic [14]	Silymarin [14]
13	Pau d'arco [3]	Blood and lymph cancers [3]	Anti-bacterial, anti-yeast, anti microbial [3]	Lapachol [15]
14	Red clover [3]	Breast, skin and prostate cancer [3]	Chemo protective [16]	Herb of Hippocrates, Salicylic acid, sitosterol, genistein, flavonoids, phytoestrogens [16]
15	Sheep s sorrel [3]	Different types of cancers	Anti-inflammatory, anti-bacterial, diuretic, anti-oxidant [17]	Oxalic acid, beta carotene, Na, K, Fe, Mn, P [18]
16	Skull cap (scutellabarbata) [3]	Lung, stomach and intestinal cancer [3]	Anti-microbial [19]	Hexahydrofamesylacetone, menthol, tetramethylhexadecenol, octenol [19]
17	Sutherlandia [3]	Drives out waste in cancer patients [3]	Anti-inflammatory, anti-viral and anti-fungal [3]	L-canavanine, pinitol, gaba and asparagine [20]
18	Thorowax [3]	Bone cancer [3]	Anti-inflammatory, hepatoprotective, mid sedative, anti-pyretic, analgesic, anti-tussive and adaptogen [21]	Fatty acids, glycosides, oleic acid, palmitic acid, quercetin, narcissi [21]
19	Wheat grass [3]	Breast cancer and some other cancers [23]	Anti-bacterial and removes cancer causing agents from body [22]	Ca, Mg, aminoacids, chlorophyll, minerals, vitamins, enzymes [22-23]
20	Sweet worm wood [3]	Breast cancer [24]	Anti-microbial, anti-yeast, anti-oxidant [3]	Sesquiterpenetrioxane lactone, artimesinin [25]
21	Ashwagandha [26]	Slows down growth of cancer cells [26]	Anti-inflammatory, stimulates immune system, anti-oxidant, anti-ulcer, anti-septic [27]	Iron, glycowithanolides, tannins, glucose, potassiumnitrate, alkaloids, fatty acids and some other substances [27]
22	Garlic [26]	Brain and colon cancers [26]	Anti-oxidant, anti-microbial, anti-cancer, anti-diabetic and immune system booster [28]	Phytonutrients, minerals, vitamin [28]
23	Green tea [26]	Colon, breast, prostate and colorectal cancers [29]	Anti-oxidant, anti-bacterial and anti-diabetic [29]	Caffeine, polyphenols like flavonoids, catechins [29]
24	Celandine [26]	Colon, esophagus, testes, ovary, breast, cervix, colo rectal cancers [30]	Sedative, anti-spasmodic, anti-biotic, anti-tumour agent, analgesic, diuretic, purgative [30]	Alkaloids, berberine, chelidonic acid, ergosterol, sanguinarine [30]

25	Ginger root [26]	Colon, ovarian, prostate cancer [31]	Anti-inflammatory, anti-oxidant, anti-diabetic, anti-tumour, anti-emetic [32]	Terpenes, oleoresin [32]
26	Turmeric [26]	Colon and cervical cancer [33]	Anti-oxidant, anti-inflammatory, anti-fibrotic and immunity booster [33]	Curcumin [33]
27	Cinnamon [34]	Cervical, stomach, colon, lung, breast cancer [35-37]	Anti-diabetic, anti-fungal, anti-spasmodic, anti-bacterial, anti-inflammatory [36-37]	Proanthocyanidins and cinnamaldehyde [37]
28	Rosemary [34]	Breast, skin, colon, prostate cancer and leukemia [34, 38]	Anti-oxidant, anti-spasmodic, anti-microbial and prevents thrombosis [38]	Carnosol and rosmarinic [34]
29	Holy basil (tulasi) [34]	Breast, lung, liver, oral, skin cancers [34, 39]	Anti-oxidant, adaptogen, astringent, anti-bacterial and anti-inflammatory [40]	Oleanolic acid, ursolic acid, rosmarinic acid, eugenol, carvacrol, linalool, β -caryophyllene, germacrene [40]
30	St. John'swort [34]	Skin cancer [41]	Anti-depressant, anti-oxidant, cytotoxic, apoptosis, anti-angiogenic [41]	Naphthodianthrone, phloroglycinderivatives, flavonoids, tannins, volatile oils, xanthones [41]
31	Coriander [42]	Breast and liver cancer [43]	Anti-diabetic, anti-infective, improves memory [44]	Coriandrol [43]
32	Fenugreek [43]	Breast, prostate and bone cancer [43]	Anti-oxidant, helps in fat metabolism [43, 46]	Dietary fiber, B vitamin, iron and dietary minerals [45]
33	Caraway [42]	Colon cancer [47]	Anti-oxidant, anti-bacterial, relieves constipation [42, 48]	Nutrients, vitamins, minerals, dietary fibers [47]
34	Cardamom [42]	Breast, ovarian and prostate cancer [49]	Anti-oxidant, anti-inflammatory, anti-proliferative and cytotoxic [42]	Ca, S, P, acetic acid, formic acid, indol-3-carbinol, diindolylmethane [49]
35	Cumin [42]	Colorectal, breast, ovarian, myeloblastic and prostate cancer [42]	Anti-oxidant, anti-microbial, anti-inflammatory and chemopreventive [42] properties [42]	Contain large amounts of iron [50]
36	Dill [42]	Cancer [42]	Anti-spasmodic, carminative, anti-flatulent, anti-inflammatory [51]	Anethofuran, carvone [42]
37	Saffron [42]	Skin, liver, lung, stomach, pancreatic, colon and breast cancer [42, 52]	Anti-tumorigenic and used in insomnia [42, 52]	Carotenoids and crocetin [42]
38	Thyme [42]	Liver, colon, breast, lung and prostate cancer [42]	Anti-oxidant [53]	Chamomile [53]
39	Broccoli [54]	Colo-rectal and bladder cancer [54, 55]	Anti-oxidant	Lutein and zeaxanthin
40	Grapes [54]	Lung, prostate, colon and breast cancer [54]	Reduces body's estrogen production [54]	Proanthocyanidins [54]
41	Ginseng [54]	Breast cancer [56]	Anti-infective, builds resistance and reduces inflammation [54, 56]	Ginsenosides and polysaccharides [56]
42	Myrrh [54]	All kinds of cancer [54]	Anti-inflammatory, anti-bacterial, anti-fungal and anti-parasitic [54, 57]	Volatile oil, resin, gum [57]
43	Soyabeans [54]	Breast, prostate, colon and lung cancer [54]	Influence levels of testosterone [58]	Phytoestrogens, isoflavones, phytic acid [54, 58]
44	Aloe vera [54]	Prostate and lung cancer [54]	Anti-oxidant, reinforce immune system and skin repair [59]	Vitamins, minerals, tannins and some elements [59]
45	Lycopene [4]	Prostate, lung and stomach cancer [54]	Anti-oxidant, anti-diabetic, prevents heart diseases [60]	β -carotene, lutein, flavonoids and ascorbic acid [61]

Skull Cap

This herb belongs to the family-Lamiaceae, genus-Scutellaria, species-*Scutellaria barbata*. This is used as herbal remedy for inflammation and traumatic injury.

Sutherlandia

This herb belongs to the family-Fabaceae, genus-Sutherlandia, species-*Sutherlandia frutescens*. The extract that is made

from sutherlandia treats fever, chicken pox, flu, rheumatism, haemorrhoids, diarrhoea, stomach and liver problems.

Thoro Wax

This herb belongs to the family-Apiaceae/mbelliferaceae, genus-Bupleurum, species-*Bupleurum scorzoneraefolium*. This relieves the infections with fever, haemorrhoids and indigestion.

Wheat Grass

This is a good source of potassium, vitamin A, vitamin C, vitamin E etc. and contains calcium, magnesium, amino acids, pantothenic acid, zinc, copper, manganese etc.

Sweet Worm Wood

This herb belongs to the family-Asteraceae, genus-Artemisia, species-*Artemisia annua*. This is traditionally used to treat fever.

Ashwagandha

This herb belongs to the family-Solanaceae, genus-Withania, species-*Withania somniferum*. The berries of ashwagandha can be used as substitute for rennet in cheese making.

Garlic

This herb belongs to the family-Amaryllidaceae, genus-Allium, species-*Allium sativum*. Garlic is used widely around the world for its pungent flavour and contain phytonutrients, minerals, vitamins and anti-oxidants.

Green Tea

Green tea contains caffeine, polyphenols like flavonoids, catechins. It is used in treating cancer, cardiovascular diseases, inflammation, weight loss, toxicity etc.

Celandine

This herb belongs to the family-Ranunculaceae, genus-Ficaria, species-*Ficaria verna*. Celandine is mainly used to treat piles.

Ginger Root

This herb belongs to the family-Zingiberaceae, genus-Zingiber, species-*Zingiber officinale*. Ginger treats various disorders like nausea and it is neuro-protective, gastro-protective, anti-emetic and hepato-protective.

Turmeric

This herb belongs to the family-Zingiberaceae, genus-Curcuma, species-*Curcuma longa*. Turmeric treats various internal disorders like indigestion, throat infections, common cold as well as topically to cleanse wounds or treat skin sores.

Cinnamon

Cinnamon is popularly used as flavouring agent in alcoholic beverages and it contains proanthocyanidins and cinnamaldehyde.

Rosemary

This herb belongs to the family-Lamiaceae, genus-Rosmarinus, species-*Rosmarinus officinalis*. The fresh and dried leaves of rosemary are used in Italian cuisine. They have bitter, astringent taste and a characteristic aroma which complements many cooked foods.

Holy Basil (Tulasi)

This herb belongs to the family-Lamiaceae, genus-Ocimum, species-*Ocimum tenuiflorum*. Tulasi has been used for

thousands of years in Ayurveda for various healing properties and acts as an adaptogen, astringent etc.

St. John's Wort

This herb belongs to the family-Hypericaceae, genus-Hypericum, species-*Hypericum perforatum*. This is mainly used for treating depression in humans.

Coriander

This herb belongs to the family-Apiaceae, genus-Coriandrum, species-*Coriandrum sativum*. The fresh and dried leaves of coriander are used in cooking and help in improving memory and combats oxidative damage. This mainly contains coriandrol.

Fenugreek

This herb belongs to the family-Fabaceae, genus-Trigonella, species-*Trigonella graecum*. Fenugreek is used as a herb, spice and also a vegetable.

Caraway

This herb belongs to the family-Umbelliferae, genus-Carum, species-*Carum carvi*. The fruits of caraway have pungent flavour and aroma that comes from essential oils.

Cardamom

This herb belongs to the family-Zingiberaceae. Cardamom is used as cooking species in both food and drink and it is anti-proliferative and has proapoptotic activities.

Cumin

This herb belongs to the family-Apiaceae, genus-Cuminum, species-*Cuminum cyminum*. The dried cumin seeds are used for medical purposes. Cumin contains large amounts of iron.

Dill

This herb belongs to the family-Apiaceae, genus-Anethum, species-*Anethum graveolens*. The leaves of dill are used to prepare variety of dishes and also give fragrance. This helps in treating bone health, diarrhoea, arthritis and menstrual disorders.

Saffron

Saffron contains carotenoid pigment crocin which imparts rich golden yellow colour to dishes and textiles. This is anti-tumorigenic and is used in treating insomnia.

Thyme

This is evergreen herb with medical and ornamental uses. This is anti-oxidant and helps in treating different types of cancers.

Broccoli

Broccoli contains carotenoid compounds lutein and zeaxanthin. This is an anti-oxidant which helps in treating different types of cancers like bladder, colo-rectal etc.

Grapes

These are non-climacteric type of fruits which occur in clusters. This reduces body's estrogen production and contains proanthocyanidins.

Ginseng

This herb belongs to the family-Araliaceae, genus-Panax. Ginseng is a perennial plant with fleshy roots and contains ginsenosides and gintonin.

Myrrh

Myrrh resin is a natural gum and it is yellow in colour and is used in perfumes and medicines. This is anti-inflammatory, anti-bacterial, anti-fungal, analgesic and anti-parasitic.

Soyabean

This herb belongs to the family-Fabaceae, genus-Glycine, species-*Glycine max*. This is a legume which has protein material and influences the levels of testosterone.

Aloe vera

This herb belongs to the family-Asphodelaceae, genus-Aloe, species-*Aloe vera*. This is a potted plant which is cultivated for agricultural and medicinal uses. This reinforces the immune system, repairs skin and also eliminates dandruff.

Lycopene

A phytochemical pigment which is an important intermediate in biosynthesis of many carotenoids and acts as food colouring agent. This prevents heart diseases and is anti-diabetic. This contains β -carotene, lutein, flavonoids and ascorbic acid.

EFFECTIVE NATURAL CANCER TREATMENTS [62]

1. Gerson Therapy

This therapy targets the most significant metabolic requirement in the body of patient. The person using this therapy should follow the Gerson diet i.e., eating organic fruits, vegetables, sprouts and should drink freshly prepared juice from raw foods. The effect of food, juices and medication makes the immune system to attack and kill tumour tissue.

2. The Budwig Protocol

When deadly processed fats and oils are replaced with life giving saturated/unsaturated fatty acids then the cells rebuild and are rejuvenated.

When cottage cheese and flax are combined in the same way then the body will be able to absorb nutrients quicker and easier.

3. Proteolytic Enzyme Therapy

Autonomic nervous system consists of sympathetic and para sympathetic nervous systems which are said to be one of the major cause of cancer.

A vegetarian diet will suppress the sympathetic function where as the parasympathetic function is suppressed by non-vegetarian diet.

4. Vitamin C Chelation

This therapy mainly uses the chemicals or natural compounds to remove the toxic metals from the body. After the treatment, one hour later pro-oxidant effect appears which is main reason for destroying tumour cells which induces endogenous anti-oxidant systems in normal tissues. Vitamin-c rich foods fights and prevent cancer.

5. Frankincense Essential Oil Therapy

This therapy is mainly used for treatment of brain, breast, colon, pancreatic, prostate and stomach cancers.

This oil mainly works by rubbing this oil on the neck of patient three times daily and drink this oil three drops in eight ounces of water three times daily.

6. Probiotic Food and Supplements

Probiotics are the micro organisms that promote natural balance in intestinal flora. These probiotics can be taken in diet in their natural state by taking raw milk products such as cheese, kefir and yogurt.

7. Sunshine and Vitamin D3

These are mainly required to prevent breast cancer. Fat soluble vitamin D3 acts a main role in cancer prevention. Vitamin D3 levels in the body must be at least 40-60 ng/ml and up to 80 ng/ml. This can be obtained by minimum 20 minutes exposure to sun.

8. Turmeric and Curcumin

Curcumin kills the cancer cells and prevents them from growing. This has best effects on breast, bowel, stomach and skin cancer cells.

Turmeric works to stop the growing of cancer in its track and is effective at breast, colon and skin cancer.

9. Oxygen Therapy and Hyperbaric Chambers

Cancer cells can survive in the absence of oxygen. Root cause of cancer is oxygen deficiency which creates an acidic state in human body. Cancer cells cannot survive in the excess of oxygen.

The air pressure inside a hyperbaric oxygen chamber is about 2.5 times higher than the normal pressure in atmosphere; it causes blood to carry more oxygen to different parts of body.

10. Prayer and Building Peace

Maintaining mental peace and positive outlook are more important to cancer prevention and treatment. There should be stress free life styles filled with peace and joy.

CONCLUSION

Nature provides ample sources for effective treatment of cancer. By using the herbs and the treatment options discussed above we can assure a safe, cost effective and complete treatment for cancer with no significant physical side effects that crop up with other treatment options for cancer treatment. The reduction of physical side effects can significantly reduce psychological and emotional side effects like anxiety, fear, depression etc. The suggested

treatment options are highly beneficial for infants and elderly patients suffering from cancer. Various natural cancer treatments mentioned above suggest a change in life style and dietary habits such that cancer symptoms can be avoided or prevented at the earliest.

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