

PREVENTION OF CANCER – AYURVEDIC REVIEW**Jayashree Khuntia***

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ABSTRACT

Cancer is the most dreadful disease and creates horror in the world currently. It is due to lack of proper treatment and prevention of cancer still not available in modern science. There is always losing of life due to cancer no matter what treatment is provided. There are also different types of cancer available in worldwide. It develops in the body when toxic materials gathered at or around the specific organ over a period of time. The toxins can't be created or can be eliminated from the body by the use of proper diet and healthy life style, which is only described in Ayurveda, one of traditional and ancient system of medicine. Ayurveda is a comprehensive integrative healing system started in

India around 5000 years ago and spreads throughout the world due to its merits. Even now, studies and researches are being done in universities across the world to learn more about various herbal remedies and natural medicines for prevention of cancer. In order to treat various ailments and illnesses in a more natural approach, health centers are now adding Ayurveda as a subject in their curriculum. Ayurveda encourages the body's intrinsic healing system to function optimally for resilience, health and immunity. It also contains a wealth of botanical items with a variety of pharma coactive components and millennia of clinical expertise for health benefits.

KEYWORDS:– Cancer, Ayurveda, Toxic materials, Healing system, Immunity.

INTRODUCTION

In this 21st century, people are more preferably maintaining luxurious life. So, they have deviated from a healthy lifestyle which leads to widespread of cancer. Their immunity has gone down day by day and metabolic rates have also fallen as a result of which their digestive systems have degraded considerably. Together, these elements increase the body's

susceptibility to gigantic disease like cancer. It's the real time to make people aware about this life-threatening disease for its prevention and control. In this era, we need to follow Ayurvedic life style to prevent many diseases including cancer. In Ayurveda, there are mainly 2 tools, one is "*Dinacharya*" (Daily regimen) and the seasonal changes we need to make in our life style i.e., "*Rutucharya*" (Seasonal regimen). Today's modern diet and lifestyle is lacking both proper metabolism and immunity. Healthy diet, lifestyle and medicine described in Ayurveda prevent the accumulation of toxin in the body and keep us far away from most hazardous cancer.

MATERIALS AND METHODS

Materials

A) *Ayurvedic grantha*

1. *Charaka Samhita*
2. *Sushruta Samhita*
3. *Ashtanga Hridaya Samhita*

B) Internet – Wikipedia

C) Modern Medical literature

Methods – All the principles and rules described in Ayurvedic Samhita are considered and compared to evaluate and enlighten the concept with modern medical literature.

Principle of ayurveda

According to Ayurveda, *Vata*, *Pitta* and *Kapha* are the three fundamental biological elements crucial to proper body function. The oldest medical text in India, the "*Charaka Samhita*" and "*Sushruta Samhita*" define cancer as an inflammatory or non-inflammatory swelling that is referred to as either "*Granthi*" (minor neoplasm) or "*Arbuda*" (major neoplasm). *Tridoshas* (*Vata*, *Pitta* and *Kapha*) become imbalanced and lose coordination in malignant tumors, resulting in tissue destruction and a catastrophic state. *Tridoshas* cause an overabundance of metabolic crises, which leads to proliferation. The eradication of the cause and avoidance of causative factors are the treatment principles of Ayurveda. Treatment with Ayurveda doesn't entail suppressing the primary symptoms while causing some additional ones as unintended side effects. It's to get rid of the cause and provide long-lasting relief. The majority of the drugs used in Ayurvedic medicine are made from natural herbs, plants & minerals and come in the form of powders, tablets, decoctions, medicated oils etc. An action made to reduce the

chance of developing cancer is called prevention of cancer. This entails leading a healthy lifestyle and avoiding contact with known carcinogens.

Causative factors

Cancerous cells don't experience death but instead continue to grow and divide whereas normal cell growth follows an ordered route of growth, division and death.

There are numerous potential causes for cancer, some of the most prevalent ones being:

- Mutation in the DNA resulting in the damage of genes involved in the cell division.
- Genetic Predisposition
- Unwholesome diet with low in fruits, vegetables and fiber intake
- Tobacco use
- Being obese
- Lack of Physical activity
- Smoke (Indoor and Industrial)
- Urban air pollution
- Alcohol use
- Ionizing and Non-ionizing radiation
- Sexually transmitted HPV infection
- Luxurious lifestyle or doing daily regimen at improper time

Probable signs for early detection of cancer

- ❖ Change in bowel or bladder habit
- ❖ Nagging cough or Hoarseness of voice
- ❖ A sore that doesn't heal
- ❖ Indigestion or Difficulty in swallowing
- ❖ Lump in the breast or any specific organ
- ❖ Unusual bleeding or discharge
- ❖ Obvious change in wart or mole
- ❖ Being excessively tired

Cancer can be treated successfully if detected in early stage. Screening is a means of early detection of disease in asymptomatic individuals with the intention of decreasing morbidity and mortality.

Prevention of cancer

In Ayurveda, *Traya upastambha* (Tripod of life) i.e., *Ahara* (Food), *Nidra* (Sleep) and *Brahmacharya* (Celibacy) has been described. To maintain a healthy life, one has to be very careful about these three things. About 30-35% of cancer fatalities are attributed to poor eating habits, obesity, restless nights and inactivity. Physical inactivity is thought to increase the risk of cancer not just through affecting body weight but also having a negative impact on the immunological and endocrine systems. A number of malignancies have been related to diets that are heavy in processed or red meat and poor in fruits, vegetables and whole grains. A frequent food contaminant called aflatoxin B₁ has been associated to liver cancer, chewing tobacco has been linked to oral cancer, alcohol intake has been linked to liver cancer and red or processed meat has been associated to breast, colon, pancreatic and liver cancer.

In light of the foregoing, Ayurvedic recommendations are

1. Take a variety of fruits, vegetables and grains.
2. Consume as much cow's ghee, cow's milk and goat's or camel's milk as you can.
3. Keep yourself away from fried, spicy, junk and preserved foods.
4. Avoid non-vegetarian foods, especially red meat, once a week is plenty, even for young children who are still growing. Cook fresh fish, poultry, vegetarian protein sources (soy, egg, dairy products) and organic red meat wherever possible.
5. Contrary to popular belief, sugar is not health risk. The tumor is not nourished by sugar. Hyperactivity of some additional body weight could result.
6. Against the growth of cancer, Vit. D is preventive. Natural sources of Vit. D include fatty fish, eggs and vegetable oils.
7. Steer clear of incompatible foods, such as milk with sour fruits or milk with meat.
8. Use *Agnivardhak* (Digestive fire enhancer) medications such as *Trikatu* (*Sunthi*, *Pippali*, *Maricha*) to speed your metabolism.
9. Drink plenty of water.
10. Take *tridoshashamaka* (which alleviates *tridoshas*) medications such as *triphala*, *dashamula*, *guduchi* etc.
11. Stay away from alcohol, tobacco and other intoxicating substances.
12. Avoid overeating and avoid eating before your previous meal has been digested.
13. Care should be taken to ensure that feces and urine are properly expelled.
14. Conjure up uplifting feelings and thoughts.

15. Increase your everyday physical activity and exercise; go for long walks in the outdoors or unwind in nature.
16. Prayer and Meditation are highly beneficial. Our ability to discriminate between what is good for us and what is not, will be notably aided by practicing yoga and meditation for physical and psychological relaxation.
17. The mind, thoughts and neurological system are getting benefitted from listening to harmonized music.
18. Take the food, which is easy to digest (light in nature) and when you are hungry. There should be a good balance of all the six tastes.
19. Always take your diet in proper quantity and proper time.
20. Always be endowed with good qualities and follow all principles described in different sastras.

Latest advanced research

- 1) According to Singh SV et. al (University of Pittsburgh school of medicine, Pittsburgh, Pennsylvania), the induction of caspase-dependent apoptosis in PC-3 human prostate cancer cells by guggulsterone – a component of the Ayurvedic plant *Guggulu* (*Commiphora mukul*) is mediated via Bax and Bak.
- 2) “*Triphala* (*Haritaki*, *Bibhitaki*, *Amalaki*) triggered the pancreatic cancer cells to die off and significantly reduced the size of the tumors without causing any side effects”, according to Prof. Srivastava Sanjaya et. al from the university of Pittsburgh cancer institute in 2007. Additionally, *triphala* had turned on tumor suppressor genes, which led to the production of apoptosis-supporting proteins without having an adverse effect on healthy pancreatic cells.
- 3) “Artemisinin is most effective against leukemia and colon cancer”, Gammill et al 2004, additionally, intermediate effects were observed against breast, renal, prostate, CNS, melanoma and ovarian cancers.
- 4) Mugameri SK et.al, Apoptosis induction in HCT 116 colon carcinoma cells by curcumin (active component of *Curcuma longa*, *Haridra*).
- 5) According to Sivakumar V et. al, Chronic research on the induction of apoptosis by *Plumbago zeylanica* (*Chitraka*) in male Wistar rats carrying DEN – induced hepatocarcinomas through mitochondrial and caspase pathways.
- 6) Priya S et. al, Curcumin prevents metastasis in the lungs of breast cancer affected mice.

- 7) “*Withania somnifera* (Aswagandha) lead molecule suppresses anti-apoptotic protein Bcl-2 promotes Bax and cytochrome c release leading to apoptosis through mitochondrial pathway in Hela cervical cancer cells”, Senthil V et. al.
- 8) “Antitumor effect of *Aegle marmelos* (Bilwa) in Ehrlich ascites carcinoma cells is mediated via induction of cell cycle arrest and apoptotic cell death”, Radhakrishnan R et. al.
- 9) Jagetia G.C. et. al, A polysaccharide present in *Guduchi* (*Tinospora cordifolia*) treats throat cancer.
- 10) Cheppail R et. al, Apoptosis in human tumor cells is induced by natural triterpenoid cancer drug Amooranin from *Amoora rohitaka* (*Rohitaka*) stem bark.
- 11) “Garlic (*Rasona*) helps to prevent cancer, especially of the GIT, prevent certain tumors from growing larger and reduces the size of certain tumors”, Pandey D et. al.
- 12) “Chemoprotective activity of *W. somnifera* (Aswagandha) in experimentally induced fibrosarcoma tumors in Swiss Albino mice”, Prakash J et. al.
- 13) Zinger, Onion, Garlic prevents cancer, especially of the digestive system.
- 14) Studies on biological models like fibrosarcoma cell culture, papilloma in the skin of albino mice, mice having sarcoma – 180 solid tumors etc. provide proof for anticancer activity of holy basil or *tulsi* (*Ocimum sanctum*). Ethanolic extract of basil exerted cytotoxicity against A549 cells, it increased the sub-G population and exhibited apoptotic bodies in A549 cells.
- 15) There are certain herbs which are particularly effective in specific organ cancers such as *Vasa* (*Adhatoda vasica*) and *Kantakari* (*Solanum xanthocarpum*) on lung cancer; *Sthouneyaka* (*Taxus buccata*) on uterus cancer; *Bhumyamalaki* (*Phyllanthus niruri*), *Kalamegha* (*Andrographis paniculata*) and *Chitraka* (*Plumbago zeylanica*) on liver cancer; *Matulunga* (*Citrus medica*) and *Haridra* (*Curcuma longa*) on breast cancer.
- 16) The fruits of *Amalaki* (*Embllica officinalis*), root of *Yastimadhu* (*Glycyrrhiza glabra*), *Punarnava* (*Boerhavia diffusa*) and *Dasamula* also have anti-cancer activities.

RESULT

By making smart food choices, we can protect our health and boost our ability to fight off cancer. Thus, cancer can be prevented or we can minimize the risk of disease if we change our diet and lifestyle.

DISCUSSION

The special features of cancer cells are failure to apoptosis, ability to metastasize, skip the immunity, altered metabolism, increased angiogenesis and uncontrolled growth, which are only prevented and treated by ayurvedic diet, lifestyle and medicine. It is now established that 'reverse signaling' from defective mitochondria plays an important role in the genesis and progression of cancer cells. In contrast, it has also been demonstrated that healthy mitochondria can restrict the growth of cancer cells and make them more receptive to treatment. Therefore, any medication or therapy, that can enhance mitochondrial function, can alter the course of illness and stop its progression. Before it is proved that the mitochondria and *agni* (Digestive fire) are the same and ayurvedic diet, lifestyle and medicine helps to balance & protect *agni* (Digestive fire) and prevent as well as treat cancer in this way. Those are

- To remove the free radicals, toxins and excess amount of dirty *tridosha*.
- To restore and strengthen the metabolic function of *agni*.
- To change the cellular environment, which breaks down or absorb lactic acid, produced by cancerous cells.
- To improve the immunity.
- To stimulate tumor suppressor pathways.
- To arrest abnormal cell cycle and reduce uncontrolled growth.
- To reduce budding of newer blood vessels in cancerous tissues.
- To block the effect of chemicals like TNF alfa, responsible for creation of cancer.
- To stop glucose supply to cancer cells which causes ultimately its death.

CONCLUSION

Cytotoxic herbs most likely come in a wider variety than chemotherapeutic medications. Hartwell examined 2,500,000 herbs and all 5000-year-old references to cancer herbs. He found at least 3000 of them have some anticancer properties. The U.S department of agriculture also employs this figure. The majority of Ayurvedic plants mentioned in classical texts have anticancer effects. For a better understanding and widespread acceptance, Ayurvedic herbs need to be studied in light of contemporary chemistry, physics and biology. With its inherent therapy modalities such as herbal medicines, dietary changes, spiritual support and acceptance the way of life as outlined in Ayurvedic classics, Ayurvedic medicine may give people fresh hope for the prevention and treatment of cancer as well as leading healthy and happy lives.

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