

ROLE OF AYURVEDIC LIFESTYLE IN THE PREVENTION OF CANCER

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ABSTRACT

Ayurveda is a science of life. Its major premise involves the symbiosis of mind, body and spirit. Any imbalance in this synthesis results in physical ailments. One of this is Cancer. In this 21st century 3 out of 10 may get cancer, says WHO. Cancer was mentioned in *Ayurveda* as *Arbuda*. It is explained in detail by *Acharya Sushruta*. Cancer is life-style related disease. Around the world, lifestyle disorders affect women and men almost equally. Children are more at risk than adults for life-style maladies. Lifestyle plays an important role in the genesis of cancer. *Ayurveda* has mentioned various life-style carcinogens. A high fat diet, processed food, packed food, sedentary life-style, and high level of stress, alcohol and smoking are either causative or an aggravating factor in most of the incidence of cancer. According to *Sushruta*, the fundamental cause of major neoplasm is the pathogens that affect all parts of the body. Pathogenic injuries in muscular tissue and blood vessels caused by life style errors, unhealthy foods, poor hygiene and bad habits results in the de-arrangement of *doshas*, which leads to the manifestation of tumours, which eventually leads to cancer.

Keywords: *Arbuda*, carcinogens, *doshas*, Pathogenic.

INTRODUCTION

Ayurvedic diet and life-style is crucial to good health. To attain good health, *Ayurveda* prescribes the daily routine and the seasonal regime. It is important to follow a daily regime in order to be optimally healthy. The term *Ayurveda* translates to “the science of life.” Thus, *Ayurveda* does not just deal with the treatment of the physical body; it also focuses on balancing and harmonizing all aspects of a person’s mind, body and spirit as well as that of so-

ciety as a whole. In *Ayurveda*, a person is seen as being made up of five primary natural elements: *Aakash*, *Vayu*, *Agni*, *Jala*, *Prithvi*. These elements manifest and combine in the body in certain physiological ways. How these elements express themselves are called *Doshas*- *Vata*, *Pitta* and *Kapha*. *Dosha* balancing is at the very heart of the *Ayurvedic* healing system.

In *Ayurveda*, any imbalance in the body system is caused by the over expression or under expression of one or more of *doshas*. *Ayurveda* acknowledges that cancer cells are always present in the body, but when the body is in a state of *dosha* balance (or homeostasis), this is not a problem. According to *Ayurveda*, unbalanced physiology (*Doshas*) leads to faulty inherent intelligence leading to malfunctioning of genes and gene behaviour leading to diseases like cancer. When *dosha* is in balance cancer does not occur and our life-style affects directly on these *doshas*. So it is very important to maintain balance between these *doshas* through a proper life-style.

MATERIALS AND METHODS

For this article we have collected information from various books like Brihatrayi, Laghutrayi, modern books of medicine and published papers and also information available on the internet.

WHAT IS CANCER?

Cancer is a disease which occurs when changes in a group of normal cells within the body lead to uncontrolled growth causing a lump called a tumour; this is true of all cancers except leukemia (cancer of the blood). If left untreated, tumours can grow and spread into the surrounding normal tissue, or to other parts of the body via the bloodstream and lymphatic systems, and can affect the digestive, circulatory and nervous systems.

Tumours can be benign or malignant.¹

- **Benign tumours** are not cancerous and rarely threaten life. They tend to grow quite slowly, do not spread to other parts of the body and are usually made up of cells quite similar to normal cells. They will only cause a problem if they grow very large, becoming uncomfortable or press on other organs- for example a brain tumour inside the skull.
- **Malignant tumours** are faster growing than benign tumours and have the ability to spread and destroying neighbouring tissue. Cells of malig-

nant tumours can break off from the main tumour and spread to other parts of the body through metastasis. Upon invading healthy tissue at the new site they continue to divide and grow. These secondary sites are known as metastases and the condition is referred to as metastatic cancer.

Cancer- described in *Ayurveda*-

*Acharya Charaka*² and *Archarya Sushruta*³ have mentioned *Granthi* and *Arbuda* which we can correlate with cancer. In benign neoplasm (*Vataj*, *Pittaja* or *Kaphaja*) one or two of the three bodily systems are out of control and is not too harmful because the body is still trying to coordinate among these systems. Malignant tumours (*Tri-doshaja*) are very harmful because all the three major bodily systems lose mutual coordination and thus cannot prevent tissue damage, resulting in a deadly morbid condition.

According to *Maharshi Sushruta*, the fundamental cause of *Arbuda* is the pathogens that affect all parts of the body. He called the sixth layer of the skin as '*Rohini*⁴, (epithelium) and any kind of injuries to this layer in muscular tissue and in blood vessels caused by life-style errors, unhealthy foods, poor hygiene and bad habits results in the derangement of *doshas*, which leads to the manifestation of tumours.

The Factors Responsible For the Vitiation of *Doshas*:-

- **Vata** aggravating factors: excessive intake of bitter, pungent, astringent, dry foods and stressful conditions.
- **Pitta** aggravating factors: excessive intake of sour, salty, fried foods and excessive anger.
- **Kapha** aggravating factors: excessive intake of sweet, oily food and sedentary nature.
- **Rakta** aggravating factors: excessive intake of acid or alkali containing food, fried and roasted foods, alcoholic beverages, sour fruits, excessive anger or severe emotional upset, sunbathing or working under scorching sun or near fire and hot conditions, etc.

- **Mamsa** aggravating factors: excessive use of exudative foods like meat, fish, yoghurt, milk and cream. Behaviour leading to exudation like sleeping during the day and overeating are some of the causes for pathogens invading the fatty tissues.
- **Meda** aggravating factors: excessive intake of oily foods, sweets, alcohol and lazy attitude. This shows that faulty life-style factors are responsible for vitiation of *doshas* and for the production of the pathogens causing cancer.

Modern Point of View:-

Prevalence:-

Deteriorated Life-style plays a major role in the genesis of disease like cancer. According to the WHO, four non-communicable diseases-cancers, cardiovascular diseases, respiratory diseases and diabetes- are responsible for 80% of all deaths worldwide. This is despite the fact that there is a clear link between life-style and non-communicable diseases. According to the World cancer research fund, about a third of the most common cancers can be prevented through diet, maintaining a healthy weight and taking regular physical activity.

Only 5-10% of all cancer cases can be attributed to genetic defects, whereas the remaining 90-95% has their roots in the environment and life style.

Lifestyle Factors:-

The life style factor include cigarette smoking, diet (fried food, canned food, processed food), alcohol, sun exposure, environmental pollutants, infections, stress, obesity, and physical inactivity. Junk food places people at risk of strokes from high blood pressure, type II diabetes mellitus, heart attacks from raised LDL cholesterol levels, cancer of the colon and immune system is compromised and a greater chance of contracting other cancers as levels of antioxidants is so low (colon, breast, prostate, gallbladder, ovarian) It also leads to weight gain and obesity, further increasing the likelihood of strokes and heart attacks.⁵ Although the hereditary factors cannot be

modified, the life style and environmental factors are potentially modifiable. The lesser hereditary influence of cancer and the modifiable nature of the environmental factors point to the preventability of cancer.

Understanding possible causes of cancer comes down to understanding the causes of gene and DNA mutations. Chemicals (like carcinogens), radiation, obesity, hormones, chronic inflammation, smoking, viruses, and a number of other factors have been found to be cancer causing. Few examples are as follows-^{6,7}

1. **Genetically Modified Foods (GMOs):** The rapidly growing industry of genetically modified crops are infiltrating our food supply at an alarming rate. More than 90% of our corn and soy are now genetically modified. This fairly new practice is the source of many debates. Experts agree that adequate testing was not done before GMO foods were added to the ingredient listing of thousands of products. In other words, no one – including the growers and manufacturers of GMO foods – knows the long-term effect they will have on human health. Look for GMO-free labels whenever possible or buy organic (which always means a product is not genetically modified).
2. **Microwave Popcorn:** From the chemically-lined bag to the actual contents, microwave popcorn is at the centre of lung cancer debates around the world. Not only are the kernels and oil likely GMO (which the manufacturer does not have to disclose) unless organic, the fumes released from artificial butter flavoring contain diacetyl, which is toxic to humans. Make your own organic popcorn the old-fashioned way – it tastes better, doesn't release toxic fumes, and is a healthier choice for you.
3. **Canned Goods:** Most cans are lined with a product called bisphenol-A (BPA), which has been shown to genetically alter the brain cells of rats. Many plastic goods, thermal paper, water lines, and many dental composites also contain

BPA. Help protect your DNA by sticking to fresh or frozen vegetables that have no added ingredients for your family's table! These are better for you and available year-round.

4. **Grilled Red Meat:** While grilled food can taste delicious, scientists have discovered that preparing meats in this way – especially processed meats like hot dogs – releases a carcinogen called heterocyclic aromatic amines. When you grill red meat to the point of well-done, it changes the chemical and molecular structure of the meat. You're better off baking, broiling, or preparing meat in a skillet than on the grill.
5. **Refined Sugar:** The biggest cancer causing food (by far) is high-fructose corn syrup (HFCS) and other refined sugars. Even brown sugar is highly refined white sugar with some of the removed molasses added back in for flavor and color. Refined sugars (and foods made with them) are the source of major insulin spikes and feed the growth of cancer cells. Since the majority of the sugar supply in the U.S. is made using genetically modified (GMO) sugar beets, a healthier option is organic honey, coconut sugar, or maple sugar. Now that oncologists are using diabetes medication to fight cancer cells, there's no doubt (finally) that those mutated cancer cells love sugar.
6. **Salted, Pickled, and Smoked Foods:** These products typically contain preservatives, such as nitrates, which are intended to prolong shelf life. The additives used in processed foods can accumulate in your body over time. Eventually, such toxins cause damage at the cellular level and lead to diseases like cancer. When smoked foods are cooked at high temperatures, the nitrates are converted to the much more dangerous nitrites. (Note: By pickled foods we don't mean the fermented foods you make at home.)
7. **Soda and Carbonated Beverages:** Sodas have been at the centre of the health debate for two decades as a major cancer causing food. Filled with high-fructose corn syrup (HFCS), dyes, and

a host of other chemicals, they are very bad for every aspect of your health. They provide zero nutritional value and rob your body of the nutrients you get from other foods. Adding "diet" to the label means you're also likely consuming aspartame – which is no better than rat poison to human cells.

8. **White Flour:** When flour is refined, all nutritional value is removed. Then it's bleached with chlorine gas to make it more appealing to consumers. The glycemic index for white flour is very high – meaning it spikes your insulin levels without providing nutritional fuel. Carbohydrates are converted to sugars by your body, so excessive products that contain white flour can lead to increased insulin resistance. Simple sugars (like refined carbohydrates) are the preferred fuel source for cancer.
9. **Farmed Fish:** Commercial fish farming involves raising an incredible number of fish (such as salmon), in a crowded environment. More than 60% of the salmon consumed in the United States comes from a farming operation where they are treated with antibiotics, pesticides, and other carcinogenic chemicals to try and control the bacterial, viral, and parasitic outbreaks that result from cramming so many fish in a small space. Farmed fish also don't have as much omega-3 as wild salmon.
10. **Hydrogenated Oils:** Vegetable oils are chemically extracted from their source, chemically treated, and more chemicals are added to change the smell and taste. They're packed with unhealthy omega-6 fats (that Americans already consume way too much of) and have been proven to alter the structure of our cell membranes.

Prevention

Cancer prevention requires smoking cessation, increased ingestion of fruits and vegetables, moderate use of alcohol, caloric restriction, exercise, avoidance of direct exposure to sunlight, minimal meat

consumption, use of whole grains, use of vaccinations and regular check-ups.

Ayurvedic way of life-style focuses on all of these, under the heading-*Dinacharya*, *Ratricharya* and *Ritucharya*.

SADVRITTACHARANA – it includes

- *Dinacharya* (Daily Regime)
- *Rutucharya* (Seasonal Regime)
- *Sadvritta* i.e. *Aachar Rasayan*

Dinacharya* and *Ratricharya includes-hydration, *yoga*, exercise, self oil massage, cleansing, dressing for the season (color therapy), breathing exercises, meditation, chanting (sound therapy), appropriate work or study, three meals a day, massage, relaxing music, relaxing reading and sound sleep.⁸

Scientific evidences are available emphasising importance of *Dinacharya* in one's life. Following are various *Vidhi* which should be included in Daily regime.⁹

Dantadhavana

It is advised to clean teeth & oral cavity early morning by herbs which are *Kashaya-Tikta- Katu rasatmaka*. As these *rasa* are *Kaphahara* & *Keldaghna* they help in pacifying *Kapha Dosha*.

So, in day to life it can be related as toothpaste which is *Madhura rasatmaka* should be avoided as it will negate the main purpose of *Dantadhavana*. And thus it will help to prevent oral cancer.

- ***Anjana***- Use of *Sauveeranjana* & *Rasanjana* is advised to maintain health of Eyes.
- ***Dhoomapana, Gandusha***- *Dhoomapana* is also indicated in *Kaphavata Avastha* by *Katu- Tikta- Kashaya Rasa dravya* mainly.
- ***Abhyanga***- Daily *Abhyanga* is advised as it is *Jara-Shrama-Vatahara, Pushtikara, Tvachya, Sharir Dardhyakrita*.
- ***Vyayama***- *Vyayama* should be done as *Ardha-shakti*.
- ***Udvartana***- *Udvartana* is the application or rubbing of dry *Choorna* or powder on the skin externally. *Udvartana* is for *Medoghna- Twakprasadana* action by *Katu-Tikta- Kashaya*

Rasa dravya like *Musta* etc. as these are *Kaphahara* in nature.

- ***Snana***– *Snana* relieves stiffness, causes *Vata Shamana*.

Many *Panchakarma* procedures are included in *Dinacharya* such as *Nasya, Dhoomapana, Anjana* etc. Inclusion of this *karma* in daily regime specifies their importance in Prevention of diseases.

- Rejuvenating herbs and foods (*Rasayana*).¹⁰
- *Ritucharya*- seasonal diet and habit shifts¹¹

In *Ayurveda*, the knowledge of *Rutucharya* is a firsthand guide to the concept which describes the modes and stages of the development of diseases, with regard to the state of different *Doshas*—*Vata, Pitta, and Kapha* in accordance with the changes in *Rutu*. A good understanding of it, is very much essential for early diagnosis and prognosis of any disease & for adopting preventive and curative measures.

It is to be known that disharmony in the *Doshas*—*Vata, Pitta, and Kapha* results in *Roga* (disease). And aim of *Ayurveda* is to maintain this harmony. With changes in diet and lifestyle, there are changes in the state of *Tridosha*, resulting in disharmony, causing lifestyle diseases. *Rutu* acts as *Vyanjaka* or *Nimittakarana* in the aggravation and manifestation of disease.

- ***Shadrutu*** as explained in our *Samhitas* are observed in Indian Sub-continent only. So *Dosha avastha* such as *Sanchaya, Prakopa, Prasara* according to *Rutu* as stated in *Ayurveda* & treatment according to it should be followed. In other continents, seasons are different so accordingly by minute observations related to *Dosha dushti*, their *lakshana, avastha* should be taken into account.
- ***Rutucharya*** also shows many important principles of correlation of *Rasa-Dosha*. Each *Rutu* shows the dominance of a specific *Rasa*. *Shishira-Vasant-Greeshma* belongs to *Aadana-kala* as the *Bala* or energy level is diminishing day by day. On the contrary, *Varsha-Sharada-Hemant* belongs to *Visargakala* as the *Bala* is

getting aggravated gradually. So the dominance of *Rasa* is present as follows-

Shishira – Tikta

Vasanta - Kashaya

Grishma – Katu

Varsha - Amla

Sharad - Lavana

Hemanta – Madhura

- So, consuming specific *Rasa* & avoiding *Aahar* with specific *Rasa* according to *Rutu* should be followed. If not, it may result in *Dosha dushti*. Such as in *Sharad Rutu*, *Lavana Rasa* dominance can be seen due to *Aatapa*, resulting in *Pitta prakopa* hence to pacify *Pitta*, *Madhura-Tikta-Kashaya rasa* are advised as *chikitsa*.
- Similarly, in *Vasanta Rutu Kapha prakopa* takes place hence *Kaphaghna rasa* such as *Tikta-Katu-Kashaya* are advised in diet. *Sheeta*, *Snigdha*, *Guru* & *Madhura rasatmaka aahar* is advised to be avoided as it can further cause *Kaphaja Vyadhi*.
- With global warming and variation in the advent of season, it can surely be a query, of the importance of *Rutucharya* in the present scenario. It is to be understood that the background on which *Rutucharya* is based, that is, *Dosha* and *Panchamahabhuta* theory. Although today *Rutu* do not follow uniformity, the level of *Dosha dushti* and *Panchamahabhuta lakshana* can be analyzed accordingly, to decide the regimen, this knowledge of *Ayurveda* will be the pathfinder.

Sadvritta

Sadvritta means physical & mental decorum which should be followed by everyone on daily basis. In *Charak Samhita Sutrasthan* detailed description of *Sadvritta* has been stated. In which:

- Behavioural Do's & Don'ts
- Eating etiquettes
- Social rules
- Rules for Study, *Havana Karma*
- Guidelines for Chastity etc.

In *Indriyopakramaniya adhyaya Acharya Charak* has explained the importance of *Sadvritta* as by following these rules one will lead a healthy life without suffering from any diseases also For *Moksha prapti Sadvritta* should be followed.

It can be interpreted as by following these rules a man can achieve all his goals with sound mind & body.

Aachar Rasayana is behavioural conduct i.e. *Sadvritta* following it acts as *Rasayana* on our body & mind.

In *Charak Samhita Chikitsasthana Rasayanadhyaya*, *Aachar Rasayana* has been explained which is nothing but the mental hygiene to be followed by definite methods to lead an ideal ethical way of living. Such physical & behavioural conduct definitely leads to a life with *Rasayana* effect.

Acharya Rasayana may act as a *Rasayana* by 3 paths

- Improves the personality
- Improves social relations
- Improves physical health
- Major cleansing episode (*panchakarma*).

For *Ayurvedic* treatment of cancer, prevention is the key. Of course, the concept of prevention is not strictly relegated to *Ayurveda*. Changing your lifestyle include more live foods, vegetables also reducing stress, getting adequate amount of sleep and exercise, reducing your toxic burdens and fortifying the body with quality supplements are all good practices for health and vitality no matter who you are.

There are some *Ayurvedic* treatment and therapies:-

- **Abhyanga**¹²: means massage with oils prepared with specialized *Ayurvedic* herbs which helps in proper lymph drainage, detoxification and relaxation.
- **Shirodhara**¹³: is a kind of massage that involves the pouring warm herbalized oil or decoction over the forehead. It is said to synchronize brain waves patterns and help to coordinate and calm the body as well the mind.
- **Swedana**¹⁴: is an herbalized steam bath. In this procedure, the head and heart are kept cool

while gentle hyperthermia is applied to the rest of the body. This procedure is said to remove both physical and emotional toxins lodged deep within the tissues.

- **Gharshana**¹⁵: is dry lymphatic skin brushing. This procedure helps in increasing the circulation and cleanses the pores of the skin.
- **Panchakarma**: It is *Ayurveda*'s primary purification and detoxification treatment. *Panchakarma* means "five therapies". These 5 therapeutic treatments eliminate toxins from the body, they are: *Vaman*, *Virechana*, *Nasya*, *Basti* and *Raktamokshana*. The series of these five therapies help to remove deep rooted stress and toxins from the body which are responsible for diseases like cancer, while balancing the *doshas*.

After *Panchakarma* therapy, *Bramha Rasayana* should be given along with immune-modulators and anti-oxidants.

DISCUSSION

According to *Ayurveda*, *Dhatavagnimandya* is the chief cause of all diseases.

Jatharagni and *Dhatvagni* play an important role in the prevention of formation of abnormal cells i.e. cancer. Unhygienic diet, *viruddhaahara* (sweet & bitter), irregular timing, frozen food are not recommended by *Ayurveda* & these can be responsible for abnormal cell growth i.e. cancer. Balance diet, healthy lifestyle, environmental factor plays an important role to prevent cancer. Changing your lifestyle to include more live foods, vegetables, and organic, grass-fed meats while reducing processed foods is part of it. In addition, reducing stress, getting adequate amounts of sleep and exercise, reducing your toxic burden, and fortifying the body with quality supplements are all good practices for health and vitality no matter who you are. Healthy diet and proper lifestyle maintains these *Agni* in their balanced state. This can be achieved by applying rules or regimes mentioned in various *Ayurvedic Samhitas*. We can prevent cancer by just

mere change in our lifestyle. *Dincharya-Ratricharya*, *Ritucharya* and *Sadvritta Aacharan* help us to prevent such kind of lifestyle disorders.

CONCLUSION

So, there are many factors responsible for cancer. Some of them are modifiable while some of them are not. Therefore we have to focus on modifiable factors like diet, environmental factors and most important life-style. With above mentioned small steps one can help reduce the risk of cancer causing agents.

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