

Cancer: Treat it with Ayurveda

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Abstract

Cancer is the second leading cause of death in worldwide and chemotherapy is the commonly used treatment method. The dose limiting toxicity and development of drug resistance hamper the treatment with chemotherapeutics in hospitals. Failure rates of modern therapy for cancer is too high ranging from 85% and 95%, but still the patients are inclined to modern treatment only. Ayurved treatment option is never believed and never introduced to the cancer patients. Patients, crippled with this disease and suffering from harmful side effects from chemotherapeutic drugs are turning back to natural remedies hoping for a better cure. It is the responsibility of Ayurved stake holders to take proper measures and encourage research to develop evidence based medicine and make it popular among Indian population. Traditional systems of medicines always played vital role in meeting the global health care needs in past, continuing at present and shall also play key role in future. Ayurved supplements protect healthy cells, regulate body metabolism and treats the disease. Care should be provided by a team of experts in cancer care. This article discuss about the understanding of cancer in terms of Ayurved and principles of Ayurved which can be applied to manage cancer patients.

Keywords: Ayurved; Kayachikitsa; Arbud; Cancer; Tumor; Granthi.

INTRODUCTION

Cancer is a generic and most commonly used term by the general population worldwide for a large group of diseases that can affect any part of the body. Other terms used are malignant tumors and neoplasm. Most specific feature of cancer is the rapid creation of abnormal cells that grow beyond

their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs and body parts. The process of invading other parts of the body is referred to as metastasis. Wide spread metastases are the primary cause of death from cancer.

The problem

Cancer is a major cause of death worldwide, leading to nearly 10 million deaths in 2020.¹ The most common in 2020 (in terms of new cases of cancer) were:

- Breast (2.26 million cases)
- Lung (2.21 million cases)
- Colon and rectum (1.93 million cases)
- Prostate (1.41 million cases)
- Skin (non-melanoma) (1.20 million cases)
- Stomach (1.09 million cases)

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The most common causes of cancer death in 2020 were:

- Lung (1.80 million deaths)
- Colon and rectum (916000 deaths)
- Liver (830000 deaths)
- Stomach (769000 deaths)
- Breast (685000 deaths)

Each year, approximately 400000 children develop cancer. The most common cancers vary between countries. Cervical cancer is the most common in 23 countries.

Causes

Cancer arises from the transformation of normal cells into tumor cells in a multi-stage process that generally progresses from a pre-cancerous lesion to a malignant tumor. These changes are the result of the interaction between a person's genetic factors and three categories of external agents, including:

- Physical carcinogens, such as ultraviolet and ionizing radiation.
- Chemical carcinogens, such as asbestos, components of tobacco smoke, alcohol, aflatoxin (a food contaminant), and arsenic (a drinking water contaminant).
- Biological carcinogens, such as infections from certain viruses, bacteria, or parasites.

Risk Factors

Use of Tobacco, over alcohol consumption, unhealthy diet, lack of physical activity and increasing air pollution are risk factors for cancer and other non-communicable diseases.

Some of the chronic infections are also responsible for cancer. Approximately 13% of cancers diagnosed in 2018 globally were attributed to carcinogenic infections, including *Helicobacter pylori*, human papillomavirus (HPV), hepatitis B virus, hepatitis C virus, and Epstein-Barr virus.²

Treatment

Modern treatment usually includes surgery, radiotherapy, and/or systemic therapy (chemotherapy, hormonal treatments, and targeted biological therapies).

It is not surprising that the outcomes of such expensive undertakings have failure rates ranging between 85 and 95% while causing life-threatening side-effects for patients and draining resources.³

Indian system of medicine

Ayurveda plays an important complementary

role to western medicine in treatment efficiency. The most ancient wisdom and science of life, Ayurveda has a long history and its basic principles are valid even today. In addition, more than 80% of the world population cannot afford modern medicine. Ayurvedic practitioners and researchers in medical sciences can help to improve this medicine by increasing their involvement and contribution.

In view of Ayurved this disease can be explained under the titles of *Shotha*, *Dushtavrana*, and *Gulma*, but the descriptions of *Granthi* and *Arbuda* approach closest to the malignant nature of the condition. According to 'Charaka' and 'Sushruta Samhitas', inflammatory or non-inflammatory swelling is mentioned either as '*Granthi*' (minor neoplasm) or '*Arbuda*' (major neoplasm).⁴

The three doshas ie, *vata pitta* and *kapha* are the basics of Ayurveda and very important for normal body function. These three can be explained as the nervous system (*Vata* or air), the venous system (*Pitta* or fire) and the arterial system (*Kapha* or water). In malignant tumors all three systems get out of control (*Tridoshas*) and lose mutual coordination that causes tissue damage, resulting critical condition. *Tridoshas* cause excessive metabolic crisis resulting in proliferation.⁵ Treatment of these tridoshas has been well explained in Ayurved science. So cancer can also be well managed on the basis of Ayurved principles without any side effects or failure. Ayurved treatment should be the first choice whenever possible in case of cancer patient.

REVIEW

Granthi

Granthi is defined as "*Vritonnatam vigrathitam tu shopham kurvantyato granthirithi pradishtaha*".⁶

By Acharya Sushruta, which means a swelling which is spherical in shape, raised from the skin surface and resembles a knot. Similarly a cyst which is correlated with *Granthi* is a fluid filled sac, which can occur in any part of the body and can vary in size. *Granthi* is a *Kapha Pradhana Tridoshaja Vyadhi*. Acharya Sushruta mentions that *Vata* when vitiates *Mamsa* there will be *Saruja Granthi* and when vitiates *Meda* there will be *Alparuja Granthi*.⁷

Classification of Granthi

Granthi is of 5 types as explained by Acharya Sushruta and Madhava kara, Yoga Ratnakara also opines the same. It is of 6 types as explained by Acharya Charaka and 9 types as explained by Acharya Vagbhata and Sharangadhara. As per

Acharya Sushruta types are *Vataja*, *Pittaja*, *Kaphaja*, *Medoja* and *Siraja*, whereas Acharya Vagbhata adds *Raktaja*, *Mamsaja*, *Asthija* and *Vranaja*.^{8,9}

1) *Vataja Granthi (Ganglion cyst)*

This type seems as if it is drawn into and elevated or as if severed or pricked with needle or as if cut in two or pierced. The *granthi* assumes black color and is rough. It feels like distended bladder. On opening there clear blood discharge.¹⁰ These features can be seen in Ganglion cyst. Ganglion is a cystic swelling occurring in relation to tendon sheath or synovial sheath or joint capsule. It contains clear gel like fluid. It occurs due to cystic degeneration of tendon sheath. Often pain, tenderness and restricted joint movement may be present.¹¹

2) *Pittaja Granthi (Infected cyst)*

It is characterized by excessive heat and burning sensation. Pain like that of being burnt by fire. *Granthi* is yellowish red in color. On opening there is discharge of blood which is warm.¹² These features are seen in infected cysts.

3) *Kaphaja Granthi (Sebaceous cyst, Dermoid cyst)*

It is slightly discolored and cold to touch characterized by slight pain and itching. It is having hard consistency as of stone. The growth is slow and tardy. On opening there is thick, white colored discharge.¹³ These features are seen in Sebaceous cyst, Dermoid cyst. Sebaceous cyst is a retention cyst. It is due blockage of the duct of sebaceous gland causing a cystic swelling. The cyst contains yellowish white cheesy material. Painless swelling which is smooth fluctuant with punctum over the summit.¹⁴ Dermoid cyst occurs at the line of embryonic fusion due to inclusion of epithelium beneath the surface which later gets sequestered forming a cystic swelling in the deeper plane. It is congenital type. It is a painless, smooth swelling which is fluctuant often adherent to deeper plan. Impulse on coughing may be present only if there is intracranial extension.¹⁵

4) *Medoja Granthi (lipoma)*

These are comparatively large smooth swellings with severe itching and mild pain. They usually grow very slowly and increase or decrease in size according to body proportion. On opening there is putty discharge which looks like Ghee or sesame paste.¹⁶ This can be seen in Lipoma. Lipoma is a benign tumour arising from yellow fat. Tumour arising from brown fat is called hibernoma. It is called universal tumour as it can occur anywhere in the body. It can be diffused or localised. It is non-

tender, semi fluctuant, mobile and pedunculated at times. It becomes painful when there is neural element involved or compression to nerves. Clinically lipomas can be simple, multiple or diffuse.¹⁷

5) *Siraja Granthi (Varicose vein)/Angiomas*

Due to excessive *Vyayama* (exertion) by a person who is weak and emaciated, Vata gets vitiated in the vascular bundles (*Sira Pratana*), which in turn causes *Sampeedana* (compression), *Sankocha* and *Vishoshana* producing *Granthi* in the *Sira* in less time which is *unnata* and *vrutta*.¹⁸ Varicose veins can be considered under the umbrella of *Siraja Granthi*. *Sira granthi* are vascular tumors, such as angiomas. While they may be benign, many become malignant. They are stated to follow the sudden exposure to cold water on the feet. *Sira granthi* are painless and they do not pulsate.

6) *Mamsaja Granthi (myoma, or benign tumor of the muscle).*

Due to *Mamsavardhaka Ahara vihara* there is vitiation of *Mamsa* leading to *mamsaja Granthi* which is *Snigdha*, *Mahan*, *Kathina*, covered with *sira*, painless and having the *lakshanas* of *kaphaja Granthi*.¹⁹ Closely related are myxomas, which are tumors of the connective tissues called *snayujaja granthi* in Ayurveda. These are large, hard tumors which are moist or oily and tend to be very vascular. They ulcerate and bleed easily and often become malignant. These tumors are associated with meat consumption.

7) *Raktaja Granthi (Hemorrhagic Ovarian Cyst)*

Due to *Vatadi Doshas* *Rakta* gets vitiated to cause *Raktaja Granthi*, when it gets infected with *Janthu* takes *Ashraya* in *Sira* and *Mamsa* producing *Suptata* along with *Pittaja Granthi lakshana*.²⁰ *Raktaja granthi* can be correlated with Hemorrhagic ovarian cyst. Hemorrhagic ovarian cyst is an adnexal mass formed because of occurrence of bleeding into a follicular or corpus luteum cyst.²¹

8) *Asthija Granthi (osteoma)*

Due to *Asthi Bhanga*, *Abhighata* and other causes *Unnata* and *Avanata* in the *Asthi* which leads to *Asthija Granthi*.²² It is *Asadhya Granthi*. *Asthi granthi* presents similar to an osteoma and also as bone spurs. They often occur secondarily to fractures and boney stress. These tumors appear as hard growths within the bone. Bursitis which will present as a swelling, pain and restricted movements can be considered under *Asthija Granthi*.

9) Vrana Granthi

Person indulging in *Sarvashana* when the *Vrana* is in *Arudha* or *Rudhamana Avastha*, Not doing *Bandha* when the *Vrana* is *Ardra* or due to *Ashmabhihata*, *Prakupita Vata* causes *samshoshana* and *Grathana* of *Vrana* with *Daha*, *Kandu* which is considered as *Vrana Granthi*.²³ This can be considered as hypertrophied scar or keloid.

Types of *Arbuda*²⁴

According to *Dosha*

1. *Vataja*
 2. *Pittaja*
 3. *Kaphaja*
 4. *Tridoshaja Dhatu*
 5. *Raktaja Arbuda*
 6. *Mamsaja Arbuda* sarcoma is classified as *Mamsaja Arbuda* due to *Vatika* predominance.
 7. *Medoja Arbuda* (Fatty tissue)
- However, there is a detailed description available in which *Asthi* (Bone) is linked in creating swelling in the same way that *Arbuda* is.

Pathogenesis of *arbuda*

When all *Doshas* aggravate, they affect various tissues i.e., *Dhatu*s mainly *Rakta* and *Mansa* and produces vitiation of *Agni* and formation of *Ama*. *Ama* creates obstruction in the channels which in turn creates swelling which may be circular, deep rooted, budes up, and increases in size quickly hence suffered with *Arbuda*. In the process of development of *Arbuda*, the most important factor is uncontrolled proliferation of cells and tissues, these cells then spread all over the body through *Rasvahasrotas* and gets lodged into various organs and system producing different symptoms. Many diseases can be correlated with *Arbuda* but signs and symptoms are very close to *Tumour*. *Acharya Sushruta* further description is also found which is suggestive of metastasis of the tumour.

1. *Adhyaarbuda* i.e., there are two tumors on each other.
2. *Dwirarbuda* i.e., two tumors groups growing simultaneously.
3. *Dwandwarbuda* i.e., tumors growing one after another.

Malignant neoplasm has tendency of developing simultaneously at the same place or distinct organs is suggestive of metastasis.

Sign and Symptoms of *Arbuda*²⁵

Sushruta mentions the symptoms *Vrittam*, *Sthiram*, *Mandrujam*, *Mahantama*, *Unalpamoolam*, *Chiravrudhi*, and *Apakam*. These symptoms can be seen in both benign and malignant stages of cancer in the current day. The symptoms of a benign tumour grow slowly and do not invade or spread. The classic symptoms of benign growth are *Vrittam* (round), *Sthiram* (immovable), *Mandruja* (slightly uncomfortable), *Mahant* (large size), *Unalpamoolam* (deep seated), *Chirvrudhi* (slowly expanding), and *Apakam* (non-suppurating). *Sushruta* mentioned *Adhyarbuda* and *Dwirarbuda*, two types of *Arbudas* that can be linked to cancer's aggressive stage or metastasis.

Comparison of different types of *arbuda* in modern prospective.

- *Rasa arbuda*: Epithelial carcinoma, lymphoma, melanoma
- *Rakta arbuda*: Leukemia
- *Mamsa arbuda*: Myogenic sarcoma
- *Medo arbuda*: Lipomayosarcoma
- *Asthey arbuda*: Osteosarcoma
- *Majja arbuda*: Multiple myeloma
- *Shukra arbuda*: Testicular carcinoma
- *Artava arbuda*: Ovarian tumour
- *Stanya arbuda*: Breast cancer

Management

According to modern science^{26,27,28}

At present most common main cancer treatments available in Indian hospitals are surgery, chemotherapy, and radiation. Other treatment which have shown positive results and can be used as parallel, supportive and for palliative care are targeted therapy, immunotherapy, laser, hormonal therapy, and others.

Surgery

Surgery is a common treatment for many types of cancer and as the first preference in case of benign tumors. During the surgery mass of cancerous cells (tumor) are taken out and some of the near by tissue are also removed. Sometimes, surgery is done to relieve side effects caused by a tumor.

Chemotherapy

Chemotherapy refers to drugs used to kill specific targeted cancer cells. The drugs for chemotherapy may be given orally or through intravenous route. Different types of drugs may be given together at

the same time or one after the other.

Radiation

This therapy includes x-rays, particles, or radioactive seeds to kill cancer cells. Cancer cells have the tendency to grow and divide faster than normal cells in the body. Because radiation is most harmful to quickly growing cells, radiation therapy damages cancer cells more than normal cells. This prevents the cancer cells from growing and dividing, and leads to cell death.

Immunotherapy

Immunotherapy is a type of cancer treatment that relies on the body's ability to fight infection (immune system). It uses substances made by the body or in a lab to help the immune system work harder or in a more targeted way to fight cancer. This helps your body get rid of cancer cells.

Hormonal Therapy

Hormone therapy is used to treat cancers that are fueled by hormones, such as breast, prostate, and ovarian cancers. It uses surgery, or drugs to stop or block the body's natural hormones. This helps slow the growth of cancer cells. The surgery involves removing organs that make hormones: the ovaries or testes. The drugs are given by injection or as pills.

Hyperthermia

Hyperthermia uses heat to damage and kill cancer cells without harming normal cells.

Laser Therapy

Laser therapy uses a very narrow, focused beam of light to destroy cancer cells. Laser therapy is often given through a thin, lighted tube that is put inside the body. Thin fibers at the end of the tube direct the light at the cancer cells. Lasers are also used on the skin.

Photodynamic Therapy

In photodynamic therapy, a person gets a shot of a drug that is sensitive to a special type of light. The drug stays in cancer cells longer than it stays in healthy cells. Then, the doctor directs light from a laser or other source at the cancer cells. The light changes the drug to a substance that kills the cancer cells.

Cryotherapy

Also called cryosurgery, this therapy uses very cold gas to freeze and kill cancer cells. It is sometimes used to treat cells that might turn into

cancer (called pre-cancerous cells) on the skin or cervix, for example. Doctors can also use a special instrument to deliver cryotherapy to tumors inside the body, such as the liver or prostate.

Side Effects of Cancer Treatment²⁹

Cancer treatments may have many side effects. A side effect occurs when treatment damages healthy cells. Side effects can be different for each person, and for different medicines and kinds of treatment.

- **Neutropenia**

Chemotherapy drugs work by killing fast growing cells in the body cancer cells and healthy white blood cells. During chemotherapy, you may have fewer than normal white blood cells to fight germs, so you're more likely to get an infection.

- **Lymphedema**

If you have lymph nodes removed during surgery, or if radiation treatment damages a lymph node or vessel, the lymph fluid may not be able to drain properly. The fluid may build up under your skin and cause part of your body to swell.

- **Hair Loss**

Some kinds of chemotherapy can make your hair fall out. This condition is called alopecia. Hair usually grows back two to three months after treatment ends.

- **Nausea and Vomiting**

Cancer treatments can make you feel sick to your stomach, and to vomit. Sometimes, cancer patients feel sick just from thinking about cancer treatment.

- **Problems with Thinking and Remembering Things**

The drugs used to treat cancer can cause some people to have trouble concentrating or remembering things. This is often called "chemo brain", and it can make it hard for cancer patients to do their jobs or everyday tasks.

- **Cancer Pain**

Cancer itself and treatments for it may cause pain. Pain can make it harder to do your normal activities, and lower your quality of life.

- **Blood Clots (Deep Vein Thrombosis)**

Deep vein thrombosis (DVT) is when a blood clot forms in a deep vein. These clots usually form in the lower leg, thigh, or pelvis, but they can also occur in the arm. Sometimes the DVT will break off and go to the lungs.

- **Other Side Effects**

Cancer treatments can cause many other side effects, including tiredness, trouble eating, and depression.

Treatment according to Indian system of medicine

Treatment of granthi

Special Procedures in Granthi

- *Patana Karma* in *Granthi* which is *Kathina, Mamsaja*

Table 1: Treatment according to Ashtanga Sangraha. ³⁰

Awstha	Chikitsa
Purvarupa	Snehapana with Ghrita, Vamana, Virechana, Peyadi Samsarjana Krama
Urdwajatrugata	Shirovirechana, Dhuma Kavala, Gandusha
Vimalapanartha	Lepa with Ankola, Madhuka Vacha, Ativisha, Manjishta, Devadaru, Sarshapa etc
Associated with Shopha, Ruja, Stambha	Upanaha with drugs like Yavasaktu, madhuka, Kushta Shatapushpa etc with Veshavara, Ghrita Vasa, Taila

Table 2: According to Bhavaprakasha Vataja Granthi Chikitsa

Apakva	Pakva
<ul style="list-style-type: none"> • Snehana using Taila, Ghrita, combination of two or three Snehas • Lepa with drugs like Himsra, Katuki, Amruta Bharangi etc • Swedana by means of Upanaha with Vatahara drugs 	<ul style="list-style-type: none"> • Bhedana and Visravana of contents. • Prakshalana with Bilva, Arka or Panchavalka Kwatha • Vrana Shodhana with Tila, Erandapatra, Saindhava etc • Ropana with Taila made of Rasna, Sarala Vidanga, Yashti etc drugs along with milk.

Table 6: Difference between treatment of Siaraj, Mamsaja & Raktaja Granthi

Siraja Granthi	Mamsaja Granthi	Raktaja Granthi
<ul style="list-style-type: none"> • Sahachara Taila for Pana • Upanaha with Vatahara Dravyas • Bastikarma Siravyadha 	<ul style="list-style-type: none"> • Patana is to be done once the Granthi is Pakva • Prakshalana with Kashayas told in Kaphaja Granthi • Shodhana with Teekshna Dravyas with Madhi, Guda, Kshara etc • Ropana with Vidanga, Patha, Haridra sidda Taila 	<ul style="list-style-type: none"> • Jaloukavacharana • Sheeta Upachara • Chikitsa told for Vataja and Kaphaja Granthi

Granthi and Brihat. ³¹

- In *Mamsaja* and *Vranaja Granthi* *Chedana Karma* is to be done followed by *Agni Karma*. ³²
- *Granthi* in *Pakvavastha* *Patana* is to be done along with *Kosha*. Followed by *Dahana Karma*.

Table 3: Pittaja Granthi Chikitsa.

Apakva	Pakva
<ul style="list-style-type: none"> • Jaloukavacharana • Parisheka with Panchavalka Kashaya • Kakolyadi Gana Kashaya for drinking by adding sugar, Draksharasa or Ikshurasa with Haritaki Churna • Pradeha with madhuka, jambu, arjuna etc 	<ul style="list-style-type: none"> • Bhedana followed by Visravana • Prakshalana with Panchavalka Kashaya • Vranashodhana with yashtimadhusidda Taila • Ropana with Madhura Dravyasidda Ghrita

Table 4: Kaphaja Granthi Chikitsa

Apakva	Pakva
<ul style="list-style-type: none"> • Dosh Shodhana • Swedana followed by Vimlapana using Angushta, Loha, Danda • Lepa with Bharangi Aragvadha, Arka etc 	<ul style="list-style-type: none"> • Bhedana followed by Visravana • Then it is treated with vrana Shodhana Ropana line of treatment

Table 5: Medaja Granthi Chikitsa

Apakva	Pakva
<ul style="list-style-type: none"> • Dahana with Tapta Loha • Swedana with Darvi which Pratapta and Laksha lepa 	<ul style="list-style-type: none"> • Bhedana followed by Agnikarma • Prakshalana with Gomutra • Shodhana with ztilapishta, Haratala, Saindhava, Madhu, Ghrita, Kshara etc • Ropana with Karanjadi Kalkasidda Taila

Treatment of Arbuda

Vataj Arbuda

Arbuda produced by *vata* should be fomented by applying warm poultice prepared from seeds of *Karkaruka*, *Ervaruka*, *Narikela*, *Priyala* and

Panchangula, similarly important poultices made from *mamsa* or *vesavara*. The skilled physician should then, administer sudation through *nadisweda*, remove blood in more quantity by using the sucking horn. Then the patient is made to drink Trivrit Sneha cooked a hundred times with the decoction of Vata mitigating drugs, added with milk and sour liquids.³³

Pittaj Arbuda

Sudation, applying warm poultices and purgation to the body should be administered mildly. The tumor should be rubbed with the rough leaves of *Udumbara*, *Saka* and *Gojihva* and then a fine paste of *Sarjras*, *Priyangu*, *Pattanga*, *Rodhra*, *Anjana*, *Yashtika*, *Aaragvadha*, *Gojihwa*, *Soma* and *Shyama* mixed with honey should be applied. The patient should drink medicated ghee prepared with the juice of *Syama*, *Girihva*, *Amjanaki*, *Draksha*, and *Saptalika* added with the paste of *Klitaka*.³⁴

Kaphaj Arbuda

Should be administered purificatory therapies first, then blood letting and next applied with a poultice prepared from drugs eliminating the *doshas* by upward route (emetics) and downward route (purgatives) or a poultice prepared from excreta of dove and pigeon, root of *Kakadani* and *gomutra* should be applied warm on the tumor.³⁵ The physicians should apply caustic alkali, fire and sastra many times without hesitation without harming the strength of the person. Decoction of leaves of *Asphota*, *Jati* and *Karvira* is ideal to cleanse the wound. After it becomes clean, oil boiled with *Bharngi*, *Vidanga*, *Patha* and *Triphala* be used for healing.

Medo Arbuda

Fomented first then cut open cleaned of the blood and sutured quickly. Then the wound is sprinkled with powder of *haridra*, *rodhra*, *manassila* and *ala*, next *karanja tail* added with honey should be applied to cleanse the wound.

Those *Arbuda* in which remnants of *dosha* remain i.e., in Malignant Tumor they should be excised or removed without leaving any residue, any residue left will kill the patient just like fire. This *arbuda* can be compared with Cancer.

DISCUSSION

Early detection

Cancer mortality is reduced when cases are detected and treated early. There are two components of early detection: early diagnosis and

screening.

Early diagnosis

When identified early, cancer is more likely to respond to treatment and can result in a greater probability of survival with less morbidity, as well as less expensive treatment. Significant improvements can be made in the lives of cancer patients by detecting cancer early and avoiding delays in care.

Early diagnosis consists of three components:

- Being aware of the symptoms of different forms of cancer and of the importance of seeking medical advice when abnormal findings are observed.
- Access to clinical evaluation and diagnostic services.
- Timely referral to treatment services.

Early diagnosis of symptomatic cancers is relevant in all settings and the majority of cancers. Cancer programs should be designed to reduce delays in, and barriers to, diagnosis, treatment and supportive care.

Screening

Screening aims to identify individuals with findings suggestive of a specific cancer or pre-cancer before they have developed symptoms. When abnormalities are identified during screening, further tests to establish a definitive diagnosis should follow, as should referral for treatment if cancer is proven to be present.

Seven warning signs of *arbuda*:

1. Wart or mole
2. Hoarseness of voice and chronic nagging cough
3. Lump in the breast
4. Difficulty in swallowing
5. Indigestion
6. Change in bowel habit
7. Non-healing ulcer and non-specific healing per vagina

Reducing the burden

Between 30 and 50% of cancers can currently be prevented by avoiding risk factors and implementing existing evidence-based prevention strategies.

Cancer risk can be reduced by:

- Not using tobacco.
- Maintaining a healthy body weight.

- Eating a healthy diet, including fruit and vegetables.
- Doing physical activity on a regular basis.
- Avoiding or reducing consumption of alcohol.
- Getting vaccinated against HPV and hepatitis B if you belong to a group for which vaccination is recommended.
- Avoiding ultraviolet radiation exposure (which primarily results from exposure to the sun and artificial tanning devices) and/or using sun protection measures.
- Ensuring safe and appropriate use of radiation in health care (for diagnostic and therapeutic purposes).
- Minimizing occupational exposure to ionizing radiation.
- Reducing exposure to outdoor air pollution and indoor air pollution, including radon (a radioactive gas produced from the natural decay of uranium, which can accumulate in buildings homes, schools and workplaces).

Causes

Samanya Nidan

Lifestyle changes such as unhealthy foods, poor hygiene, or poor behavior, or physical trauma, all leading to imbalances of *Vata*, *Pitta*, and *Kapha*.

Abhishyandi aahar (deliquescent), *Sthula aahar* (gross), *Guru aahar* (diet heavy to digest), *bhuktam cha swapatam diwa* (Sleep immediately after lunch).

Specific Nidan according to dosha awastha

Vatakara nidanas - Mutations (90-95%), excessive mental stress, strain, freezer items, soft drinks, cigarette smoking, *shoka*, *bhaya*, *raga*, *sheeta ruksha ahara*, *viruddha ahara*, etc.

Pittakara nidanas:

Excessive intake of *amla*, *lavan*, *katu aahar*, food containing lead, Monosodium glutamate, fried and spicy foods, *krodha*, more caffeinated drinks, UV irradiation, Mobile phone radiation, physical agents like asbestos, Cobalt, etc, Hormones like estrogen, progesterone, etc.

Kaphakara nidanas:

Virus (HPV, HIV, EPSTEIN BARR Viruses, Kaposi's sarcoma, herpes virus, Hepatitis A and C, parasites), Obesity, diabetic patients.

There are many causes of tumor but the most important cause is past life karma also.

Pathology

Vata is mainly predominated in *Pranvaha* and *Asthivaha-srotas*. Different types of pain, unexplained weight loss, fatigue and nagging cough are due to *Vata*. Aggravated *Vata* make cancer cells abnormal. Tumor proliferates rapidly due to *Vata*, it disrupts the body and structures.

Whereas excess *Pitta* is responsible for inflammation and disturbs the nutrition of the tissues, making the cell anaerobic. *Pitta* is mainly predominant in *Raktavahasrotas*. Fever and unusual bleeding in *Arbuda* are due to *pitta*.

Kapha is mainly predominant in *Mansavaha* and *Medovaha srotas*. All the Indigestion problems are due to *Kapha* aggravation or *agnimandya*. Aggravated *Kapha* leads to increase in cell mass and all the *dhatu*s are affected by *Ama*.

Some of other cancer related conditions in Ayurveda are:

Charma keela: Keloid

Padmini kantaka: Papilloma of the skin

Sosha and Pandu: Leukemia's disease

Medoja ganda mala: Hodgkin's lymphomas

Apachi: Hodgkin's disease

Agantuja Sthana Roga: Cancer of the breast

Yakrutodara: Hepatomegaly due to tumours of liver

Pleehodara: Splenomegaly due to infiltrate diseases of spleen

Rakta gulma: Tumours of uterus and ovary

Raktaja, Mamsaja and Medoja Osth Roga: Carcinoma of lips

Karnarbud: Cauliflower ear

Ajakajata: Staphyloma

Nasa Arbuda: Neoplastic nasal polyp

Treatment

Many treatment options for Tumour exist in allopathic medicine. The primary ones include surgery, chemotherapy, radiation therapy, hormonal therapy, targeted therapy and palliative care.

Whereas in Ayurveda specific treatment of specific type of *arbuda* is explained. *Gomutra* therapy and *rasayan* therapy is very beneficial among patients of *arbuda*. Specific life style changes for pain relief and to enhance immunity is also very important to deal with *arbuda* and to lead a diseased free life.

The main goal of Ayurvedic therapy is to find the ultimate cause of an illness while the therapeutic approach of Ayurveda is divided into four categories as:

1. *Prakritisthapani chikitsa* (health maintenance).
2. *Rasayana chikitsa*, (restoration of normal function).
3. *Roganashani chikitsa* (disease cure) and
4. *Naishthiki chikitsa* (spiritual approach).³⁶

Commonly used herbal decoctions reported in Ayurveda are made of multiple herbs possessing great potential for a cancer cure; scientifically these formulations work on multiple biochemical pathways and influence different organ systems all together and nourish the body as a whole by supporting body's defense systems.

Ayurvedic Treatment of tumour mainly includes treatment of *Vata*, as treatment of *Vata* is very important to stop proliferation of cells as *Vata* is responsible for proliferation of cells "*Vayur Vibhijyati*". If we control the *Vata* uncontrolled proliferation will stop. Digestive power should be enhanced and *ama* should be destroyed i.e., *Pitta* should be increased "*Tejoenampachati*" All attempts should be made to increase immunity (Ojas). *Ama* creates obstruction in the channels which in turn creates swelling which may be circular, deep rooted, budes up, and increases in size quickly resulting in *Arbuda*.

The General Line of Treatment should be.³⁷

1. *Sodhana Chikitsa* - body detoxication through Panchkarma.
2. *Dhatwagni Chikitsa* - correction of metabolic defects through herbomineral formulations.
3. *Rasayana Chikitsa* - immunotherapy through Ayurved drugs and formulations.
4. *Vyadhipratyanika Chikitsa* - anti-cancerous drugs mentioned in classics.
5. *Lakshanika Chikitsa* - symptomatic treatment for associated symptoms.
6. *Sastra Chikitsa* - surgical treatment as per Ayurved classics and recent advances.

For pain relief:

Pain in any part of the body is due to *vata*. Many of times it is due to obstruction in channels caused by proliferating cells of *arbuda* and then causing *vata* aggravation. It can also be due to tumors pressing on the nerves. In tumors of brain it is due to space occupying lesion and it can be of acute type. Depending on the site of pain several measures can be taken. For headache *nasya* and use of *shiropichu*,

shirodhara, *shirobasti* is beneficial.

For abdominal pain herbs that that will reduce flatulence and laxative property like asafoetida, cumin, garlic etc. should be used. For joints pain, local *abhyanga* with *Bala*, *Narayan* and *Vishagarbha* oil should be done. For this type of pain *guggulu* and its combination with other drugs are useful.

Importance of Rasayan therapy:

Being one of the eight branches of Ayurved, *Rasayan* helps in prolongation of the human cells with more lifespan without ageing and maintaining health and vigor. If the three types of *agni* are imbalanced, speed of the ageing process increases. This leads to early death of the cells in *arbuda*. In modern view oxidants speed up ageing and anti-oxidants decelerates ageing process. All these are maintained by *pitta* in our which represents the level of *agni* in the body. If *agni* and *Pitta* are maintained the cellular metabolism in our body will be under controlled. Anti-oxidants always control the excess body metabolism. *Rasayan* treatment always helps as an anti-oxidant support and helps in prevention of premature ageing of the tumour cells. The cells get energized and the ageing is delayed.

Importance of Gomutra therapy^{38,39}

Gomutra has a unique place in Ayurveda and has been described in Sushruta Samhita and Ashtanga Sangraha to be the most effective substance of animal origin with innumerable therapeutic values. It has been recognized as water of life or Amrita. Drinking cow's urine has been practiced in India for thousands of years. It is an important ingredient of *panchagavya*, a term used to describe five major substances i.e., urine, milk, ghee, curd and dung obtained from cow. All these products possess medicinal properties and are used singly or in combination with some other herbs against many diseases and even in those not curable by allopathic treatment. It is also a very beneficial alternative in the management of *Arbuda*.

Prevention

By simple lifestyle changes such as:

- Light exercise.
- Consuming proper food.
- Sleeping at right time.
- Meditation.
- Avoid *viruddh aahar*.
- Decreasing anxiety.
- Emphasize positive emotions.

- Avoid toxic load to the physiology that makes the body susceptible to *arbuda*.
- Keep digestions working properly.
- Avoid excess use of five white substances - White sugar, White salt, White hydrogenated oil, White flour and White rice.

Importance of Yoga In Cancer⁴⁰

Individuals diagnosed with cancer, receiving chemotherapy or radiation treatment, recovering from surgical tumor removal or in remission may be dealing with symptoms or side effects, anxiety or emotional issues. Depending on what parts of body are affected, type of cancer, and physical abilities; yogic practice will be specific.

Yoga helps in adjunct to medical treatment by:

1. Ease the symptoms
2. Give more energy
3. Calm the mind and
4. Give tools for accepting, loving and motivation

CONCLUSION

Since *arbuda* has been considered as a dreadful disease, the specific treatment according to dosha awstha is very important. So, one who wants to attain a disease free life and to be free from *arbuda* then one should follow the *pathya* and avoid the *apathyaahara* and *vihar*. Dietary therapies, herbal drugs and mental therapies like yoga *asanas* all play important role in treating *arbuda*. The classical text of Ayurveda proved to be a source of wisdom for exploring the effects of the understanding the disease and its management.

Determining the goals of treatment is an important first step. The primary goal is generally to cure cancer or to considerably prolong life. Improving the patient's quality of life is also an important goal. This can be achieved by support for the patient's physical, psychosocial and spiritual well-being and palliative care in terminal stages of cancer. As there is increase in no. of patients and there is no promising treatment with modern science for treating cancer, Ayurved should be chosen as the first line treatment.

The disease was even prevalent in Vedic period. Keeping this truth in mind it can be stated that Ayurveda can be helpful in the management of

benign tumour in many ways, as prophylactic, palliative, curative and supportive.

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