

## ARBUDA – THE CONCEPT OF CANCER IN AYURVEDA

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### Abstract

Cancer originates due to metabolic changes. Vata dosha is responsible for cell division. Aggravation of vata dosha and suppression of kapha doshas or both the doshas interacting with one another may result in proliferation of cells. However, the Ekadesavriddhi (growth at a specific part) is a part of abnormal cell division resulting in benign or malignant tumors. In this 21<sup>st</sup> century the world is running behind alternative medicines like Ayurveda to minimize the side effects due to chemotherapy and prolong their lifespan. Hence it is very important to adopt Ayurvedic therapy as a co-therapy along with chemo or radiation therapy and so in the present article a complete review about various information regarding arbuda is brought under single roof so as to help the future researchers to use the incorporated details about arbuda (cancer).

**Key words:** Arbuda; Cancer; Ayurveda; Tumours; Granthi.

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## INTRODUCTION

Arbuda (Cancer) is one of the most asadhya vyadhi (incurable diseases) of the 20<sup>th</sup> century and the percentage is increasing in the 21<sup>st</sup> century. 25% of all the deaths in humans are due to cancer in United States. Various scientific investigations are making the best efforts to fight against the disease, but still it is very difficult to conclude the sub type of the cancer / sarcoma by various investigation and here comes the difficulty to diagnose the sub type and to start the chemotherapy. In this 21<sup>st</sup> century the world is running behind alternative medicines like Ayurveda to minimize the side effects due to chemotherapy and prolong their lifespan.

Several research studies have been conducted on herbs having anti-cancerous effect under the system of Ayurveda, Siddha and also in ethno-botanical grounds. Hartwell has collected data<sup>[1]</sup> about 3000 herbals which possess anticancer properties and subsequently been used as potent anticancer drugs.<sup>[2]</sup> Ayurveda, the traditional Indian system of medicine of herbal drugs has been successful from very early times in using various herbs in preventing or suppressing various tumours by adopting various treatment techniques. The broad aim of this article is to provide a general outline about cancers and its management by following the basic and scientific principles of Ayurveda. This article reviews the available literature regarding researches on anti-cancerous herbs in Ayurvedic system of science and to implement the Ayurvedic therapies in combating cancer in hand with Allopathic system of medicine.

### Concept of arbuda

The classics clearly describes about both granthi (tumour) and arbuda (cancer). The classification of neoplasm depends on various lakshanas (symptoms) in relation to tridoshas (vata, pitha, kapha) in Ayurveda. The condition that can be named as malignant

includes both arbuda and granthi, for example the raktarbuda mentioned in the classics can be correlated with leukemia, mamsarbuda as melanoma and mukharbuda (oral cancer), etc. Screening the classics it is easy to analyze certain asadhya lakshanas (incurable) mentioned for certain diseases may be correlated as malignancy. For example tridosaja gulmas (abdominal Tumours) may be correlated with carcinomas of the stomach and liver or lymphomas and asadhya kamala (incurable jaundice) may be considered as malignant. Yet researches should be conducted scientifically to prove the hypothesis.

### Pathogenesis of arbuda (cancer)

Cancer originates due to metabolic changes. Vata dosha is responsible for cell division. Aggravation of vata dosha and suppression of kapha doshas or both the doshas interacting with one another may result in proliferation of cells. However, the Ekadesavridhi (growth at a specific part) is a part of abnormal cell division resulting in benign or malignant tumours. Acharya Susruta has explained about six stages in the pathogenesis of all diseases. They are Sanchaya, the early stages of localized neoplastic changes; Prakopa is transformation of primary growths into metastatic tumours; Prasara is metastasis; Sthana samsraya is complete metastasis and secondary growth. Vyakti is the clinical signs and symptoms observed. Bheda is the stage where differentiation of growth is understood on the basis of histopathology.<sup>[3]</sup>

### Cancer therapy in Ayurveda

As a first line of treatment, internal medication will be prescribed and is termed as samana chikitsa. Later Sodhana chikitsa (purification treatment) to eliminate the vitiated doshas are practiced in the management of cancer. Certain poisonous plants, minerals and animal products are rendered non-toxic and are used as rejuvenating drugs (immunotherapy) in the

treatment of cancer.<sup>[4]</sup> When the treatment does not show any good prognosis, then surgical management is followed in Ayurveda which include the principles of fomentation by means of external application, opening the tumour surgically for evacuation of its contents, cauterization to avoid recurrence and post-operative care for healing the wound.<sup>[5]</sup> Cauterization with ksharas (alkalis) and other surgical procedures are performed with herbal and mineral medicines. Arbuda (cancerous tumour) is excised completely from its deep root and cauterization is done to destroy any of the remnants of carcinoma.

### **Ayurvedic therapy as a co-therapy along with chemo or radiation therapy**

It is of paramount importance to find a solution for combating this dreadful disease. Though there are explanation about shastra kriyas (surgical procedures) and agni karmas (radiation) in various classics in Ayurvedic system of medicine but in the present era, the allopathic system of medicine is in hand with treating cancer by surgical methods followed by chemo or radiation. Chemotherapy is the significant medical modality of cancer remedy in Allopathic system of medicine and the chemicals used in chemo therapy targets the fast-multiplying mutant cells but it is a big question about the side effects of chemo and radiation. However, the toxicity to normal tissues of the body proves to be an obstacle. The generation of aldehydes during chemotherapy could be reduced by the use of antioxidants from herbals used in Ayurvedic system of medicine. Therefore many researches are conducted at phyto-chemical levels, pharmacological levels and clinically on herbs to study the anti-cancerous effect and to develop the immune system in the cancer patients there by combating the side effects of chemo.

One such herbal drug is bhallataka (*Semecarpus anacardium*), most elaborately

explained in Ayurvedic classics and other proven drugs are discussed here.

### **Bhallataka (*Semecarpus anacardium*)**

The anti-carcinogenic activity of the drug was proven and was found to be effective in breast cancer. Mathivadhani, et al. studied *Semecarpus anacardium* nut extract for inhibitory effect on human breast cancer cells (T47D).<sup>[6]</sup> Arulkumaran, et al. investigated the protective efficacy of preparation which includes *Semecarpus anacardium* (SA) nut milk extract and dried powder of Bhumyamalai (*Phyllanthus emblica*) fruit and honey as novel cancer chemo-preventive agent.<sup>[7]</sup> Sugapriya, et al. showed restoration of energy metabolism in leukemic mice treated by SA nut milk extract.<sup>[8]</sup>

### **Ashwagandha (*Withania somnifera*)**

*W. somnifera* can be used as an adjuvant during cancer chemotherapy for the prevention of bone marrow depression associated with anticancer drugs.<sup>[9]</sup> The active component, withaferin A isolated from the extract showed significant antitumour and radiosensitising effects in experimental tumours in vivo, without any noticeable systemic toxicity.<sup>[10]</sup>

### **Lasuna (*Allium sativum*)**

Water-soluble derivative of garlic, S-allylmercaptocysteine (SAMC), inhibited proliferation and cell cycle progression in two human colon cancer cell lines, SW-480 and HT-29, similar to the effects of sulindac sulfide (SS), a well-known colon cancer chemo-preventive agent.<sup>[11]</sup>

### **Haridra (*Curcuma longa*)**

When radiation and curcuma were applied together as synergical therapy, curcuma showed a radiation sensitizing effect in HeLa, K-562 and IM-9 cell lines.<sup>[12]</sup> Curcumin, the

active constituent from *Curcuma longa* also enhances the anticancer potential of Cisplatin and reduces its nephrotoxicity in fibrosarcoma bearing rats.<sup>[13]</sup>

#### **Kumari (*Aloe vera*)**

In a randomized double-blinded clinical trial, comparing mild soap and *Aloe vera* gel against incidence of radiation therapy induced skin reactions; The protective effect of adding aloe to the soap regimen increases during long time radiation exposure.<sup>[14]</sup>

#### **Tulasi (*Ocimum sanctum*)**

Orientin and Vicenin, two water-soluble flavonoids of *Ocimum sanctum* have shown significant protection to the human lymphocytes against the clastogenic effect of radiation, radiation lethality and chromosomal aberrations in vivo.<sup>[15]</sup>

#### **Shigru (*Moringa oleifera*)**

Pre-treatment with the leaf extract of *M. oleifera* exhibits significant radiation protection to the bone marrow chromosomes in mice and this could be useful to overcome side effects of radiation therapy.<sup>[16]</sup>

#### **Krishna jeeraka (*Nigella sativa*)**

In mice bearing Ehrlich ascites carcinoma, thymoquinone (TQ), the main constituent of the *Nigella sativa* oil, significantly enhanced the therapeutic efficacy of ifosfamide by improving its antitumour effect and reducing its nephrotoxicity.<sup>[17]</sup>

#### **Saptaparna (*Alstonia scholaris*)**

The *Alstonia scholaris* extract pre-treatment increased the effect of radiation as by enhancement of cell killing in HeLa and KB cells, followed by HL60, MCF7, and HePG2 cells. In vivo studies, with Ehrlich ascites carcinoma bearing mice the pre-treatment of

extract caused increased life span of animals when compared with untreated irradiated group.<sup>[18]</sup> The combination treatment of *Alstonia scholaris* extract with cyclophosphamide was also found to be most effective against Ehrlich ascites carcinoma.<sup>[19]</sup>

Natural drugs, which are used as Rasayanas in Ayurveda, have also been proved to have antioxidant properties. The drugs which are having tridoshagna property such as Triphala (*Terminalia chebula*, *Embllica officinalis* and *Terminalia bellirica*), Guduchi (*Tinospora cordifolia*) and Punarnava (*Boerhavia diffusa*) may have co-therapy along with chemo or radiation therapy.

Screening the classics few compound formulations are used as a co-therapy along with the modern treatment, they are Gugguluthikthaka kashaya, Kanchanara guggulu, Thriphala churna, Trikatu churna, Ashwaganda churna, Gokshuradi guggulu, Drakshadi kashaya, etc. Going deep into which condition of cancer these formulation are prescribed was collected after a lot debates and discussion with genuine practitioners in the present era.

Approach of treating malignant tumours in Ayurveda as co-therapy with Allopathic line of treatment include Gugguluthikthaka kashaya, Kanchanara guggulu, Thriphala churna, Trikatu churna, Ashwaganda churna for all sub types of soft tissue sarcoma; Thriphala churna, Trikatu churna, Ashwaganda churna, Gokshuradi guggulu in cancer of prostate; Thriphala churna, Trikatu churna, Vyaghradi kashaya in lung cancer; Kanta sindooram avarthana to reduce the pain and other symptoms after radiation.

Metallic preparations are not used commonly after chemo therapy but herbals and herbal formulations are showing tremendous result, yet to be proved with scientific backgrounds to be accepted universally.

## CONCLUSION

Various intervention studies have proved the Ayurvedic herbs enhance the quality of life during cancer chemotherapy/radiation. The research on majority of Ayurvedic drugs is in the pre-clinical phase or is not being actively pursued. Future research on this topic would help to identify safe and effective anticancer drugs. Hence the proven herbs should be included in clinical trials to increase the lifespan and quality of life of cancer patients. The clinical efficacy and extent of toxicity of numerous anticancer agents in Allopathic system of medicine are known. Ayurvedic practitioners and researchers can help to improve this medicine by increasing their involvement and contribution in the field of research in hand with various research institutions.

## REFERENCES

1. Hartwell JL. Plants used against cancer. A survey. *Lloydia* 1969;32:247–96.
2. Pandey G. Anticancer herbal drugs of India with special reference to Ayurveda. New Delhi: Sri Satguru Publications; 2002:18–121.
3. Sastry JLN. Introduction to oncology, cancer in Ayurveda. Varanasi: Chaukhambha orientalia; 2001. p. 1–24.
4. Sonata S. The efficacy of Ayurveda drugs on Cancer (Arbuda). Workshop on cancer souvenir. Chennai: Central Research Institute for Siddha; 1986.
5. Sankaran PS. Swellings. In: Prasad GC, Udupa KN, editors. *Susruta's contribution to surgery*. Varanasi: Indological Book House; 1976. p. 99–111.
6. Mathivadhani P, Shanthi P, Sachdanandam P. Apoptotic effect of *Semecarpus anacardium* nut extract on T47D breast cancer cell line. *Cell Biol Int* 2007;31:1198–206.
7. Arulkumaran S, Ramprasath VR, Shanthi P, Sachdanandam P. Alteration of DMBA-induced oxidative stress by additive action of a modified indigenous preparation-Kalpaamrutha. *Chem Biol Interact* 2007;167:99–106.
8. Sugapriya D, Shanthi P, Sachdanandam P. Restoration of energy metabolism in leukemic mice treated by a siddha drug: *Semecarpus anacardium* Linn. nut milk extract. *Chem Biol Interact* 2008;173:43–58.
9. Gupta YK, Sharma SS, Rai K, Katiyar CK. Reversal of paclitaxel induced neutropenia by *Withania somnifera* in mice. *Indian J Physiol Pharmacol* 2001;45:253–7.
10. Devi PU. *Withania somnifera* Dunal (Ashwagandha): potential plant source of a promising drug for cancer chemotherapy and radiosensitisation. *Indian J Exp Biol* 1996;34:927–32.
11. Shirin H, Pinto JT, Kawabata Y, Soh JW, Delohery T, Moss SF, et al. Antiproliferative effects of S-allylmercaptocysteine on colon cancer cells when tested alone or in combination with sulindac sulfide. *Cancer Res* 2001;61:725–31.
12. Baatout S, Derradji H, Jacquet P, Ooms D, Michaux A, Mergeay M. Effect of curcuma on radiation-induced apoptosis in human cancer cells. *Int J Oncol* 2004;24:321–9.
13. Sriganth NPI, Premalatha B. Dietary curcumin with cisplatin administration modulates tumour marker enzymes indices in experimental fibrosarcoma. *Pharmacol Res* 1999;39:175–9.
14. Olsen DL, Bradley C, Johnson M, Macias JL, Love V, Markoe A. The effect of *Aloe vera* gel/mild soap versus mild soap alone in preventing skin reactions in patients undergoing radiation therapy. *Oncol Nurs Forum* 2001;28:543–7.
15. Vrinda B, Uma Devi P. Radiation protection of human lymphocyte chromosomes in vitro by orientin and vicenin. *Mutat Res* 2001;498:39–46.
16. Rao AV, Devi PU, Kamath R. In vivo radioprotective effect of *Moringa oleifera* leaves. *Indian J Exp Biol* 39:858–63.
17. Badary OA. Thymoquinone attenuates ifosfamide-induced Fanconi syndrome in rats and enhances its antitumour activity in mice. *J Ethnopharmacol* 1999;67:135–42.
18. Jagetia GC, Baliga MS. Treatment with *Alstonia scholaris* enhances radiosensitivity in vitro and in vivo. *Cancer Biother Radiopharm* 2003;18:917–29.
19. Jagetia GC, Baliga MS. Modulation of antineoplastic activity of cyclophosphamide by *Alstonia scholaris* in the Ehrlich ascites carcinoma-bearing mice. *J Exp Ther Oncol* 2003;3:272–82.

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