

An integrated Approach to Combat Cancer (neoplasm): in Perspective of Ayurveda

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Abstract

This fact is broadly validated that Ayurveda cures chronic diseases such as cancer, multiple sclerosis, asthma and hepatitis etc for which the modern i. e. allopathic system of medicine has no permanent cure. However there are less scientific studies were carried out to know the science behind the success of Ayurvedic treatment i.e. pharmacokinetics and pharmacodynamics of Ayurveda drugs. It is reported that death rate with cancer is on the rise, by 6% every year in a country even in United State of America where best medical care is available to treat cancer patients. This becomes a necessity that world scientific community should consider for a strategy for 'drug development programme' so that safe and cheap medicines could be made available for treatment of cancer and other chronic diseases. An integrated approach is needed to manage cancer using the growing body of knowledge gained through scientific developments. Thousands of herbal and traditional compounds are being screened worldwide to validate their use as anti-cancerous drugs. The science of Ayurveda is supposed to add a step on to the curative aspects of cancers that have resemblance.

Keywords

Cancer, Integrated approach, Ayurveda

Introduction

Charaka¹ and Sushruta² samhitas, two ancient Ayurvedic texts, describe cancer as inflammatory or non-inflammatory swelling and mention them as either Granthi (minor

neoplasm) or Arbuda (major neoplasm). Ayurveda explains that a malignant abnormal growth, or Tridosaja neoplasm, is one in which all the three major bodily control systems, which should have mutual coordination for normal functioning of the body, are out of control. These control systems are defined by Ayurveda as: the nervous system (Vata), the venous system (Pitta), and the arterial system (Kapha). In this stage of cancer, abnormal growths of any part of the body by nature can be harmful, because the three major bodily systems have lost mutual coordination, and cannot prevent damage to tissues. The total breakdown of the coordination of these three bodily systems means a deadly morbid condition. A benign abnormal growth means that one or two of the three major bodily systems are out of control. In this condition, the abnormal growth in any part of the body cannot be very harmful (in its beginning stages), because there is still coordination among the systems, which to some extent controls damage. A cyst like bluish abnormal growth with neuralgic pain is the main symptom indicating the presence of a Vataja neoplasm. A reddish or yellowish vascular growth with inflammation and burning pain characterizes the Pittaja neoplasm. A stone like hard abnormal growth with a little pain and itching is descriptive of a Kaphaja neoplasm. The Sannipataja or Tridosaja neoplasm manifests all the characters of Vataja, Pittaja and Kaphaja neoplasm. In the same way, a neoplasm with the name Vata Pittaja, Vata-Kaphaja, or Pitta-Kaphaja will have a mixture of symptoms².

Ayurvedic classification of cancer (neoplasm) depends on various clinical symptoms in relation to Tridoshas.

Group I

Diseases that can be named as clear malignancy, which includes arbuda and

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granthi, e.g. mamsarbuda (melanoma) and raktarbuda (leukaemia), mukharbuda (oral cancer), etc.

Group II

Diseases that can be considered as cancer, such as incurable ulcers with e.g. tridosaja gulmas (abdominal tumours like carcinomas of the stomach and liver or lymphomas). Group III: Diseases with the possibility of malignancy, e.g. Visarpa (erysipelas), asadhya kamala (incurable jaundice) and nadi vrana (sinusitis)^{3,4}. Maharshi Sushruta has proposed six stages in the pathogenesis of all diseases but his concept suits more to the pathology of the tumour than pathogenesis itself.

1. Sanchaya: early stages of localized neoplastic changes.
2. Prakopa: transformation of primary growths into metastatic tumours.
3. Prasara: metastasis.
4. Sthana samsraya: complete metastasis and secondary growth.
5. Vyakti: clinical signs and symptoms are expressed.
6. Bheda: the stage where differentiation of growth occurs on the basis of histopathology⁵.

During the 7th century BC, Atreya and Dhanwantari used herbal medicines for treating the early stages of cancer and surgery in advanced cases. In the 8th century AD, Vagbhata, a Buddhist physician composed two texts: Astanga Hrdaya⁶ and Astanga sangraha⁷ where new methods for cancer treatment were introduced. Other Ayurvedic texts of internal medicine, viz., Chakradatta⁸ composed by Chakrapani (10th century AD), the Sarangadhara Samhita⁹ by Sarangadhara (14th century AD), the Bhavaprakasha Samhita¹⁰ by Bhavamisra (15th century AD), the Satmya Darpan Samhita by Viswanath (16th century AD), the Bhaisajya Ratnavali by Binoda Lala Sen Gupta (18th Century AD), the Rasatarangini by Sadananda Sharma (19th century AD), etc. explain numerous remedies to treat internal and external neoplasms.

Validity of claims to treat cancer by Ayurveda

The therapeutic approach of Ayurveda has been divided in to four categories as Prakritisthapani chikitsa (health maintenance), Roganashani chikitsa (disease cure), asayana chikitsa (restoration of normal function) and aishthiki chikitsa (spiritual approach)¹¹.

In a study arsenic compounds are effective agents in the treatment of APL and their activity against other types of cancer requires further investigation. Treatment of newly diagnosed and relapsed patients with acute promyelocytic leukemia (APL) with arsenic trioxide (As₂O₃) has been found to result in complete remission (CR) rates of 85-93% when given by intravenous infusion for 2-3 h at a dose of 10 mg/day diluted in 5% glucose saline solution¹².

Extract of *Tinospora cordifolia* has been shown to inhibit the lipid peroxidation and superoxide and hydroxyl radicals in vitro. Concentration needed for 50% inhibition was 6 mg and 12.5 mg/ml, respectively. The extract was also found to reduce the toxic side effects of cyclophosphamide administration (25 mg/kg b.wt, 10 days) in mice hematological system by the free radical formation as seen from total white blood cell count, bone marrow cellularity and alpha-esterase positive cells¹³. Exposure of HeLa cells to 0, 5, 10, 25, 50 and 100 microg/ml of guduchi extracts (methanol, aqueous and methylene chloride) resulted in a dose-dependent but significant increase in cell killing, when compared to non-drug-treated controls¹⁴. The metal based formulations have been found to be effective in the successful treatment of leukaemia. In 1996, Ministry of Health and Family Welfare again reviewed my results and a pilot project entitled 'Effect of metal based formulation in the treatment of 30 patients of Acute Promyelocytic Leukemia (APML)' was sanctioned by CCRAS under the supervision of Cancer Research Committee headed by Dr Dinesh Chandra, Professor and Head, Department of Pharmacology, Maulana Azad Medical College, Delhi. The other members of the committee were Haematologist and Oncologist from AIIMS and experts from ICMR and CCRAS¹⁵. Although there is no certain treatment for cancer in ayurveda, it can help in restoring the normal functioning of organs and enable the body to fight disease to a certain extent. It does not have specific medicines to kill

cancer cells, but works more as a supplemental therapy towards overall management of the disease. Some ayurvedic physicians claim having achieved positive results in treatment with heerak bhasma (a medicine prepared from diamonds)¹⁶. Tamra bhasma purifies the blood. It has the qualities of Swarna Bhasma. Tamra Bhasma (Cupric oxide) is Useful in leprosy, asthma, bronchitis, cough, consumption, anaemia, piles, liver trouble etc¹⁷. Involving 400 cancer patients, the Ayurvedic formulation containing herbal drugs bhallatak (*Semecarpus anacardium*), rohitak (*Amoora rohitaka*), madhuyasti (*Glycyrrhiza glabra*), and tamra bhasma was evaluated alone or in combination with other treatment modalities, chemotherapy, and radiotherapy. The patients were monitored for 10 years found effective¹⁸. In 400 BC, Ayurvedic surgeon Sushruta described various cancers (arbud) and their surgical and holistic therapy in his textbook of surgery. In addition to surgical treatment, Ayurvedic physicians observed and documented the effects of various natural therapies, spiritual practices, yoga, meditation and herbal and mineral preparations on cancer.¹⁹⁻²¹ Various medicinal plants and Herbomineral preparations described in Ayurveda like Amla(*Embllica officinalis*), Giloy (*Tinospora cordifolia*), Kutki (*Picirrhiza kurroa*), Bahera(*Terminalia chebula*), Haldi(*Curcuma longa*), Khair(*Acacia catechu*), Nimb(*Azadirachta indica*), Bhuiamla (*Phyllanthus urinaria*), Sadampushpa(*Lochnera rosea*), pomegranate(*Punica granatum Linn*), Ashwagandha(*Withania somnifera*), Heerak Bhasma, Kanchanar Guggul etc. found effective in various types of cancer²²⁻⁶³.

Discussion

CAM (Complementary and alternative medicine) is a growing field in health care and particularly among breast and other cancer patients. Knowledge of CAM by physicians, especially oncologists, is necessary. Oncologists should be willing to discuss the role of CAM with their patients and encourage patients to participate in well-organized research about CAM⁶⁴. Herbo-metallic therapy, according to Ayurvedic texts which are thousands of years old, is based on the premise that human body tissues contain different metals in various degrees. Any imbalance in the content of these

metals, caused by natural or self-inflicted methods such as substance abuse, disturbs the body and triggers ailments. The patients can be treated with metal-based drugs that replace the balance. Metal therapy rests on the belief that all ailments can be treated with metal-based drugs if they are diagnosed correctly and in time. All metals including gold, silver, mercury, arsenic, iron, and copper, lead, tin and zinc and their alloys and some wastes are used to make the drugs. Metals (ionized form which can be absorbed by the human body) have a very important role to play in the prevention and cure of cancer. Dr R M Anand, an assistant director at state-run Central Council for Research in Ayurveda and Siddha (CCRAS), told Reuters. He said metals are first purified in herbal decoctions, oxidized, subjected to heat and crushed several hundred times till they are converted into a non-metallic, non-toxic form that can be absorbed by the body. The drugs are either in the form of tablets or powders⁶⁵. Traditional knowledge will serve as a powerful search engine and most importantly, will greatly facilitate intentional, focused and safe natural products research to rediscover the drug discovery process. Benefits in health care and improvement of quality of life. Natural pharmaceuticals (Naturaceuticals), nutraceuticals and cosmeceuticals are of great importance as a reservoir of chemical diversity aimed at new drug discovery and are explored for antimicrobial, cardiovascular, immunosuppressive and anticancer drugs. US FDA has granted approvals to many biotechnology-based products, including Novartis: Gleevec - for treatment of CML; Genezyme: Carticel - cartilage regeneration; Immunex: Enbrel - for RA; Genentech: Herceptin - for Breast cancer; CDR Therap: Integrilin - for heart diseases; Organogenesis: Apligraf - a skin substitute. Over 300 drugs are in Phase III and over 200 are expected to be in the market by 2007⁶⁶⁻⁶⁷. An integrated approach is needed to manage cancer using the growing body of knowledge gained through scientific developments. Thousands of herbal and traditional compounds are being screened worldwide to validate their use as anti-cancerous drugs. The science of Ayurveda is supposed to add a step on to the curative aspects of cancers that have resemblance with clinical

entities of arbuda and granthi mentioned in Sushruta samhita. Experimental and clinical studies conducted on single and compound ayurvedic preparations for their anticancer efficacy strongly emphasize ayurvedic therapy as a scientifically driven one and not simply unconventional³³.

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