



ROLE OF AYURVEDA IN THE MANAGEMENT OF CANCER THROUGH USE OF VARIOUS AGADAS

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ABSTRACT:

For every individuals cancer is the one word which is very scary and it is the second largest cause of death. In India there are nearly about 8,00,000 new cancer patients get registered with the national cancer registry program every year. Although heredity plays its role in causing cancer but that includes only 5% of cancer cases, non -heredity factors such as life style, level of physical activity, food, personal hygiene, environmental pollution are the major causing factors. Because of these factors toxins get deposited in body day by day called as cumulative toxins, in Ayurveda it is termed as dushi visha. Agadathantra, is one of the branch of Ashtanga Ayurveda which deals with management of toxicity. The study about the principles of Agadathantra and the etiology of cancer like diseases deduce that the diseases are mostly due to toxic substances which enter through food, air, water or medicine etc. Some of the toxin produces acute symptoms and some produces chronic

symptoms. If we consider Gara , Dooshivisha and Viruddhahara concepts of Agadathantra Agadtantra is a branch in which treatment of poison is explained and it is done by panchakarma by means of Shodhana (purification) method followed by various agada kalpas which are mentioned in samhitas for the treatment vishas(poison). Now a days there are various environmental factors causing cancer such as pollution, foods, foundation, perfume, hairspray, products such as shampoo lipstick, hair dye. These factors leads to deposition of toxins called as dushi visha (cumulative toxins) . Chemotherapy and Radiotherapy are the therapy that are used in cancer treatment will produce harmful toxic effects along with their beneficial effects. In case of cancer fresh cases do not report to Ayurvedic physicians (exceptions are there)for treatment. Mostly those people who try modern treatment procedures such as Surgery, Chemotherapy and Radiotherapy come for Ayurvedic treatment. The first few doses In chemotherapy will act as therapeutic doses and it destroys the neoplastic cells and usually don't cause much damage to healthy tissues. But later the doses will cause serious damage to healthy tissues. The tendency of the Body fails to eliminate the excess drugs which deposits chemicals in the body and causes health problems for a long duration• These chemicals are indigestible and inexcitable by the body which lead to production of Ama. The Ama which is produced in the body shows the lakshanas of visha. In Ayurveda for the removal of such accumulated toxins various panchakarma procedure (purification) are described followed by various agada kalpas (formulation) that are useful to reduce or to remove toxicity

KEYWORDS: AYURVEDA, CANCER, DUSHI VISHA, PANCHAKARMA, AGADA KALPAS, CUMULATIVE TOXINS

INTRODUCTION-

Cancer, one of the most deadly challenges spreading drastically in 21st century, has now officially become the most dangerous killer in the world according to the World Health Organization. Who can deny the fact that cancer is related to adversary of modernization and advanced pattern of irregular and stressed life dominated by Western medicine. Scientists are making their best efforts to fight this disease; however the sure-shot cure is still awaited.

Ayurveda, the oldest Indian indigenous medicine system of plant drugs is known from very early times for preventing or suppressing various tumors using these natural drugs. And nowadays scientists are keener to researches on complementary and alternative medicine for the management of cancer. In Ayurvedic concept, according to 'Charaka' and 'Sushruta Samhitas' cancer is described as inflammatory or non-inflammatory swelling and mentioned either as 'Granthi' (minor neoplasm) or 'Arbuda' (major neoplasm).[1] The nervous system (Vata or air), the venous system (Pitta or fire) and the arterial system (Kapha or water) are three basics of Ayurveda and very important for normal body function. 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.[2]

The modern cancer therapy which is known to burdened by drug-induced toxic side effects hoping perfect cure of disease form the complementary and alternative medicine system. 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 Prakritisthapani chikitsa (health maintenance), Rasayana chikitsa, (restoration of normal function), Roganashani chikitsa (disease cure) and Naishthiki chikitsa (spiritual approach).[3] 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 defence systems.

COMMON SIGN AND SYMPTOMS ACCORDIND TO MODERN CONCEPT–

1. Fever
2. Fatigue
3. Pain
4. Unusual bleeding
5. Nagging cough
6. Indigestion problems or trouble swallowing.
7. Unexplained weight loss
8. Skin changes

AYURVEDA AND CANCER

Ayurveda does not consider cancer as a distinct disease or set of diseases. Rather, ayurveda states that all diseases result from gross, systemic imbalances and malfunctions of the three *Doshas*. As mentioned above, specific diseases (including cancer) originate from interactions between abnormal *Doshas* and weakened *Dhatus* [4]. For example, vitiation of *Kapha Dosha* is a common link between cancer and diabetes; however, the organs (*Dhatus*) which are affected differ [5]. Thus, weak *Shukra Dhatu* (tissue regeneration and cell division) interacting with vitiated *Vata Dosha* and *Kapha Dosha* could lead to cancer, whereas excess and improperly formed *Meda* (adipose tissue) interacting with vitiated *Kapha Dosha*, can cause diabetes [6]. The magnitude of illness and clinical presentation of cancer are thought to vary, because each person has different patterns of exposure to pathogens and has dynamic changes in the functioning of *Dhatus* [7].

Instead of using targeted therapies for destruction of the tumors, ayurvedic drugs/modes of treatment attempt to correct metabolic defects and restore normal tissue functions (“*Sama Dhatu Parampara*”). Like most forms of traditional medicine, ayurvedic medicine is holistic, since immunotherapy (*Rasayanaprayoga*) for rejuvenating the body's support systems, forms a significant component of cancer therapy [8, 9]. A review of Ayurvedic concepts of cancer and herbal anti-cancer drugs is available in the literature [10].

compares the modern and ayurvedic concepts of cancer. It highlights new molecular evidence which validates certain ayurvedic concepts of cancer. Earlier, cancer was thought to result from sequential genetic events regulating cell growth and death. It is now clear that abnormalities involving epigenetic regulation, diet, environmental factors, and immune function significantly affect the phenotype of a cancer patient Ayurveda also considers diet and environmental factors as important regulators of *Agni* and immunity, which in turn can

increase risk for cancer. The concept of “shared pathology” between cancer and metabolic syndrome [11,12,13] has some similarities to the Ayurvedic view that interactions between vitiated Doshas and weak tissues (*Dhatus*) lead to systemic malfunctions which can manifest as cancers of specific organs certain anti-inflammatory drugs and antidiabetic drugs are effective against cancers because of the “indirect” involvement of inflammation and dyslipidemia in carcinogenesis. Ayurveda also uses “indirect” approaches to treat cancers because therapies aim to eliminate vitiated Doshas, rejuvenate body functions, and restore immunity (*Rasayanaprayoga*) Modern, cutting edge, anti-cancer therapy also uses immunotherapy and cancer vaccines.

GENERAL CONCEPT OF MANAGEMENT [14]-

Ayurvedic medicine can include:

- advice on diet and special diets
 - taking specific Ayurvedic medications
 - herbal medicine
 - massage
 - meditation
 - yoga, breathing and relaxation techniques
 - bowel cleansing
- In all type of cancer visha is present in the form of Ama. So the initial or first line management of all type of cancer is ‘Ama nirharana ‘. Langhanam, Langhanapachanam, Sodhanam, are the treatment for alpa ,madhyama and prabhutha dosha respectively.
 - But if cancer patient is very weak due to the disease sodhanam and langhanam should not be advisable. In that case mridulanghana and pachana should be done, for that ‘Sasundilajapeya’ is given along with mild pachana aushadhas like Drakshadi Kashyam. After getting some ‘bala’ to the patient strong amapachana drugs like, Sapthasaram Kashayam pachanamrutham Kashayam, etc can be given
 - Pathyakrama that stated in Visha chikithsa should be followed. As non-veg food, Oily foods, Guru Ahara etc. will increase the Ama and thereby help the progression of disease. Peyadi is only advisable. Specific Agada preparations are given along with this treatment protocol
 - In radiation therapy, it produces toxins which produces toxic effects on body and also there is pitta vitiation. The radiation and chemotherapy produces the acute symptoms such as anorexia, fatigue, drowsiness.
 - After some days along with the above symptoms there will be purpura, haemorrhage, mouth infection, ulceration of mouth and GI tract, diarrhoea, hair loss etc occurs
 - These all symptoms resemble the lakshanas of Ama, Dooshivisha and Gara. In such conditions we will have to resort treatment of dooshivisha, gara and Ama. Purification therapy followed by administration of Agada formulations and Rasayana therapy are useful.

- Agada formulations
- • Vilwadi: hepato protective, radiotoxicity protection
- • Kalyanaka: radio toxicity protection
- • Ajithagadam: nephro toxicity protection
- • Malatyadi agada: hemotoxicity protection
- • Dhvaswakarnadi, patala paribhadradi, kataka beeja: promising water pollution controller
- • Vilwadi: vibrio cholerae- ciprofloxacin
- • Dushi vishari agada- lichen planus
- • Bhunimbadi agada, dushivishari agada: ecoli, staphylococcus oreus, shigella sonnei, salmonella enterica
- • Dhatakyadi agada: : ecoli, staphylococcus oreus, strepto coccus mutans
- • Sirisha punarnva, tulasi: reproductive and developmental toxicity

Herbs help total healing, reduces the side effects and cancer-associated complications.[15]

- *Andrographis paniculata, Annona atemoya, Phyllanthus niruri,*
- *Piper longum, Podophyllum hexandrum, Tinospora cordifolia, Semecarpus anacardium, Vitis vinifera, Baliospermum montanum,*
- *Madhuca indica, Pandanus odoratissimum, Pterospermum acerifolium, Raphanus sativus, Barleria prionitis, Prosopis cineraria,*
- *Amorphopallus campanulatus, Oxoxylum indicum, Basella rubra, Flacourtia romantchi, Moringa oleifera, Ficus bengalensis,*
- *Curcuma domestica, Allium sativum, Calotropis gigantean, Datura metel, Hygrophila spinosa, Juniperus indica, Moringa oleifera, Nigella sativa,*
- *Picrorrhiza kurroa, Rubia cordifolia, etc.*

are various plants having scientific evidence of anticancer property. Nowadays, many herbs are under clinical studies and being investigated phytochemically to understand their anticancer potential. More than 25% of drugs used during the last 20 years are directly derived from plants, while the other 25% are chemically altered natural products. Nine plant-derived compounds including vinblastine, vincristine, etoposide, teniposide, taxol, navelbine, taxotere, topotecan and irinotecan have been approved for use as anticancer drugs. 10-hydroxycamptothecin, monocrotaline, d-tetraandrine, lycobetaine, indirubin, colchicinamide, curcumol, curdione, gossypol and homoharringtonine are few more plant-derived compounds of high hope

Each herb contains multiple active principles that often operate synergistically producing therapeutic benefits and lowering the risks of adverse effects; and avoids the need for supplemental therapy to manage cancer cachexia. Now it is important to raise awareness and encourage implementation of Ayurvedic therapies for combating cancer and suggest an integrated approach in tumor management and treatment.

BASIC PRINCIPAL OF AYURVEDA-

IJDODHA,PRAKRUTI AND DISEASE

Thus far, we reviewed evidence linking inflammation, lipid metabolism, diabetes, and cancer. Before we discuss how ayurveda may provide new biomarkers of chronic inflammation, we explain the basic concepts of ayurvedic physiology.

Ayurveda defines three dynamic pathophysiological entities (Doshas), as the basis for all body function. The three Doshas are termed as Vata, Pitta, and Kapha, respectively. *Kapha Dosha* governs the nervous and musculo-skeletal systems [16-17]. At the cellular level, Vata Dosha can be associated with signaling pathways regulating cell growth, differentiation, and cell death. Vata Dosha also governs movements of cells, molecules, nutrients, and wastes [18]. The Pitta Dosha is responsible for transformative processes such as digestion, metabolism, energy production, and maintenance of immunity [19]. At the cellular level, *Pitta Dosha* can be associated with actions of enzymes, growth factors, hormones, and the reactions required for energy homeostasis and maintenance of basal metabolism [20]. *Kapha Dosha* acts to form and maintain body mass, shape, and flexibility [21]. At the cellular level, anabolic processes (such as biosynthesis of macromolecules) and coordination of gene and protein function maybe associated with *Kapha Dosha* [22].

In ayurveda, one's basic "body constitution" is termed as "*Prakriti*." *Prakriti* arises due to a unique combination of fixed amounts of the three *Doshas* at the time of conception. Thus, *Prakriti* determines individuality and is akin to one's genotype. *Ayurveda* recognizes seven main types of *Prakritis*, based on the different combinations of the three *Doshas* at conception. Experimental analysis of the *Prakriti* concept revealed statistically significant correlations between an individual's *Prakriti* and the expression of specific genes and biochemical parameters [23]. Another study found correlations between *Prakriti* and HLA gene polymorphisms [24]. Although one's *Prakriti* (genotype) is fixed, one's *Doshas* are in dynamic equilibrium, and optimal function of each *Dosha* and normal interactions between *Doshas* are essential for good health. Accordingly, individuals with "balanced" *Doshas* (*Sama Prakriti*) are less susceptible to disease than individuals with abnormal *Doshas*. In fact, imbalances or disturbed interactions between *Doshas* are considered a major cause of disease. An abnormal *Dosha* can be inhibited, excessive, or vitiated (disturbed). Indeed, the type and nature of disease, are primarily determined by the *Dosha* which is affected. For example, inflammatory diseases are associated with vitiation of *Pitta Dosha*, whereas obesity and metabolic syndrome are associated with vitiation of *Kapha Dosha*. A specific illness manifests when the vitiated *Dosha(s)* interact with weaknesses in specific organs (*Dhatus*). Conversely, pathogenic factors can also trigger abnormality of the *Doshas* and weaken the *Dhatus* [48]. Severe diseases, such as cancer, affect the entire body and usually involve vitiation of all three *Doshas* [25]

DOSHAS, AGNI, AND IMMUNITY

In addition to the concepts of *Doshas* and *Prakriti*, the Ayurvedic concept of *Agni* is important. *Agni* is the primary entity responsible for metabolic and transformative processes at the physiological and cellular levels.

There are thirteen types of *Agni* which control all metabolic functions. When *Agni* is strong, digestion of food is normal, and even vitiated *Doshas* can be converted into nontoxic components .

“Incompatible foods” (*Viruddha Ahara*) can disturb *Agni* and lead to vitiation of *Doshas*. Indeed, certain useful foods can be pathogenic if ingested in certain combinations or in specific situations. For example, fruits and milk are each useful, but their combination is difficult to digest and can vitiate *Kapha Dosh* and lead to *Agnimandya* (weak *Agni*) . A complex interplay between diet and host factors regulates *Agni* and is in turn influenced by *Agni*. Thus, the nature and composition of diet, quantity of food, timing of food intake, and the intrinsic properties of food are important. In addition, an individual’s ability to digest and process food depends on host factors such as *Prakriti*, status of *Doshas*, *Agni*, tolerance, and digestive factors . Thus, a feedback loop mechanism links diet and host factors with the strength and activity of *Agni*. Long-term consumption of incompatible foods can impair this feedback mechanism and increase susceptibility for various metabolic diseases and acute or fatal conditions .A weakened *Agni* can also result in decreased immune surveillance, which is a major risk factor for diseases such as cancer. Therefore, maintenance of *Agni* at optimum levels is important for avoiding pathogenesis .

DISCUSSION

- Now a days there are various environmental factors causing cancer such as pollution, foods, foundation, perfume, hairspray, products such as shampoo lipstick, hair dye. These factors leads to deposition of toxins called as dushi visha (cumulative toxins) .
- Chemotherapy and Radiotherapy are the therapy that are used in cancer treatment will produce harmful toxic effects along with their beneficial effects. In case of cancer fresh cases do not report to Ayurvedic physicians (exceptions are there) for treatment. Mostly those people who try modern treatment procedures such as Surgery, Chemotherapy and Radiotherapy come for Ayurvedic treatment.
- The first few doses In chemotherapy will act as therapeutic doses and it destroys the neoplastic cells and usually don’t cause much damage to healthy tissues. But later the doses will cause serious damage to healthy tissues. The tendency of the Body fails to eliminate the excess drugs which deposits chemicals in the body and causes health problems for a long duration.
- These chemicals are indigestible and inexcitable by the body which lead to production of Ama. The Ama which is produced in the body shows the lakshanas of visha.
- In radiation therapy there is vitiation of ‘pitha’, and the ionization of the water content of the cells will produce peroxide and other toxins which produces toxic effects on the body.
- In Ayurveda for the removal of such accumulated toxins various panchakarma procedure (purification) are described followed by various agada kalpas (formulation) that are useful to reduce or to remove toxicity.

CONCLUSION-

By maintaining the optimum level of tissues it helps to provide good immunity to Healthy person. In diseased person Rasayana dravyas acts at the level of Srotas as (body channels) thus helps in breaking the pathogenesis of disease by removing vitiation of body channels. The causal factor will be one of the three Doshas that is prevented from correct functional communication due to lifestyle habits, diet, and secondary effects of medication, environmental chemicals, or psychosomatic reasons.

Accordingly, ayurvedic drugs/treatment regimens are largely designed to restore the body's natural defense mechanisms and self-healing powers. These therapies are aimed at ensuring long-term recovery from disease by strengthening and rejuvenating major body systems. This holistic approach of ayurveda is also true of other traditional systems of medicine and is precisely what attracts people to alternative medicine. Indeed, we are in an exciting phase of modern medicine, wherein rigorous scientific evidence supports some aspects of holistic, traditional medical systems. Sustained and collaborative efforts between ayurvedic physicians, clinicians, and basic sciences researchers may lead to a deeper understanding and even convergence of certain modern and traditional principles underlying health and disease.

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