A comprehensive Guide to Cancer Prevention and Rehabilitation through Ayurveda

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Abstract

Cancer is the second leading cause of death after heart disease. Around 70 new cancer cases are detected annually, for every 100,000 populations in India, and in any given year, there are almost 15 lakh cancer patients. Conventional therapies like surgery, chemotherapy, and radiation can reduce symptoms or prolong the patient's survival but may cause severe adverse effects and obliterate the quality of life. Although cancer is not specifically mentioned in Ayurvedic literature, symptoms associated with the Granthi and Arbuda are closely comparable to different forms of cancer or symptoms associated with cancer. All the classical texts of Ayurveda (Charaka Samhita, Susruta Samhita, Ashtanga Hrdaya, were referred for this conceptual study. Various published research articles, review articles, and information from various search engines were referred for recent information. The present study focuse on the pathophysiology of cancer, an integrated approach to improve the quality of life of patients undergoing conventional therapy.

Adhering to the principles of Ayurveda," Swastasya Swastya samrakshana, Aturasya vikara prasamana" it works as an adjuvant or co-therapy along with conventional treatment, to minimize the side effects, slow the progress of cancer, improve the quality of life, and to enhance the mental status of patients. Palliative management can be done using drugs possessing cytotoxic activity like Curcumin, Rotula aquatica, Withania somnifera, Phyllanthus emblica, Ocimum sanctum, etc. Application of concepts of Ayurveda like Aahara (food), Vihara (routine), Dinacharya, Ritucharya, Achara Rasayana, Sadvritta, Panchakarma, Rasayana, Samshamana, Satwavajaya, along with conventional management will definitely prove a boon for them to improve quality of life while moving towards the end.

Keywords

Conventional therapy, Swastya samraksahana, Aachara Rasayana, Satwavajaya, Naishtiki chikitsa.

Inroduction

Cancer is the second leading cause of death after heart diseases[1]. According to WHO Worldwide, an estimated 19.3 million new cancer cases, accounting for nearly 10 million deaths in 2020, or nearly one in six deaths[2]. With 2.26 million new cases estimated in 2020, female breast cancer has now become the most commonly diagnosed cancer worldwide, followed closely by lung cancer (2.21 million). Around 70 new cancer cases are detected annually, for every 100,000 populations in India, and in any given year, there are almost 15 lakh cancer patients[3].

The common causative factors include tobacco use, being overweight or obese, unhealthy diet with low fruit and vegetable intake, lack of physical activity, alcohol use, sexually transmitted HPV-infection, infection by HBV, ionizing and non-ionizing radiation, urban air pollution, smoke (indoor or industrial) etc.

A neoplasm or tumor is a mass of tissue formed as a result of abnormal, excessive, uncoordinated, autonomous and purposeless proliferation of cells even after removal of stimulus for growth which caused it[4]. Two main characteristics of cancer are uncontrolled growth of the cells in the human body and the ability of these cells to migrate from the original site and spread to distant sites[5]. If the spread is not controlled, cancer can result in death. Malignant cells are capable of invading the normal tissue around it. Some tumours can be fairly well circumscribed and isolated, some are quite invasive and spread throughout various parts of the body, making their removal quite difficult. The goals of treatment for cancer are generally to reduce the amount of cancer cells in the body.

Although cancer is not specifically mentioned in Ayurvedic literature, symptoms associated with the Granthi, and Arbuda are closely comparable to different forms of cancer or symptoms associated with cancer. Arbudas are gradually increasing mass of big size, globular in shape, fixed with deeper structure, usually do not suppurate, giving occasional

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pain and can occur in any part of the body. It can involve Dhatus like Mamsa and Rakta due to vitiation of Tridosa. According Charaka and Sushruta, Arbuda is an inflammatory or non-inflammatory swelling, a kapha predominant disease there is always an association of vata, because the multiplication of cells cannot go in excess without the imbalance of vata in it. It is a disease with the involvement of three Doshas (Vata, Pitta, Kapha) and Mamsa, Rakta, Medas dhatu as principal dushyas.

Conventional management of cancer encompasses four major strategies – surgery, radiation therapy (including photodynamic therapy), chemotherapy (including hormonal therapy and molecular targeted therapy) and biologic therapy (including immunotherapy and gene therapy)[6]. These are usually given in combination, and work through different mechanisms to a synergistic effect. These therapies can reduce the symptoms or prolong the patient's survival but may cause severe adverse effects and obliterate the quality of life. Side effects may be acute (occurring within few weeks after therapy), intermediate or late (occurring months or years after the therapy)

Hence, there is an urgent need to communicate precious holistic knowledge of Ayurveda to the scientific world. This will lead to create awareness about palliative concept of Ayurveda in scientific community. Ayurveda can work as an adjuvant or co-therapy along with conventional treatment, to minimize the side effects and improve the quality of life.

Review of Literature

Repeated exposure of environmental toxins, tobacco, radiations can provoke Pitta at deeper cellular level. The increased Pitta at the cellular level can initiate micro inflammatory changes disturbing the cellular component of agni, causing impairment in the dhatu parinama[7]. Impairment of agni causes the accumulation of Aama or unmetabolized toxins in the body leading to rasa dushti. In Aamasaya, Pachaka pitta initiates a cycle of Pitta dushti reaching sadhaka pitta in Hridaya, from where vyana vata circulate these toxins or proinflammatory products into circulation. Further accumulation of Aama obstructs the patency of srotas, and further blocks the nourishment. Vata is the the dosha which is in active state, responsible for the rapid multiplication or metastasis. Kapha, being heavy and gross is responsible for the abnormal growth of the cells creating the malignant tumor, and the tejas component of pitta enhances the metabolic activity of the cancerous cells[4]. Cancer is a tridoshic disorder which has the capacity to spread due to the interplay of abnormal vata, pitta, and kapha.

Some important side effects of chemotherapy are nausea, vomiting, diarrhea, mucositis, alopecia, constipation etc; whereas radiation therapy though administered locally, can produce systemic side effects like fatigue, anorexia, nausea, vomiting, alteration in the taste, sleep disturbance, headache, anaemia, dry skin, constipation etc. Late complications of these therapies also include pharyngitis, esophagitis, laryngitis, persistent dysphagia, fatigue, hepatotoxicity, infertility and cognitive deficits such as problems with attention, memory and executive functioning[6]. Anxiety is common in critical periods, of cancer diagnosis or recurrence, at the beginning of a new treatment, or during illness progression. Depression can be a normal reaction, a psychiatric disorder, or a somatic consequence of cancer or its treatment[8]. These arrays of side effects have a devastating effect on the quality of life of cancer survivors.

To counteract the side effects caused by conventional therapy, chemo and radio protectors were used, but due to failure of most of the radio-protectors and chemo-protectors in the conventional medicine, the complementary and alternative medicines have attracted the view of researchers and medical practitioners more recently. This review aims to incorporate Ayurveda as an adjuvant therapy along with conventional medicine to minimize the side effects and to improve the quality of life of patients living with cancer.

The major side effects of chemotherapy as if viewed through Ayurvedic perspective, there are manifestations of aggravated Pitta dosha and symptoms of Rakta dushti. As per ancient literature, signs and symptoms of aggravated pitta like daha (burning sensation), mukhapaka (stomatitis), trishna (excessive thirst), osha (feeling of hot sensation in the body), galpaka (pharyngitis), payupaka (urethritis), gudapaka (proctitis), davadu (acid regurgitation), dava (burning sensation in the oral cavity) can be seen in patients undergoing conventional therapy(6).

Physical as well as mental strength (sareera and satwa bala) and the essence of dhatus; Ojas will get depleted leading to Dhatukshaya avastha. These treatments affect agni, vata, and pitta, leading to poor tissue metabolism.

Biomedical treatment is essentially life saving or an emergency management. In case where the biomedical treatment has stopped working or is not available, an Ayurvedic approach focusing on strengthening digestion, eliminating toxins, reducing tumour growth, and improving tissue metabolism is viewed as useful.

Constant use of Aharas like Guru, Pishtanna, Snigdha dravya, (High-calorie, high-fat, trans-fatty acids), Amla, Lavana (Vinegar, salty, spicy), Nootana Shuka Dhaanya and Shami Dhaanya (Food articles with high GI), Aanupa and Udaka Mamsa (Red meat has a high intake of seafood[9]), Dadhi-Manthaka Viruda (Curd, yogurt, sprouts), Ratri jagarana(Shift workers), Divaswapna, Avyayama (Physical inactivity),

Mana santapa, Krodha leading to the vitiation of Tridosha occurs which lead to Jatharagnimandya and Aamotpatti. This Apachit dhatu aama vitiates the other Dhatu of body and developed the Arbuda.

Balance province of Doshas (Vata, Pitta and Kapha), Dhatu, Mala and Agni are considered as solid condition of a person. Vitiated condition of these body components are considered as Vyadhi or disease. An Ayurvedic approach to cancer supportive care focuses on restoring equilibrium, slow down its progression, building mental and physical strength, and rejuvenation.

Materials and Methods

Classical texts of Ayurveda viz. Charaka Samhita, Sushruta Samhita, Ashtanga Sangraha and Ashtanga Hridaya were consulted as research references, to know the line of treatment in ancient system Ayurveda. Evidence based resources as journals, books, and data based information from various search engines were referred for recent information. Critical analysis of available literature was done.

Discussion

Surgery, Radiotherapy and Chemotherapy remain the most effective method of treatment for cancer. Patients may experience significant stress as a result of treatments like chemotherapy. The use of alternative therapies and treatments for cancer is therefore prioritized. Due to factors like age, body resistance, severe side effects, location of cancer, chemotherapy and radiotherapy may be contraindicated, use of ayurvedic approach to slow down the progress of cancer and to strengthen the physical and mental component of the body, can be made use of.

The general approach to this treatment protocol will be the kindling of dhatu agni, pachana of the unmetabolised element and lekhana (reducing the size of the tumor).

Preventive approach can incorporate the following :

1) Dincharya - Followinh a good conduct in a whole day. Brahma Muhurte utthistheth (early morning wake up before sun rise), Anjana karma, Dhoompana, Nasya, Dantavishodhana, Gandusha, Kabala, Karna tarpana, Sneha abhyanga, Sharira parimarjana.

2) Ritucharya –Adopting healthy regimens specific to each Ritu (season).

3) Ritushodhana - Shodhana in appropriate seasons helps to expel sanchita malas by not allowing carcinogens to impeach in the body, thus prevent the occurrence of Cancer. It helps to maintain balance state of dosha, remove disease causing substances from the body and prevent disease re-occurrence[10].

4) Aachara rasayana and Sadvrutta – It is an Adravyabhoota type of Rasayana in which pharmaceutical measure is not taken under consideration. It helps in improving the quality of life, increases immunity of body and make mind fresh which is an essential factor for healthy life. It is a code of conduct to be practiced for a healthy and disease-free living. It may incorporate lack of anger, nonviolence, calmness, patience, abstinence from alcohol indulgence, smoking, abstinence from excessive sex indulgence, lack of over-exhaustion, balance sleep.

5) Shamana Chikitsa – It is a palliative management of controlling, preventing and curing the disease by using medicines, foods and activities. Immediately after the chemotherapy and radiation therapy strength of the patient will get deteriorated and accumulation of toxic materials occur. Direct shodhana after the therapy may further deteriorate the health of the patient and may push these toxins deeper into the tissues. So at this stage Shamana protocol would yield good result. Shirodhara with Brahmi taila, Himasagara taila, Ksheerabala taila, Takradhara with Vacha, Jatamamsi, Mustha and Amalaka helps in reducing the vridhi of Pitta due to chemo-radiotherapy. Thus helps to stabilize the mind, give relief from psychological stress. Use of drugs possessing cytotoxic, antioxidant and antimitotic activity like Punica granatum, Curcuma longa, Ocimum sanctum, Rotula aquatica, Withania somnifera, Phyllanthus emblica, Asparagus racemosus, Glycyrrhiza glabra, Nordostachys jatamansi can slow down the progression of cancer, reduce the drug toxicity and regulate the cancer cell proliferation. Studies have proved that Pomegranate possesses inhibitory effects on different type of cancers such as prostate, breast, colon, lung cancers and also slow down the growth of cancer cells[11]. Curcumin can regulate cancer cell proliferation, invasion and metastasis. The antitumor effect of Withania somnifera may be related to the ability to repair oxidative effects caused by the tumor cells and reduce inflammation[12]. Flavonoides isolated from Ocimum sanctum leaves like orientin and vicenin showed better radioprotective effect as compared with synthetic radioprotectors and have shown significant protection to the human lymphocytes against the clastogenic effect of radiation at low, non toxic concentrations[13]. Other herbal plants having anticancerous activity are Plumbago rosea, Semicarpus anacardium,

Achyranthes aspera, Saraca asoka, Hemidesmus indicus, Tinospora cordifolia, Commiphora mukul.

6) Sodhana - Detoxification of body act on cellular level, helpful for eliminating the aggravated doshas. Approximately 3 to 6 months after the chemo or radiation therapy, strength will be regained, and sodhana can be done, considering the prakriti, bala of the individual. By Snehana there is dissolution of toxic material into fat-soluble toxin which become membrane bound, Swedana causes alteration in the permeability and permits the toxin into circulation, and be evacuated by either of the Panchakarmas. Chemotherapy induced aggravation of Pitta dosha can be addressed by Virechana with Draksha, Ikshurasa, Trivrit, Yashtimadhu etc.

7) Rasayana – It helps in regeneration of tissues, which are damaged by chemotherapy or radiation therapy. Rasayana therapy seems to be an ideal therapeutic approach for advanced stage cancer patients as it improve well being and Quality of life and restoring vitality. Vayahsthapana (anti-ageing), Balya (restoring power), Jeevaniya (improving vitality), guna of Rasayana helps to nourish all dhatus properly and restore the basic homeostatic balance. Because of the increase in the Ruksha, Ushna, Tikshna guna by radiation therapy, the Kapha decreases leading to Ojakshaya[14]. The patients can be protected from the adverse effects of radiotherapy and chemotherapy by using Vata Pitta Shamaka, Kapha Ojas Vardhaka, and Rasa Rakta prasadaka herbs. Studies have shown that the Rasayanas like Amritaprasham, Brahma Rasayana, Triphala Rasayana, Ashwaganda Rasayana, Chyavanaprasha, Narasimha Rasayana and possess radioprotective effects[15]).

8) Satvavajaya Chikitsa – Side effects of chemotherapy and radiation therapy may cause fatigue, prolonged pain, functional impairment of several organs. Emotional stress after the diagnosis of cancer, its treatment, side effects also makes patient fearful. Fear of recurrence produce physical and psychological impairments result in depression, adjustment disorder, anxiety, mood disturbance, sadness, confusion and fear of future[5]. The financial crisis, loss of job, may also contribute to the mental trauma. The practice of Satvavajaya chikitsa through chanting of auspicious mantra, visiting to pilgrim centres, oblations, and sacrifice rituals may boost confidence to tackle the problems, harmonize the body, mind and soul.

Conclusion

Ayurveda works as an adjuvant or co-therapy along with conventional treatment, to minimize the side effects, slow the progress of cancer, improve the quality of life, and to enhance the mental status of patients. Individuals adopting wholesome diet and regime, restraining from unwholesome sense, follow righteous things, having patience does not suffer from diseases. Integrated approach or as an adjuant therapy along with conventional therapy considering the individual, prakriti, bala is more beneficial. Advocating the concepts of Ayurveda as Aahara (food), Vihara (routine), Dinacharya, Ritucharya, Achara rasayana, Sadvritta, Panchakarma, Rasayana, Samshamana, Satvavajaya, with modern treatment will definitely prove a boon for terminally ill, to improve quality of life while moving towards the end.

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