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INTEGRATIVE ONCOLOGY: ROLE OF AYURVEDA IN CANCER CARE Kuthe S.

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Abstract: Introduction: Cancer, one of the deadliest challenges spreading drastically in 21st century, has now officially become the most dangerous killer in the world according to the World Health Organization. A major drawback of conventional cancer therapies is the persistence of drug resistance, adverse reactions to chemotherapy, digestive damage, reduced quality of life, and high treatment costs. Researchers have been looking into the benefits of combining complementary and alternative medicine (CAM) with traditional cancer treatments in order to solve these issues. Since ancient times, Ayurveda, the oldest Indian traditional medicine system, has used plant-based medications to prevent or reduce a variety of tumors. Additionally, experts are increasingly more interested in studying complementary and alternative medicine for cancer treatment. According to "Charaka" and "Sushruta Samhitas," cancer is characterized in Ayurveda as either inflammatory or non-inflammatory swelling and is referred to as either "Granthi" (a little neoplasm) or "Arbuda" (a major neoplasm). Ayurveda's three fundamental systems—the nerve system (Vata, or air), the venous system (Pitta, or fire), and the artery system (Kapha, or water)—are crucial for regular bodily functions. All three systems become uncontrollable (tridoshas) and lose their ability to coordinate with one another in malignant tumors, which damages tissue and results in a severe condition. Tridoshas cause excessive metabolic crisis resulting in proliferation. Focusing on preclinical and clinical research, mechanisms of action, and integration with contemporary oncology, Ayurvedic herbal medications are used to treat cancer. Some important discoveries include the fact that some herbs may be able to stop tumors from growing, boost the immune system, and lower the harmful effects of chemotherapy. **Methods:** A narrative review was conducted by critically evaluating classical Ayurvedic texts, including Caraka Samhita and Susruta Samhita, along with contemporary scientific literature available in peer-reviewed journals, online databases, and institutional repositories. Results: Classical texts describe Arbuda as a progressively enlarging, non-suppurative, deep-seated mass involving Mamsa, Rakta, and deranged dosas. Preventive regimens such as Rasayana, Panchakarma, Ritusodhana, and adherence to Dinachariya and Rituchariya are emphasized to eliminate mala and maintain doshic balance. Several Ayurvedic herbs and formulations demonstrate anticancer potential, and therapies may alleviate side effects of chemotherapy or radiotherapy. Discussion: Integrating Ayurveda into cancer care offers a personalized and patient-centric model focused on enhancing vitality, immunity (ojas), and overall well-being. These therapies are supported by preliminary evidence, but scientific validation requires thorough clinical trials and pharmacological research. Ayurvedic and conventional treatments combined in a multidisciplinary, integrative manner may make a significant contribution to all-encompassing cancer care.

Keywords: Malignancy, Arbuda, Integrative Medicine, Ojas, Ayurveda

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INTRODUCTION:

Cancer is one of the maximum devastating illnesses, present enormous fitness risks in each advanced and growing international locations. it is second leading motive of dying in the back of coronary heart ailment. most cancers begin almost everywhere inside the human body, cancer is a class of illnesses and each of its diverse neoplasm's has a unique set of identifying trends and a unique direction of improvement. In all human tissues cancer has now not yet been linked to an unmarried purpose or mechanism. additionally, it is feasible that modifications in way of life over the time have induced an alternate within the etiological causes and mechanisms of carcinogenesis.1 A neoplasm or tumours is a mass of tissue formed due to unusual, immoderate, uncoordinated, selfreliant and purposeless proliferation of cells even after elimination of stimulus for boom which brought about it. Neoplasm's may be 'benign' when they may be sluggishdeveloping and localized without inflicting a good deal difficulty to the host, or 'malignant' after they proliferate hastily, spread at some stage in the body and might ultimately motive demise of the host. All tumours have two simple components: parenchyma comprised via proliferating tumours cells, and supportive stoma composed of fibrous connective tissue and blood vessels. The tumours are named with suffix '-oma' to denote benign tumours. Malignant tumours of epithelial origin are known as carcinomas, at the same time as malignant mesenchymal tumours are named sarcomas few examples of combination of tumours are blended tumours, teratoma, blastoma, hamartoma, and choristoma.2 conventional most cancers remedies. together with surgery, chemotherapy, and radiotherapy, though powerful, often motive excessive side consequences, together with immunosuppression, fatigue, and reduced

satisfactory of life.3 these drawbacks have brought about a developing interest in complementary and alternative medicine (CAM), in particular inside the shape of herbal medicines and Ayurveda, which have a protracted records of use in conventional remedy structures.4 most cancers is a complicated, multifactorial disease characterized by out of control cell proliferation and the potential for metastasis. Globally, its prevalence and prevalence is growing at an alarming price. In India by myself, the envisioned cancer burden in 2021 turned into about 26.7 million, with projections indicating a upward thrust to 29. eight million by 2025.5 below ordinary physiological situations, cells go through programmed death and renewal thru a tightly regulated cycle. In cancerous states, however, this regulation is disrupted. broken cells steer clear of apoptosis and begin to duplicate uncontrollably. The unchecked growth regularly exceeds the capacity of surrounding vasculature, ensuing in ischemia and dietary deprivation within the tumour mass6. Most cancers cells, also called malignant or tumour cells, invade and smash neighbouring tissues and can unfold to remote organs via blood and lymphatic structures. DNA damage is imperative to oncogenesis. In healthful cells, mechanisms exist to restore such damage or provoke cell death. In malignancies, but these safeguards fail, allowing faulty DNA to perpetuate. Consequently, most cancers cells keep uncontrolled replication and pass mutations to daughter cells, similarly propagating the sickness process. foremost causes of cancer numerous endogenous and exogenous elements make a contribution carcinogenesis.

Key risk factors include:

Tobacco use – responsible for ~30% of cancers, notably of the lung and bladder.

Alcohol and dietary habits – implicated in another ~30%, affecting organs such as the liver, colon, and oesophagus.

Environmental factors – pollution, poor sanitation, and overcrowding.

Chemical exposure – chronic contact with toxins or carcinogens.

Radiation – linked to cancers such as leukaemia and melanoma.

Genetic predisposition – accounts for approximately 5–10% of cases.

Unhealthy lifestyle and diet – estimated to contribute 20–25%.

Psychological stress and depression – contribute around 10–15%.

Sedentary behaviour – increasing overall risk.

Viral infections – such as human papillomavirus (HPV) and hepatitis B virus (HBV).

Carcinogenic exposures – including smoked foods, asbestos, arsenic, and tar [3].

Ayurvedic Perspective

even though the time period "cancers" is absent in classical Ayurvedic nomenclature, situations analogous to malignancies are described beneath phrases together with Arbuda (essential neoplasm) and Granthi (minor neoplasm). In step with the Caraka Samhita and Sushruta Samhita, those conditions characterised are by extraordinary growths because of vitiation of dosas-Vata, Pitta, and Kapha-and their interplay with weakened dhatus (tissues). Arbuda is described as a deep seated, regularly enlarging mass that is nonsuppurative, reasons occasional pain, and involves tissues like mamsa (muscle) and rakta (blood). Likewise, terms which includes Apachi, Gulma, and Granthi describe glandular swellings and hundreds, a number of which closely resemble contemporary

pathologies, which include diverse sorts of tumours. From an Ayurvedic point of view, cancer is viewed because the result of a profound imbalance within the frame's inner milieu. It isn't always classified as a standalone disease, but rather as a systemic derangement concerning dosha-dhatu-mala imbalance, recuperation is approached holistically thru detoxing (sodhana), palliative care (samana), immune support (rasayana), and dietary and lifestyle regulation. natural, herbal, and mineral preparations are used to arrest development. reduce symptoms, and help standard energy (ojas). The clinical functions and progression help in differentiating between Sadhya (curable), Yapya (manageable), and Asadhya (incurable) instances, enabling practitioners to undertake individualized and level-unique therapeutic techniques, including Shodhana (palliative), (purification), Shamana Rasayana (rejuvenative), and surgical interventions.

Primary Therapeutic **Strategies** Ayurveda: In Ayurvedic oncology care, a holistic approach is adopted through a combination of Shodhana (cleansing), Shamana (palliative), and Rasayana (restorative) therapies, supported by lifestyle Shodhana modifications. includes detoxifying procedures such as Virechana (therapeutic purgation) and Basti (medicated enemas) aimed at eliminating accumulated toxins and correcting doshic imbalances believed to contribute to tumour formation. Shamana therapy involves the use of specific herbal and mineral formulations to alleviate symptoms, slow disease progression, and provide palliative support across various stages of cancer. Once the body is cleansed stabilized. Rasayana therapy introduced to rejuvenate tissues, boost immunity, and aid recovery and long-term resilience. Yoga and lifestyle practices, such as therapeutic postures customized to each person's needs while being mindful of contraindications, complement these approaches. In addition, adherence to daily (Dinacharya) and seasonal (Ritucharya) wellness regimens is encouraged to maintain physiological balance and reduce vulnerability to disease recurrence.

Mechanism of Action of Ayurvedic Drugs:

Ayurveda allows in reducing the healing doze of the various drugs used as proved in a few research the use of cow urine.8 some Ayurvedic preparations can fight towards tumours. They may be useful in targeting the unique tissues as shown in some allopathic studies on nanoparticles of gold. Ayurvedic preparations can act as an adjuvant or a cotherapy in conjunction with chemotherapy or radiotherapy. it is also beneficial in postsurgery care. Ayurvedic medicines assist to minimise the facet outcomes of those treatment options. Ayurvedic preparations help to slow the progress of most cancers in cases wherein chemotherapy, radiotherapy or surgical operation is contra-indicated, because of a few reasons and patients have no other desire. The cellular-protecting interest of drugs prescribed in Rasayana therapy facilitates to improve comfort and the best of lifestyles of individuals with cancer. The frightened machine (Vata or air), the venous device (Pitta or fireplace) and the arterial device (Kapha or water) are 3 fundamentals of Ayurveda and really essential for regular frame function. In malignant tumours all three structures get out of manage (Tridoshas) and lose mutual coordination that reasons tissue harm, resulting critical condition. **Tridoshas** purpose excessive metabolic resulting in proliferation. [7,9] Ayurvedic tablets performing as supplements with chemotherapy and radiation therapy in ameliorating cancer curiously, Snehana, i.e., of medicated intake numerous preparations in a classical manner a week or

10 days prior to the begin of chemotherapy or radiotherapy, has been observed to reduce the poisonous effects of such treatment plans. Chemotherapy is the primary and giant medical modality of cancer remedy, which entails the introduction of sturdy chemical substances, those chemicals goal the short-multiplying mutant cells. however, the toxicity they purpose to regular tissues of the body proves as an impediment, using antioxidants for the duration of chemotherapy enhances remedy via decreasing the technology of aldehydes. herbal drugs, which might be used as Rasayanas in Ayurveda, have additionally been proved to have antioxidant houses. The present day most cancers remedy which is understood to stressed via drug-triggered toxic side results hoping ideal cure of sickness shape the complementary and alternative medicinal drug device. the primary purpose of Ayurvedic remedy is to discover the closing motive contamination even as the healing approach of Ayurveda is split into 4 categories as Prakritisthapani (fitness chikitsa maintenance), Rasayana chikitsa, (recuperation of regular characteristic), Roganashani chikitsa (disease treatment) and Naishthiki chikitsa (religious method). [7,9]

MANAGEMENT:

The Ayurvedic framework for cancer management incorporates four broad therapeutic modalities:

- 1. Prakritisthapani Chikitsa Maintenance of physiological balance and health
- 2. Rasayana Chikitsa Rejuvenation and immunomodulation
- 3. Roganasani Chikitsa Targeted disease eradication
- 4. Naishṭhiki Chikitsa Spiritual elevation and existential well-being Among these, sodhana (purification therapy) is emphasized for both preventive and

curative purposes. It facilitates the elimination of accumulated doṣas and malas (waste products) at appropriate intervals, thereby restoring homeostasis and preventing disease progression. Failure to manage these pathological accumulations may result in severe systemic disorders and reduced life expectancy 10.

1. Samana Chikitsa (Palliative Therapy)

Traditional Ayurvedic systems cancer through both nourishment of tissues and suppression of abnormal growth. One essential element is bhasma, which are calcined preparations of refined metals and minerals such as loha (iron), yashada (zinc), naga (lead), tamra (copper), (mercury), suvarna (gold), and even vajra (diamond). These function as bio-enhancers, focusing on particular tissues and improving the effectiveness of treatment. formulations may provide supportive or alternative management for patients who are not candidates for chemotherapy, radiation, or surgery. Selected Anticancer Herbs11:

- 1. Haridra (Curcuma longa)
- 2. Tulasi (Ocimum sanctum)
- 3. Guduci (Tinospora cordifolia)
- 4. Asvagandha (Withania somnifera)
- 5. Amalaki (Emblica officinalis)
- 6. Sunthi (Zingiber officinale)
- 7. Sigru (Moringa oleifera)
- 8. Saptaparna (Alstonia scholaris)
- 9. Jati (Myristica fragrans)
- 10. Kanchanar (Bauhinia variegata)

2. Panchakarma Therapy:

Panchakarma is a detoxification protocol aimed at eliminating aggravated doṣhas at the cellular level. By enhancing metabolic processes, it assists in breaking down and facilitating the resorption of malignant growths. Tumours may be gradually dissolved and expelled via the lymphatic system without invasive intervention. However, in cases of necrotic or superficial

tumors, surgical measures may still be necessary12. Therapeutic abhyanga (oil massage) with medicated oils not only supports sodhana but also calms the mind and nurtures tissues.

3. Rasayana (Rejuvenation Therapy):

Rasayana therapy fosters regeneration and cellular repair while enhancing ojas—the essence of immunity and vitality. It is particularly useful post sodhana or during remission phases of cancer care, rejuvenating dhatus (tissues) and fortifying systemic defense 13.

Key Rasayanas:

- 1. Chyawanaprash
- 2. Brahma Rasayana
- 3. Ashwagandha Rasayana
- 4. Amṛtaprasam
- 5. Triphala churna

Complementary Ayurvedic Support for Conventional Treatments:

Ayurveda gives integrative aid for the duration of chemotherapy and radiotherapy via personalised nutrition and lifestyle changes that reinforce the body's resilience. specific Ayurvedic retailers, inclusive of antioxidants, bio enhancers, and herbs with antiproliferative and cytotoxic properties, are integrated to beautify the healing efficacy of conventional treatments. concurrently, natural immunomodulators and defensive treatments are hired to manage remedy associated side results including oxidative pressure, inflammation, and haematological harm, these combined procedures goal now not best to guide medical effects but additionally to hold the affected person's nice of lifestyles in the course of the active phases of cancer treatment.

Supportive And Palliative Care:

Ayurveda offers supportive care techniques that emphasize consolation and powerful symptom management, specifically in advanced stages of cancer. these processes aim to beautify the patient's first-rate of life through gentle, holistic techniques tailored to character wishes. further, Ayurveda carries herbal chemo preventive measures designed to lessen the hazard of most cancers relapse, utilising time-examined herbs and formulations that assist immune feature and cell fitness without inflicting unfavourable results.

Independent Ayurvedic Treatment Approaches:

Ayurveda offers feasible and compassionate alternatives for folks who lack access to or cannot manage to pay for conventional most cancers treatments. It provides tailor-made remedy regimens for sufferers who're unresponsive mainstream to interventions, focusing on restoring stability and enhancing first-rate of life. moreover, supports holistic Ayurveda individualized care pathways for folks who searching for alternative or integrative procedures based totally on private ideals, economic limitations, or particular healthassociated issues, ensuring therapeutic inclusivity and respect for affected person autonomy.

DISCUSSION:

Cancer, from an Ayurveda standpoint, is not treated as a single disease but rather as a manifestation of deep-rooted systemic imbalances involving the doshas (Vata, Pitta, Kapha), dhatus (body tissues), (digestive/metabolic fire), and ojas (vital essence). The Ayurveda approach diverges significantly from the modern biomedical model by focusing on the root cause of systemic disharmony, rather than merely addressing the localized or symptomatic manifestations of the disease. In the case of arbuda (tumour), Ayurveda perceives the pathological process as stemming from aggravated doshas that lodge into

susceptible tissue, disrupt dhatu integrity, and promote unregulated tissue growth. These imbalances are often precipitated by chronic exposure to etiological factors (nidana), including improper diet (mithya ahara), irregular lifestyle (vihara), emotional disturbances, and environmental pollutants—many of which align with known carcinogenic factors in modern medicine.

1. Systems-Based Approach vs. Disease Centric Approach

modern-day oncology, even though pretty superior in focused therapeutics and early diagnostic modalities, is predominantly sickness-centric. remedies together with chemotherapy, radiation, and surgical operation goal to directly take away or cut back tumours. however, they regularly include debilitating facet results like fatigue, immunosuppression, mucositis, lack of urge food, emotional distress, gastrointestinal disturbances. Conversely, Ayurveda adopts a structure based totally, person-centric affected method. emphasizes restoring internal homeostasis (samatva), cleaning amassed pollution (ama), correcting agni, strengthening ojas, and stabilizing the manas (thoughts). This holistic approach not only helps the body's intrinsic recuperation mechanisms however additionally addresses the exceptional of existence—a crucial but frequently neglected size in most cancers care.

2. Supportive and Integrative Role

While Ayurveda does not claim a standalone cure for malignancy, it plays a crucial supportive role in integrative oncology. Ayurveda modalities such as:

- Sodhana (Panchakarma) help in detoxifying the frame, resetting physiological functions, and stopping recurrence of atypical cellular increase.
- Rasayana promotes tissue rejuvenation, immunomodulation, and restoration from

the facet results of chemotherapy or radiotherapy.

• Sattvavajaya Chikitsa, the intellectual health arm of Ayurveda, uses meditation, counselling, and way of life rectification to lessen emotional strain, which is mostly a trigger or exacerbating aspect in carcinogenesis. collectively, these treatment options can improve dietary fame, immune response, tissue recovery, and mental resilience, thereby improving the patient's ability to tolerate conventional treatments.

3. Classical Herbs and Modern

Evidence Several herbs mentioned in classical Ayurveda texts are now being investigated through modern scientific methodologies. For instance:

- Withania somnifera (Ashwagandha) has shown adaptogenic and antiproliferative properties, helping patients manage stress and inflammation.
- Curcuma longa (Haridra) is widely studied for its curcumin content, known for antioxidant and anticancer effects.
- Tinospora cordifolia (Guduci) exhibits immune-boosting and hepatoprotective effects, aiding patients undergoing chemotherapy. These herbs often function as biological response modifiers, supporting regulation, oxidative immune reduction, and inhibition of tumour angiogenesis. Additionally, many Ayurveda polyherbal formulations exhibit synergistic effects, enhancing bioavailability and multitarget action without significant toxicity.

4. Addressing Mind-Body Imbalance

Ayurveda's inclusion of the psychospiritual area makes it particularly suitable in illnesses like cancer, in which mental-emotional wellbeing is deeply affected. Practices which include dhyana (meditation), pranayama (breath law), and satva-vijaya (thoughts manage) form a part of individualized therapy. those were shown to enhance

cortisol regulation, sleep satisfactory, and mental adaptability, essential for lengthyterm cancer survival and fine of lifestyles end.

CONCLUSION:

Ayurveda promotes internal recovery, strengthens the immune machine, and restores balance across physiological structures. Early detection and appropriate screening remain important. but, Ayurvedic interventions together with panchakarma, rasayana, and sattvavajaya chikitsa correctly supplement modern-day oncological cures. those processes contribute to:

- Mitigating adverse consequences of chemotherapy and radiotherapy.
- Improving general nicely-being
- Prolonging survival and enhancing great of lifestyles

whilst Ayurveda might not even as Ayurveda might not function a alternative for traditional cancer remedy, its integration into holistic cancer care—supported by means of classical texts and rising clinical proof gives a treasured pathway for personalised and compassionate recovery. in addition, studies and interdisciplinary collaboration are needed to set up proof-based protocols and elevate Ayurveda's function in international integrative.

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