



“INTEGRATIVE ONCOLOGY-ROLE OF AYURVEDA IN CANCER MANAGEMENT”

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ABSTARCT

Cancer is the major killer among the major causes of death in the world. this dreadful condition has attracted the minds of physicians & surgeons from the very early times. it will be fascinating to note that sushruta (father of surgery) had mentioned about the cancer (arbuda). Ayurvedic texts mentioned about arbuda, which is considered as an equivalent of cancer. Acharya charaka described arbuda in the chapter on shopha i.e. Inflammatory & non-inflammatory swellings (cha.su.18.; cha.chi.12.). Acharya sushruta provided more information on arbuda, granthi, apachi, gandamala etc. Which is cancer related conditions. cancer is often compared to arbuda of ayurvedic classics, many other conditions are found to fall under different tumours. It is very important to do nidanpanchakatmaka study on ayurvedic approach of cancer.

Keywords: Cancer, Arbuda, Tumour, Nidan, Rupa, management, preventive measures

INTRODUCTION

Cancer is the major killer among the major causes of death in the world. This dreadful condition has attracted the minds of physicians & surgeons from the very early times. It will be fascinating to note that sushruta (father of surgery) had mentioned about the cancer (arbuda).

Cancer is often compared to a condition called arbuda described in ayurvedic treatise. But if we find the signs & symptoms of many pre-cancerous and post-cancerous states under different conditions like gulma (cystic growths), apachi (benign growths), gandamala (lymphatic growths) etc.

India is amongst the few pioneers in the development & practice of well documented indigenous systems of medicine, the more important being ayurveda. Ayurveda in specific has incorporated a number of natural products in the treatment of variety of cancer.

Ayurvedic texts mentioned about arbuda, which is considered as an equivalent of cancer. Acharya charaka described arbuda in the chapter on shopha i.e. Inflammatory & non-inflammatory swellings (cha.su.18.; cha.chi.12.). Acharya sushruta provided more information on arbuda, granthi, apachi, gandamala etc. Which are cancer related conditions.

in ayurveda, causation of any disease is mentioned under five divisions viz.,

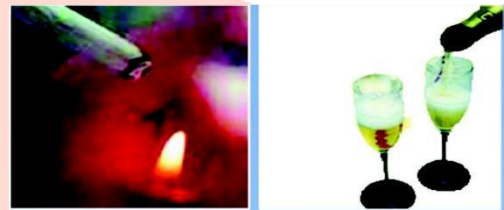
- **Nidana** (etiology)
- **Purva rupa** (prodromal symptoms)
- **Rupa** (signs & symptoms)
- **Upashaya** (treatment & means of differential diagnosis)
- **Samprapti** (pathogenesis)

though cancer is often compared to arbuda of ayurvedic classics, many other conditions are found to fall under different tumours. Now we discussed only arbuda in the present contexts.

MATERIALS AND METHODS-

PROBABLE CAUSATIVE FACTORS

- Tobacco use,
- Being overweight or obese,
- Unhealthy diet with low fruit and vegetable intake,
- Lack of physical activity,
- Alcohol use,
- Sexually transmitted HPV-infection,
- Ionizing and non-ionizing radiation,
- Urban air pollution,
- Smoke (indoor or industrial) etc.



Probable Signs for early detection of Cancer (CAUTION):

- **C**hange in bowel or bladder habits
- **A** sore that does not heal
- **U**nusual bleeding or discharge
- **T**hickening or lump in the breast or elsewhere
- **I**ndigestion or difficulty in swallowing
- **O**bvious change in a wart or mole
- **N**agging cough or hoarseness of voice

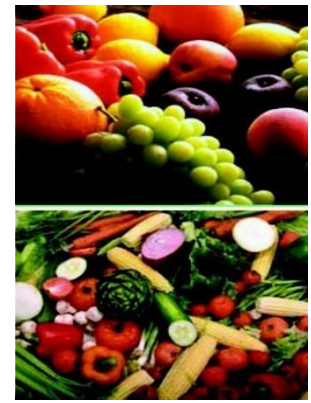
IMPORTANCE OF EARLY DETECTION AND SCREENING

Cancer can be treated successfully if detected early. Screening is a means of early detection of the disease in asymptomatic individuals with the goal of decreasing morbidity and mortality. Screening can potentially save lives as shown in cervical, and breast cancer.

General measures for prevention of Cancer

Public education on the avoidance of identified risk factors for cancer and encouraging healthy habits contributes to its prevention and control.

- Stop using tobacco in all forms
- Avoid consuming alcohol
- Adopt healthy food habits
- Choose predominantly plant based diets rich in fruits and vegetables
- Restrict the intake of red-meat (beef, pork etc.) and preserved meat
- Engage in regular physical activity
- Maintain optimum weight for height and age



It is now known that over one-third of cancers are preventable, and one-third potentially curable provided they are diagnosed early in their course. The quality of life of patients with this incurable disease can be improved with palliative care. Ayurveda plays a major role in improving the Quality of life in cancer patients.

An approach to early cancer detection is through population screening. Currently, screening can be advocated for the cervix, breast and oral cancers.

ORAL CANCER

Signs & Symptoms

- Raised white or red patch/sloughing ulcer/hard mass
- Pain/difficulty in opening mouth or swallowing
- Lump in the neck
- Numbness of the tongue or other area of the mouth
- Change in voice quality/Hoarseness of voice

Screening strategy for Oral cancer: Examination of the mouth Examine the interior of the mouth regularly to detect symptoms early. Examine the interiors of the mouth i.e., inside of cheeks and lips, the floor and roof of the mouth, the tongue and the lymph nodes in the neck, standing before a mirror in adequate light, for any red or white patch, or any other abnormal area. Feel the suspicious area with fingers to know its hardness and extent of spread.



Oral Cancer Diagnostic Tests

After thorough examination, if symptoms indicate cancer, then suspect oral cancer. One or more of the following tests may be done to confirm cancer and its spread.

Biopsy

A small tissue sample is taken for histo-pathological examination. Biopsy is the only sure way to know if the abnormal area is Cancer.

Oral Cancer Prevention

Cancers of the mouth are among the most preventable cancers.

Do's:

- Eat a well-balanced, healthy diet with a variety of fruits and vegetables
- Examination of dentures by a dentist at least every five years
- Remove the dentures at night and clean them daily
- Wear a lip balm with sunscreen and a hat with a brim to limit sun exposure

Don'ts:

- Stop using Tobacco in all forms.
- Avoid Drinking alcohol.

Treatment

Surgery, Chemotherapy and Radiation therapy

BREAST CANCER

Breast cancer is a malignant proliferation of epithelial cells lining the ducts or lobules of the breast. Being overweight, lack of exercise, smoking cigarettes, and eating unhealthy food are some of the factors associated with breast cancer.

Breast cancer is a hormone dependent disease. Women without functioning ovaries who never receive Oestrogen replacement therapy may not develop breast cancer.

Signs & Symptoms

- Presence of any palpable mass/nodule in the breast(s) which are hard, irregular, tethered or fixed, or painless
- Abnormal skin changes or retractions over the breast
- Nipple discharges
- Enlargement or Inflammation in the regional lymph nodes

Screening strategy for Breast Cancer

- Breast self-examination (BSE) - **monthly** (preferably during the follicular phase of the menstrual cycle i.e. days 5-7 of the cycle are the best time for the breast examination) - after the age of 30
- Clinical breast examination by a Health worker/Doctor (Medical Personnel)
- Mammography - after the age of 35

Regular Self-examination increases the likelihood of detecting a mass at a smaller size when it can be treated with more limited surgery. Selfexamination leads to increased biopsy rate though it does not itself reduce breast cancer.

Diagnostic Tests

If anything found abnormal on Breast Examination, then following tests may be done for confirmation.

- Mammography
- Biopsy –Aspiration Biopsy

Prevention

- **Early detection can achieve a longer survival. The major benefit of BSE is identification of tumors appropriate for conservative local therapy. Breast cancer is virtually unique among the epithelial tumors in adults in that screening in the form of annual mammography improves survival.**
- **Encourage Breast feeding:** According to studies, Breastfeeding can lower breast cancer risk, especially if a woman breastfeeds for longer than 1 year. Beyond breast health protection, breastfeeding provides important health benefits to the baby and helps the bonding process
- **Alternative of HRT for menopausal symptoms:** Current or recent past users of hormonal replacement therapy (HRT) have a higher risk of being diagnosed with breast cancer. Research strongly suggests that estrogen-only HRT appears to increase breast cancer risk less than combination HRT. If you're having severe hot flashes or other menopausal side effects and have a personal history of breast cancer, consult your doctor about non-hormonal options, such as dietary changes, exercise, weight management, or meditation.
- **Maintain a healthy weight:** Overweight and obese women have a higher risk of being diagnosed with breast cancer compared to women who maintain a healthy weight, especially after menopause.
- **Regular exercise:** Research shows a link between exercising regularly at a moderate or intense level for 4 to 7 hours per week and a lower risk of breast cancer.

Treatment

Radical Mastectomy, Chemotherapy and Radiation therapy

CERVICAL CANCER PROBABLE CAUSATIVE FACTORS

The probable risk factors are early age at marriage, multiple sexual partners, multiple pregnancies, poor genital hygiene, malnutrition, use of oral contraceptives, and lack of awareness.

Signs & Symptoms

Patients with Cervical cancer are generally asymptomatic, and the disease is detected on routine pelvic examination.

- Abnormal bleeding or post coital spotting that may increase to intermenstrual or prominent menstrual bleeding, Post menopausal bleeding
- Feeling of any mass per vaginum
- Yellowish vaginal discharge
- Lumbo-sacral back pain
- Lower extremity edema
- Urinary symptoms

Screening strategy

Screening for precancerous and cancerous cells using Pap tests has reduced cervical cancer development. After the age of 35, Pap smear may be done **once in a year** for screening of cancer

Pap smear test

- Visual Inspection with Acetic acid (VIA) test

Diagnostic tests

If any abnormality found in the above tests, the following tests can be done for confirmation

- **Colposcopic-directed Biopsy**
- **Cone Biopsy** (in case of Endo-cervical tumor)

Prevention strategy for cervical cancer

- **Vaccination against pathologic HPV appears to be an effective Cervical cancer prevention strategy.**
- Marriage at appropriate age
- Avoiding multiple sexual partners
- Adopting appropriate family planning measures other than use of oral contraceptives and avoid multiple pregnancies,
- Maintaining genital hygiene
- Healthy and nutritional food habits
- Active and Healthy life style

Treatment

Cone biopsy, Hysterectomy and Radiation therapy.

NIDANA (ETIOLOGY) OF ARBUDA:¹

According to basic principles of ayurveda, there is no disease without the derangement of doshas. Similarly, no single cause is assigned to be the causative factor of a particular disease.

The nature of a disease may be different in the case of different persons possessing different doshas and different constitutions.

It is commonly explained that the deranged doshas etc., are responsible for the causation of arbuda. Therefore, all the factors responsible for the vitiation of respective doshas may be specifically considered here:

	Nidan /Hetu
Vata prakopa hetus	<ul style="list-style-type: none"> • Excessive intake of tikta (bitter), katu (pungent) & kashaya (astringent) foods;
	<ul style="list-style-type: none"> • Ruksha padartha (dry foods); • More stress and strain.

Pitta prakopa hetus	<ul style="list-style-type: none"> • Excessive intake of amla (sour), katu (pungent) & lavana (salty) diet; • vidahi padartha (fried foods); • krodha (more anger).
Kapha prakopa hetus	<ul style="list-style-type: none"> • Excessive intake of madhura (sweet), amla (sour) & lavana (salty) diet; • Snigha Padartha (Oily Foods); • Sedentary Nature.
Rakta prakopa hetus	<ul style="list-style-type: none"> • Excessive intake of vidahi (fast foods etc..). • Amla (sour), ushna (hot) diet etc. • Other pitta prakopa karanas.
Mamsa prakopa hetus	<ul style="list-style-type: none"> • excessive intake of mamsa (meat), injuries, irregular diet etc., • factors.
Medo prakopa hetus	<ul style="list-style-type: none"> • Excessive intake of oily foods, sweets, alcohol, • lazy attitude

Rupa (signs & symptoms) of arbuda

Though many cancer related conditions are described in the ayurvedic classics, mainly arbuda is discussed in this context:.

• Samanya Lakshanas (General Signs & Symptoms)²

गात्रप्रदेश क्वचिदेवः दोषाः समूचछिता मांसमसृक प्रदुष्य । वृत्तं स्थिरं मन्दरुजं महान्तमनल्पमूलं चिरवृद्ध्यपाकम् ॥ कु विस्थन्त मांसोच्छ्र यमत्यगाधं तद् अर्ुदिं शस्त्रचवदो वदस्थन्त । मा.चन.²

1. In any part of sharira, utkrushta of dosha leads to dushya of mamsa and rakta. Then it produces mass like structure which is -
2. Vrutta, (circular)
3. Sthira, (stable) having
4. Alpapidana (less pain or symptoms),
5. Mahanta, (grows in size)
6. Analpamula (very deep rooted),
7. Chira (slow growing),
8. Na paka (does not undergo suppuration).

i. Such kind of enlarged mamsapinda called as arbuda

• **Visesha Lakshanas (Specific Signs & Symptoms)^{3,4}**

Some of the other cancer related conditions in ayurveda are summarized here with modern correlation

	Ayurvedic name	Modern condition
a)	Charma keela	Keloid.
b)	Padminikantaka	Papilloma of the skin.
c)	Sosha & pandu	Leukemia's.
d)	Medoja ganda mala	Hodgkin's lymphomas.
e)	Apachi	Hodgkin's disease.
f)	Agantuja sthana roga	Cancer of the breast.
g)	Yakrutodara	hepatomegaly due to tumours of liver.
h)	Pleehodara	Splenomegaly due to infiltrate diseases of spleen.
i)	Rakta gulma	Tumours of uterus and ovary (?).
j)	Raktaja, mamsaja & medoja osthara roga	Carcinoma of lips
k)	Kachchapa, raktarbuda & mamsa sanghata talu rogas	Carcinoma of palate.

l)	Balasa & galayu kantha rogas	Bronchogenic carcinoma or lung tumours
m)	Mamsatana	Tumours of the pharynx.
n)	Swarabhanga	(some types) tumours of larynx.
o)	Karnarbuda	Cauliflower ear.
p)	Ajakajata	Staphyloma.
q)	Nasa arshas	Neoplastic nasal polyp
r)	Nasa arbuda	Rhinoscleroma
s)	Nasagata raktapitta	Epistaxis resulting from the nasal tumours Benign- <ul style="list-style-type: none"> • Bleeding polyps • Nasopharyngeal fibroma Malignant – • <ul style="list-style-type: none"> • Carcinoma • Sarcoma
t)	Adhimamsa	Myomas (?)

List of different arbudas mentioned in the ancient classics :

1. Vataja arbuda
2. Pittaja arbuda
3. Kaphaja arbuda
4. Medoja arbuda
5. Raktaja arbuda
6. Mamsaja arbuda
7. Sthanarbuda
8. Karnarbuda
9. Nasarbuda
10. Osthurbuda

11. Raktaja-ostharbuda

12. Jihwarbuda

Other arbudas are :

- **Adhyarbuda** – a very big tumour or a secondary tumour
- **Dwirarbuda** – a pair of tumours or tumours formed one after other at one place.

SADHYASADHYATA⁶

सौम्यार्बुदानामसाध्यत्वम् साध्येष्वपिमापन तब वजयेण्च संप्रसबतं ममापि यच्च जातं
स्रोतः सब वा यच्च भवेदचाल्यम् ॥ (सब.पन.)

Even if the arbuda is sadharana and sadhya but if its sravayukta or situated in marmasthana, or present in nasika srotas and if its sthira arbuda then it is considered as asadhya.

Sadhya Arbudas are vataja Arbuda (chikitsa sadhya), Pittaja Arbuda, Kaphaja Arbuda, Medoja Arbuda, Asadhya Arbuda are Raktaja Arbuda and Mamsaja Arbuda.

AYURVEDIC MANAGEMENT

Line of Treatment

Systemic Treatment:

- **Samshodhana Chikitsa:** Medical, Para medical and Surgical
- **Shamana (Palliative) treatment** **Rasayana Chikitsa**

Local Treatment:

- Alepa (external application of medicated paste), Parishek (pouring medicated liquids), Abhyanga (oil massage), Upanaha (Poultice), Agni karma (Cauterization), Kshara karma (Caustic Therapy)

Ayurveda could offer

- Symptom management as per need
- Management of side effects of Chemo/Radio Therapy
- Improvement of Quality of Life
- *Ayurvedic* Principles in Cancer Care
- The ancient *Ayurvedic* texts describe pathological conditions analogous to tumorigenesis, such as *Arbuda* (a large, immobile, deep-seated swelling caused by vitiated *Doshas* infiltrating *Dhatus*—tissues) and *Granthi* (smaller, mobile glandular or cystic swellings). The pathogenesis of these conditions is understood as a failure of *Agni* (metabolic fire), leading to the accumulation of *Ama* (toxins/systemic inflammation), which subsequently blocks the *Srotas* (channels) and vitiates the *Doshas* and *Dhatus* .
- *Ayurveda's* holistic approach to cancer care focuses not just on the tumor (*Arbuda*) but on restoring the host's systemic balance by:
 - **Balancing Tridosha:** Restoring the equilibrium of *Vata*, *Pitta*, and *Kapha*.
 - **Enhancing Agni and Eliminating Ama:** Improving digestion and reducing systemic inflammation, which is a major contributor to the tumor microenvironment .

- **Supporting Srotas Shodhana:** Detoxification and clearing of channels to ensure proper tissue nourishment.
- **Augmenting Ojas:** Strengthening the vital essence and immune response (*Vyadhikshamatva* - disease resistance).
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- The *Dravyaguna* Perspective: Therapeutic Mechanisms
- The science of *Dravyaguna* offers a targeted, multi-component therapeutic strategy that aligns powerfully with the needs of integrative oncology. The plant-based medicines (*Dravyas*) are selected based on their *Rasa* (taste), *Guna* (qualities), *Virya* (potency), *Vipaka* (post-digestive effect), and most importantly, their *Prabhava* (specific action).
- 1. Mitigation of Treatment-Induced Toxicity
 - Conventional treatments like chemotherapy and radiotherapy are associated with severe side effects such as myelosuppression, neuropathy, mucositis, and fatigue. *Dravyas* with *Rasayana* (rejuvenative), *Balya* (strengthening), and *Vayasthapana* (anti-aging) properties are crucial for this purpose.
 - Example *Dravyas*:
 - **Amalaki** (*Phyllanthus emblica*): Rich in Vitamin C and potent antioxidants. It is studied for its radioprotective and chemoprotective effects, particularly in mitigating oxidative stress and supporting tissue integrity.
 - **Guduchi** (*Tinospora cordifolia*): Known for its *Jwarahara* (antipyretic) and *Rasayana* properties. Preclinical research suggests it is an excellent immunomodulator, helping to counteract the immune suppression caused by chemotherapy.
- 2. Immunomodulation and Host Defense (*Vyadhikshamatva*)
 - *Rasayana* therapy is a cornerstone of *Ayurvedic* oncological care. It focuses on enhancing *Ojas*, the ultimate reservoir of vitality and immunity [3]. By promoting regeneration and reducing degeneration, *Rasayana* herbs prepare the host for treatment and aid in recovery.

SOME GENERAL MEASURES TO IMPROVE THE QUALITY OF LIFE:

Palliative treatment can be used as an add-on therapy to relieve from side effects like reduced resistance to infection, loss of appetite, nausea, vomiting, and lack of energy in patients who are undergoing chemo/radio therapy. Ashwagandha churna, Avipathikar churna, Chitrakadi vati, Hingwshtak churna etc. are beneficial in the above mentioned conditions.

Rasayana (Rejuvenatory) therapy can be beneficial as these measures can improve general well being and can act as immunity boosters to promote Health & Wellness. Herbs such as Ashwagandha, Shatavari, Amalaki, Guduchi, Bala are beneficial.



Ashwagandha



Guduchi



Amla



Shatavari

Some beneficial Single drugs: Guduchi, Haridra, Lasuna, Shigru, Ardraka,

Talisapatra, Ashwagandha, Krishna jeeraka, Kanchanara, Bhallatak, Haritaki, Devadaru, Manjishta, etc. are among the various plants having scientific evidence of anticancer property.

Compound Formulations: Chyawanprash, Bhallatak Rasayana, Brahma Rasayana, Triphala Rasayana, Navjeeven ras, Kamdudha ras, Triphala ghrita etc.

PREVENTIVE MEASURES

- Stop using tobacco in all forms
- Avoid consuming alcohol
- Adopt healthy food habits
- Choose predominantly plant based diets rich in fruits and vegetables
- Restrict the intake of red-meat (beef, pork etc.) and preserved meat
- Engage in regular physical activity
- Maintain optimum weight for height and age

DISCUSSION-

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^{7,8,9}. 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^{10,11}. The Pitta Dosha is responsible for transformative processes such as digestion, metabolism, energy production, and maintenance of immunity. 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. *Kapha Dosha* acts to form and maintain body mass, shape, and flexibility. At the cellular level, anabolic processes (such as biosynthesis of macromolecules) and coordination of gene and protein function maybe associated with *Kapha Dosha*¹²

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*^{13,14}. For example, vitiation of *Kapha Dosha* is a common link between cancer and diabetes; however, the organs (*Dhatus*) which are affected differ^{15,16}. 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. 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*.

Instead of using targeted therapies for destruction of the tumours, 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.

Discussion:

Ayurveda provides a comprehensive system for supportive and palliative care in oncology. Its role is not to replace conventional cancer treatments but to be integrated effectively to offer personalized care, reduce suffering, and empower patients through their healing journey. Further evidence-based research is essential to scientifically validate the synergistic benefits and optimize the protocols for integrative cancer rehabilitation. Chemotherapy- Induced Fever Correlated with *Aushadhi Sevanjanya Jwara*. It is caused when a substance—which, if taken incorrectly or if inherently toxic, acts as a *Visha* (poison)—vitiates the *Doshas* (especially *Pitta*) and disrupts the body's internal environment (*Agni* and *Srotas*) leading to *Jwara* (*Santapa Deha Manasa*). Chemotherapy drugs are powerful cytotoxic agents designed to kill rapidly dividing cells. The drugs themselves can act as pyrogens triggering an inflammatory response.

CONCLUSION-

Evidence from the omics revolution and systems biology clearly point to a strong degree of connectivity between physiological and molecular pathways that were considered independent. For example, the newly discovered links between inflammation, lipid metabolism, and cancer were unexpected. Therefore, this paper explains and analyses the links between two major diseases (cancer and metabolic syndrome). These new findings vindicate the holistic approach of ayurveda and other traditional systems of medicine, because it proves that a disease cannot be considered as a sequence of defective genetic and biochemical steps. Indeed, the links between inflammation, metabolic syndrome, and cancer suggest that even seemingly distinct diseases can arise from fundamental aberrations in metabolism, homeostasis, and immune function. Thus, the advances in omics analysis and systems biology are providing concrete evidence for some of the holistic concepts in traditional systems of medicine. If diseases are diagnosed and analysed in a holistic manner, then treatment of disease is also holistic. Accordingly, ayurvedic drugs/treatment regimens are largely designed to restore the body's natural defence 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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