

“AN INTEGRATIVE APPROACH IN UNDERSTANDING AND MANAGING CANCER”

Preeti Banthanal^{1*}, Sneha K.², Madhusudan Kulkarni³

¹Post Graduate Scholar, Dept. of *Kayachikitsa, Ayurveda Mahavidyalaya* and Hospital, Hubballi, Karnataka, India.

²Post Graduate Scholar, Dept. of *Kayachikitsa, Ayurveda Mahavidyalaya* and Hospital, Hubballi, Karnataka, India.

³Associate Professor, Dept. of *Kayachikitsa, Ayurveda Mahavidyalaya* and Hospital, Hubballi, Karnataka, India.

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*Corresponding Author

Preeti Banthanal

Post Graduate Scholar, Dept. of
Kayachikitsa, Ayurveda
Mahavidyalaya and Hospital,
Hubballi, Karnataka, India.



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ABSTRACT

Cancer, described in modern science as an uncontrolled proliferation of abnormal cells, finds its conceptual parallels in *Ayurveda* under terms such as *Arbuda* and *Granthi*. *Ayurveda* perceives the disease as a manifestation of *Tridosha* imbalance—primarily *Vata* and *Kapha* vitiation—along with *Dushya* derangement and impaired *Agni* and *Ojas*. The etiopathogenesis involves *Dosha-Dushya Sammurchana* leading to abnormal tissue growth and loss of cellular intelligence (*Vikruti*). Classical texts also emphasize the role of *Ama* (metabolic toxins), improper diet, mental stress, and suppression of natural urges in disease progression. The *Ayurvedic* approach to cancer management is holistic, focusing on restoring *doshic* balance through *Shodhana* (purification), *Shamana* (palliative therapy), *Rasayana* (rejuvenation), and *Ahara-Vihara* (diet and lifestyle) modifications. Recent integrative research highlights the potential of *Ayurvedic* herbs

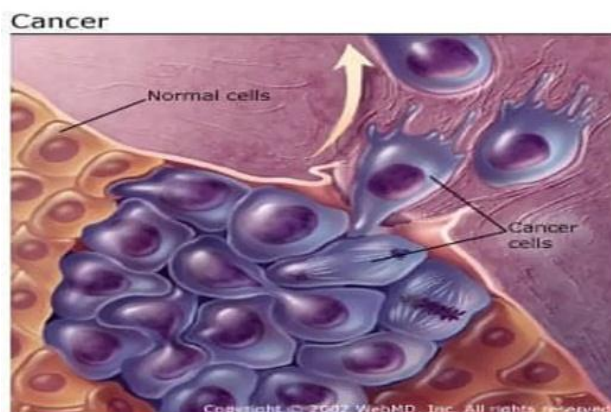
such as *Guduchi*, *Ashwagandha*, *Haridra*, and *Guggulu* for their Immunomodulatory and Anti-proliferative actions. Thus, *Ayurveda* offers a comprehensive framework for understanding cancer, emphasizing prevention, check the progression and improving quality of life through personalized and holistic care.

KEYWORDS: *Arbuda, Tridosha, Ama, Rasayana, Ojas, Cancer, Holistic management.*

INTRODUCTION

Cancer is a multifactorial disorder characterized by abnormal and uncontrolled cellular proliferation, invasion, and destruction of surrounding tissues. According to the World Health Organization (WHO), more than 10 million people are diagnosed with cancer annually. In India alone, cancer affects over 11 lakh people each year, contributing to approximately 3.5 lakh deaths annually.^[1]

In Modern medical science, cancers are classified based on their tissue of origin, cell type, and biological behavior. Broadly, they are categorized into several types: Carcinoma, Sarcoma, Lymphoma, Myeloma and Melanoma. Furthermore, Cancers are graded and staged according to their degree of differentiation and extent of spread, commonly using the TNM (Tumor, Node, Metastasis) classification system.^[2]



Ayurveda, the ancient Indian system of medicine presents holistic approach to understanding and managing cancer by viewing it as a disorder of the *Dosha*, *Dhatu* and *Srotas*. It can be interpreted through *Malasanchaya*, *Agnimandya*, *Kapha-Medovruddhi*, *Ojokshaya* and *Dhatukshaya*.

AYURVEDIC INSIGHTS INTO CANCER

From an *Ayurvedic* perspective, although the term Cancer is not explicitly mentioned, analogous conditions are described under *Granthi* (benign swelling) and *Arbuda* (malignant growth). *Acharya Sushruta* provided more information on *Arbuda*, *Granthi*, *Apachi*, and *Galaganda* etc. *Vata* and other *Dosha* associated with *Kapha*, on getting aggravated, vitiate the *Mamsa*, *Rakta* and *Meda dhatu* and produce a *Vrutta* (round), *Unnatam* (bulged) and

Vigrathitam (hard swelling), which is called as *Granthi* (Benign tumour).^[3] Further, *Acharya* mentioned aggravated *Dosha* causing vitiation of the *Mamsa dhatu*, produces muscular swelling in the body, which is *Vrutta* (round), *Sthira* (immovable) with *Mandaruja* (mild pain), *Mahanta* (big in size), *Analpa mulam* (deep rooted), *Chiravruddha* (growing slowly) and *Apakam* (not ripening). Such disease should be called as *Arbuda* (Malignant tumour).^[4] *Arbuda* is a disease that often involves all three *Doshas* (*Vata*, *Pitta*, *Kapha*), though it typically starts with vitiation or predominance of one of the *Dosha*. When an individual's digestive fire or enzyme reserves are decreased, allowing a build-up of toxic substances in the body, this can develop an environment for cancer cells to grow. Therefore, in *Arbuda*, the *Mandagni* i.e, decreased state of *Dhatwagni* (deranged metabolism) results in the excessive abnormal growth of the *Dhatu* (*Rakta* or *Mamsa* or *Medas*).

Overview of *Nidana*(Etiological factors)in both Contemporary science and Ayurveda

According to Contemporary Science, Modern science identifies several key causative factors for cancer, including genetic mutations, chronic inflammation, exposure to carcinogens such as tobacco, smoke, alcohol, industrial chemicals, radiation, unhealthy diet, obesity, sedentary lifestyle, viral infections like HPV and Hepatitis B/C and prolonged stress that elevates cortisol which can suppress immunity, promote tumor growth and potentially increase cancer risk. Cancer develops primarily due to genetic mutations and many of these mutations are triggered or accelerated by changes in the atmosphere and environmental exposures. Mutations are permanent alterations in DNA that disrupt normal cellular control. When atmospheric factors such as ultraviolet (UV) radiation, air pollution, industrial chemicals, ionizing radiation or tobacco, smoke in the environment interact with cells, they can damage DNA by breaking strands, altering bases or creating abnormal chemical bonds. If this damaged DNA is not repaired correctly, it becomes a permanent mutation. These mutations often occur in crucial genes that regulate cell growth—such as proto-oncogenes, tumor suppressor genes and DNA repair genes. When proto-oncogenes mutate into oncogenes, they push cells into uncontrolled growth.

Nidana

Viruddha and *Mithya Ahara-Vihara*, *Vichara*, *Manasika* and *Indriya loulya* results in vitiation of the three *Doshas*, which may lead to the formation of *Arbuda* and *Granthi*.

***Sahaja Nidana*: Beeja dushti**(Genetic Mutation)

Aharaaja Nidana: *Adhyashana*(overeating),*Vidhimtyaktwa*(Improper pattern of food intake) *Viruddha ahara sevana*. Vata aggravating factors – taking *Katu* (bitter), *Tikta* (pungent), *Kashaya* (astringent), *Ruksha* (dry) Ahara. Pitta aggravating factors – taking *Amla* (sour), *Lavana* (salty), *Vidahi ahara* (fried foods). Kapha aggravating factors – taking *Madhura* (sweet), *Snigdha ahara* (unctuous). Rakta aggravating factors – taking *Amla* (acidic) or *Kshara* (alkaline) in excess, *Madya* (alcoholic beverages) that aggravates the Raktadhatu.

Viharaja Nidana: *Divaswapna*(sleep during day), *Ati sukha*

Manasikaja Nidana: *Chinta*, *Bhaya*, *Krodha*, *Vishaada*

In *Ayurveda*, the manifestation of cancer begins with long-standing *nidanas* such as improper diet, smoking, alcohol, chronic stress, *viruddhahara* and environmental pollutants, which cause *Agni-dushti* and lead to the formation of *Ama*. This *Malaroopi Ama* accumulates in *Rasavaha*, *Raktavaha*, and *Medovaha Srotas*, causing *srotorodha* and creating a state of chronic inflammation.

Vikruta Vata leads to *Ati-chalanam* causing uncontrolled cellular division. Its *Sukshma* and *Vyavayi guna* leads to genetic mutation.

Pitta governs *Paka*. *Vikruta pitta* leads to *vidaha* and *Apaaka*, corresponding to inflammation- driven carcinogenesis.

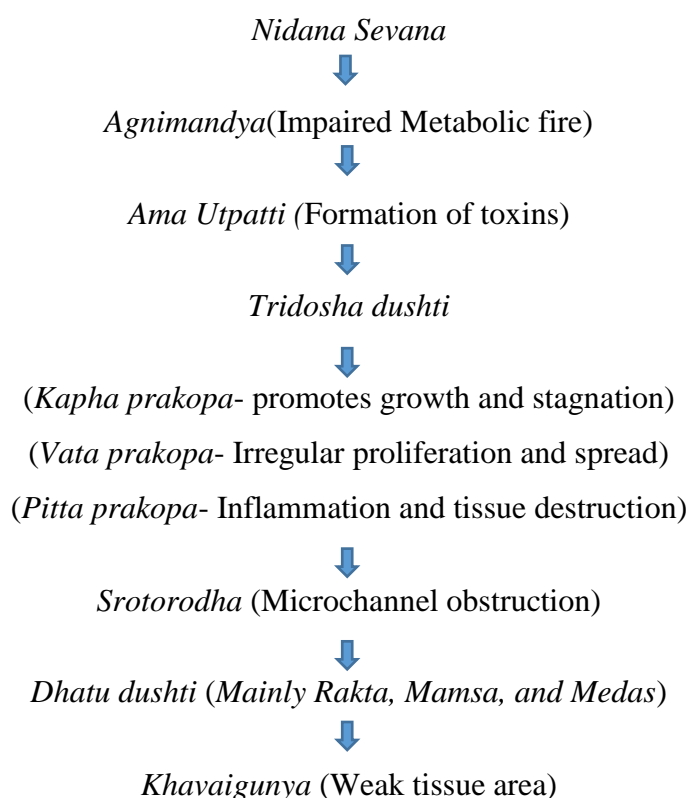
As *Kapha* possesses *Manda*, *Picchila*, *Guru* and *Sthira gunas*, *Vikruta Kapha* does *Srotorodha* which leads to *Malasanchaya*. Progressive *dushti of Rasa, Rakta, Mamsa*, and *Meda Dhatus* leads to tissue overgrowth or degeneration, while continued *Ama* and *Dosha dushti* result in *Ojas kshaya* and weakened immunity, allowing malignant cells to expand unchecked. In advanced stages, *Vata's gati* facilitates the spread of vitiated *doshas* and deranged *dhatus* to distant sites, resembling metastasis. Thus, cancer in *Ayurveda* develops through a sequence of *Agni-mandya* → *Ama* → *Srotorodha* → *Tridosha dushti* → *Dhatu dushti* → *Mala Sanchaya* → *Ojas kshaya* → *Decreased Vyadhikshamatva* → *Arbuda*.

Sthoulya(Obesity) and Arbuda Sambandha

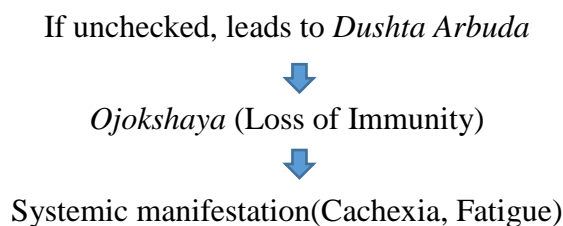
Obesity leads to cancer through a combination of chronic inflammation, hormonal imbalance, and metabolic dysfunction, and these mechanisms closely resemble the *Ayurvedic* understanding of *Medo-vriddhi* and *Agni-mandya*. Excess fat tissue produces inflammatory cytokines and increases levels of insulin, IGF-1, estrogen, and leptin, all of which promote

uncontrolled cell growth and inhibit normal cell death, creating a pro-cancer environment. At the same time, obesity impairs metabolic pathways, leading to oxidative stress and DNA damage that initiate tumor formation. *Ayurveda* explains this process as the result of *Meda-dhatu vruddhi* due to *Jataragni* and *Dhatvagni mandya*, where improper digestion and metabolism generate *Ama* that does *Srotorodha* and leads to abnormal tissue proliferation. Thus, the uncontrolled increase of adipose tissue seen in obesity that increases the risk of cancers such as breast, endometrial, colon, and liver cancers (*Sannipataja* Conditions in *Ayurveda*)

Samprapti



Formation of *Arbuda* (Tumor)



MODERN INSIGHTS INTO CANCER

Cancer is fundamentally a disease of uncontrolled cell growth, driven by genetic mutations that affect key regulatory mechanisms in cellular proliferation, apoptosis, and DNA repair.

The Pathogenesis of Cancer involves several critical steps, collectively known as the "**Hallmarks of Cancer**"^[5]

1. Sustaining proliferative signaling - Cancer cells can continuously signal growth, bypassing the regulatory signals that control normal cell division.
2. Evading growth suppressors Tumor cells inactivate mechanisms such as tumor suppressor genes (e.g., TP53), which normally inhibit growth.
3. Resisting cell death Apoptosis, the programmed death of cells, is often suppressed in cancer, allowing damaged cells to survive longer than they should.
4. Enabling replicative immortality Cancer cells activate enzymes like telomerase, which prevent the shortening of telomeres, granting them the ability to divide indefinitely.
5. Inducing angiogenesis Tumors stimulate the formation of new blood vessels to sustain their growing mass with nutrients and oxygen.
6. Activating invasion and metastasis Cancerous cells invade surrounding tissues and spread to distant organs, which marks advanced stages of cancer.

CORRELATION BETWEEN MODERN PATHOPHYSIOLOGY AND AYURVEDIC CONCEPTS

Metastasis and *Vata Dosha* Dysregulation

Cancer metastasis, where cells spread to other parts of the body, can be related to the dysregulation of *Vata Dosha* in *Ayurveda*. *Vata*, associated with movement and activity, is responsible for cellular communication and bodily functions. When *Vata* becomes imbalanced, it causes *Cheshta Vegapravatano* (abnormal activity), leading to the spread of diseased cells throughout the body, similar to metastasis.

Proliferation and *Pitta Dosha* Imbalance

In modern medicine, unchecked cellular proliferation is a core feature of cancer. In *Ayurveda*, this corresponds to an imbalance in *Pitta Dosha*, which is associated with heat and metabolism. *Pitta* governs the body's transformative processes, and an overactive *Pitta* results in abnormal cell growth and division. This parallels the sustained proliferative signaling seen in cancerous cells.

Tumor Microenvironment and *Kapha Dosha* Imbalance

The tumor microenvironment, characterized by immune evasion, chronic inflammation, and angiogenesis, can be related to *Kapha Dosha* imbalances. *Kapha* is responsible for stability and cohesion in the body, but its excessive accumulation leads to stagnation and the

formation of solid masses or tumors, much like the supportive tumor stroma that protects cancerous cells from immune attack.^[6]

COMPARATIVE OVERVIEW OF TREATMENT APPROACH IN CANCER ACCORDING TO MODERN AND AYURVEDIC MEDICINE

- ✓ Modern medicine views cancer as a disease of uncontrolled cell proliferation caused by genetic mutations and molecular alterations. Its primary goal is to destroy or remove malignant cells through Surgery, Radiotherapy, Chemotherapy, or Targeted Molecular Therapy. Modern oncology focuses on early diagnosis, staging and evidence-based interventions to achieve remission and prolong survival.
- ✓ While *Ayurveda* adopts a holistic and individualized approach aimed at the root cause.

Ayurveda approaches cancer prevention through *Amapachana*, Correcting *Mandagni*, Evacuating *Sanchita Mala*, to follow *Sthoulyahara Chikitsa*(*Guru cha atarpanam*)⁷ *Dhatu pushti* and enhancing the production of *Oja*. *Rasayana dravyas* such as *Haridra*, *Shunthi*, *Pippali*, *Amalaki*, *Guduchi*, *Tulasi*, and *Guggulu*, which possess immunomodulatory, anti-inflammatory, and anti-oxidative properties that counter early cellular damage. *Dinacharya*, *Rutucharya*, *Rutushodhana*, *Sadvritta paripalana*, and Stress-modulating practices such as *Yoga*, *Pranayama*, and meditation help reduce chronic inflammation and hormonal disturbances.



DISCUSSION

- ❖ The understanding of cancer through both *Ayurvedic* and modern scientific perspectives reveals a convergence between traditional wisdom and contemporary biomedical insights. *Ayurveda* conceptualizes cancer as *Arbuda* or *Dushta Arbuda*, arising from *Tridosha dushti*, *Dhatu dushti*, *Agnimandya*, *Malasanchaya* and *Ojakshaya*. These pathophysiological processes correspond closely with modern notions of disturbed metabolism, chronic inflammation, immune dysfunction, and uncontrolled cellular proliferation. The *Ayurvedic* emphasis on *Agni* (metabolic balance) and *Ama* (toxic accumulation) aligns with the modern understanding of carcinogenesis driven by metabolic and oxidative stress.
- ❖ An integrative model combining both systems offers significant therapeutic potential. *Ayurvedic Rasayana chikitsa* can complement conventional therapy by enhancing immune resilience, reducing treatment-induced toxicity, and improving the quality of life. *Kashtoushadhis* (Herbal drugs) such as *Guduchi* (*Tinospora cordifolia*), *Ashwagandha* (*Withania somnifera*), *Haridra* (*Curcuma longa*), and *Triphala* possess scientifically validated antioxidant, anti-inflammatory, and anti-tumor properties. Furthermore, lifestyle measures like *Ahara* (wholesome diet), *Vihara* (daily regimen), and mind–body practices such as *Yoga* and *Pranayama* contribute to emotional stability and cellular health.
- ❖ Hence, Integrative cancer care encourages a shift from disease-centric to person-centric healing, blending evidence-based biomedical treatments with time-tested *Ayurvedic* principles to achieve comprehensive and sustainable wellness.

CONCLUSION

Cancer represents Uncontrolled proliferation, involving multiple organs having faster progression that challenges both the physical and psychological domains of human health. *Ayurveda* provides a profound framework for understanding its origin and progression through the lens of *doshic* imbalance, metabolic impairment, and loss of immunity. Modern science, on the other hand, offers advanced diagnostic tools and targeted therapies that can control or eliminate malignant growths. The synthesis of these two paradigms—*Ayurveda*'s holistic philosophy and modern medicine's precision—can lead to a more complete understanding and management of cancer.

Ultimately, the future of cancer management lies in bridging traditional knowledge and modern science, fostering a model of care that not only treats the disease but also nurtures the individual as a whole.

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