

# Anticancer Herbal Drugs of India with Special Reference to Ayurveda- Dr. Gyanendra Pandey A Review

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**Abstract—** This book explores how Ayurvedic medicinal plants can help prevent and treat cancer, combining traditional knowledge with modern science. Dr. Gyanendra Pandey systematically discusses various Indian herbs recognized for their anticancer properties, examining their biochemical constituents, pharmacological actions, and potential therapeutic applications in oncology. Through detailed descriptions, the author explores how these herbal drugs align with Ayurvedic principles and can complement contemporary cancer therapies. Emphasizing the need for holistic approaches in medical science, the book provides insights into Ayurveda's contributions to cancer treatment, drawing attention to India's rich botanical resources and traditional healing practices. By bridging traditional knowledge with modern scientific insights, the authors provide a valuable resource for researchers, practitioners, and readers interested in alternative cancer therapies

**Indexed Terms-** Alternative medicine, Anticancer properties, Ayurvedic medicine, Ayurvedic oncology, Biochemical constituents, Botanical resources, complementary therapies

## I. INTRODUCTION

Cancer is a malignant growth, formed by the abnormal rapid reproduction of cells. Cancerous cell possesses two significant characteristics. The first is invasiveness, which is the ability to infiltrate and destroy nearby organs. For example, bowel cancer can spread into the bladder. The second characteristic is the ability to form secondary deposits in distant parts of the body. Cancer cell may break off from the primary tumour and travel, usually through the blood stream, to other organs, where they begin to reproduce and form additional tumour masses.

The exact cause of cancer is not fully understood. It primarily affects two age groups: children, and to a

much greater extent, people over the age of 40. It is believed that cancer in children may be related to some form of developmental abnormality, while in adults, chronic irritation is thought to contribute to the development of cancer.

Treatment of cancer is often effective if the condition is detected early. Common treatments include surgery, X-rays, radium, and more recently, chemotherapy, all of which can promote recovery.

Patient should seek medical advice immediately if they notice any of the following symptoms: an unusual lump, unexplained bleeding or ulcers, sudden change in bowel habits, a cough persisting for more than three weeks, passing black stools, or severe unexplained weight loss.

The aetiology of cancer is initially unknown, though it may be triggered by various forms of chronic irritation. Symptomatology is primarily characterised by several common and notable signs and symptoms, including: persistent discharge from the sore that does not heal, bleeding or discharge from the nipples, blood in the stools, urine, or blood-tinged vaginal discharge, persistent pain in a specific area, a lump especially in the breast, changes in wart or moles, loss of weight, persistent cough or hoarseness.

### Classification of Tumour

Benign	Malignant
Generally encapsulated	Not encapsulated
Slow growing	Rapidly growing
Do not metastasize	Metastasize
Do not interfere with health	Detrimental to health and life

1. Connective tissue tumour

A) Benign

- a) Fibroma, composed of fibrous tissue
- b) Chondroma, composed of cartilage
- c) Osteoma, composed of bone
- d) Lipoma, composed of fat

B) Malignant

Sarcoma, a cellular tumour composed of any connective tissue cells in disorderly arrangement.

ii Muscle Tissue Tumours

Benign

Myoma composed of smooth muscle tissue.

iii. Epithelial Tumours

A) Benign

- a) Papilloma, composed of surface epithelium.
- b) Adenoma, composed of glandular epithelium

B) Malignant

- a) Epithelioma, composed of squamous epithelial cells in disorderly arrangement.
- b) Carcinoma, composed of glandular epithelial cells in disorderly arrangement.

iv Endothelial Tumours

A) Benign

- a) Haemangioma, composed of blood vessels.
- b) Lymphangioma, composed of lymph vessels.

B) Malignant:

Endothelioma, a composed of endothelial cells in disorderly arrangement.

v Pigmented Tumours

A) Benign:

Nevus, a pigmented mole.

B) Malignant:

Melanoma, pigmented tumour derived from moles.

II. MATERIALS AND METHODS

Oncological concept in Ayurveda<sup>2</sup>

*Samprapti- pathogenesis*

Aggravated dosas causing



Vitiation of the muscle tissue



Produce muscular swelling anywhere in the body

- Which is round, static, with mild pain, big in size, deep rooted, growing slowly and not ripening.

Types of *Arbuda*<sup>2</sup>

- *Vata*
- *Pitta*
- *Kapha*
- *Rakta*
- *Mamsa*
- *Medas*

Studies on Anticancer plants and drugs

Recent research conducted by a group of Chinese scientists at the institute of virology has found that certain fresh vegetables such as carrots, turnips, gourds, and sprouts contain interferon inducers. These inducers stimulate cells to produce interferon, a protein that can enhance human resistance to viral infections. As a result, interferon inducers may also be effective against cancer.

A report of I.C.M.R from India finds the number of patients in India affected by cancer of mouth and oesophagus in the year 1986 was 56000 and till 2001 they will be increasing to 86000. Similarly, the number of lung cancer cases will be increasing from 27000 to 40000. A very limited number of plants products are used for cancer and the investigations of plant products are used for treatment of cancer and the investigations of plants for plants for finding out remedies against cancer are also limited specially from the vast group of indigenous drugs.

Cancer is one of the dreadful diseases of 20<sup>th</sup> century and spreading further with continuance and increasing incidence in 21<sup>st</sup> century. Modern medicine and multi-disciplinary scientific investigations are making best efforts for combating the disease, but the sure shot,

perfectly curative and fully suitable cure is yet to be brought out in world medicine.

Since the cancer is a global problem of serious nature and the concerted and active efforts of medical and bio scientists including chemists have got success and several anticancer remedies of synthetics and natural both.

Several of modern drugs, foods and other edible articles have carcinogenic effects on human. Various anticancer medicines and therapies applied for clinical management of several kinds of cancer and malignancy conditions result more or less severe side effects and problematic complications in cancer patients. More over the drugs, therapies and proper cancer treatment are tedious, costly and sometimes discouraging hopeless, little optimism for complete and steady recovery.

Recently more focus has been placed on researching plant-based products and botanical drugs to explore the antitumour and anticancer properties. The goal is to identify, evaluate, and select medicinal plants with potential anticancer effects, using natural remedies as treatments for diseases.

#### Diets, Vegetables and Phytochemicals- Cancer risk and Prevention

The American scientific efforts in the field of oncology also remarkably include the activities of the National Cancer Institute in America, for launching a multimillion-dollar project to find, isolate and study the phytochemicals in vegetables of importance belonging to vitamins plants origin. Since the research on phytochemicals in vegetables other than plants in general a large battery of chemicals from cauliflower to pineapples and from *muringa* shoot to red chillies are now has been found and they are under active investigations. These chemical originally evolved to protect plants from sun light have gained basic and prime importance in controlling cancer in human beings.

#### 1. Vegetable producing cancer

In fact, all the fruits and vegetables contain these powerful cancer fighting phytochemicals which reveals the wisdom of our ancestors in recommending a vegetarian diet full of fruits and vegetables. And our

foolishness for discarding it for fast food, processed food and multivitamin tablets of various hues, which are all poor substitutes for whole foods especially fruits and vegetables.

#### Defusing of tumours

Everybody is confused about many long-accepted tenets of nutrition. For instant the role of cholesterol in heart disease, the place of coconut oil in dietetics, the first class and second-class proteins are all being hotly contested. One of the most damaging setbacks was the doubt raised about the effectiveness of antioxidant vitamins like beta carotene and vitamin c in preventing cancer

Name of vegetables	Name of the phytochemicals	Function of the phytochemicals
Cauliflower Brocoli	Sulforaphane	Sets in motion a process that whisks carcinogens out of cells.
Citrus fruits and berries	Flavonoids	Prevents carcinogens from binding to DNA
Tomatoes, green chillies, pineapple and strawberries	P. coumaric Acid	Disrupts and the chemicals combination between two common molecules which detoxify carcinogens.
Garlic and Onions	Allylic sulfides	Protects against stomach cancer. They stimulate intracellular enzymes which detoxify carcinogens.
Soya	Genistein	Prevents tiny tumours from getting connected to the capillaries that carry oxygen

		and nutrition killing the tumour cells.
Red chilly	Capsaicin	Prevents carcinogens like those in cigarette smoke from binding to DNA, where they can trigger lung cancer.

### Multiple Blockages

Researches done in the last two decades have convinced scientists that the production of cancer is by a complicated multifaceted chemical protocol. In fact theoretically it is impossible to have cancer, as a cell has to pass through so many biochemical loops before it can become cancerous. In spite of all this, more than 2% of the world population do get cancer. The multiplicity of the steps in the production of cancer is at once an insoluble problem for the seeker of the aetiology of cancer, while for the researcher trying to block cancer, it is a godsend. Fortunately, as it turns out, one or more of the innumerable compounds found in vegetables including green chillies, pineapples, strawberries and carrots. Vegetables and fruits like bananas, yam, gooseberries, mangoes, guava, melons, tamarind, jackfruit an anti-cancerous lectin has been identified in jackfruit which has been used as home remedies for various chronic diseases in our country. All leaves and shoots of *muringa*, different varieties of *keerai*, *neem*, *karuveppila*, *pudina* and others.

### Anti-Oxidants against Cancer- Vegetables, Fruits and Herbs

The starting point of some of the scariest diseases known to man, the cell. Cancer, Heart diseases, Diabetes mellitus, Arthritis. They all begin of the cell. They have a common name, degenerative or one related disease, and the process that cause them is going on inside your body. Now the main causes of degenerative diseases are damage to healthy cells, mostly by oxidation. Oxidation is the process that your body every time you breath. But the downside is that cogue molecules called free radical can oxidise healthy cells, starting an oxidation chain reaction. One damaged cell produces more free radicals, which damage more cell which lead to tissue damage, and

finally disease. Free radicles production is stepped or by exposure to air pollution, increased ultra violet radiation, due to zone layer depletion, and contaminants in food and water. Smoking, lack of sleep, unplanned diets and physical and mental stress also increase oxidation damage and therefore the risk of degenerative diseases.

Antioxidants are beneficial compounds that neutralise free radicals before they can attack. Examples of anti-oxidants are vitamin C, vitamin E, Carotenoids and mineral such as Zinc and Selenium. They are part of your daily diet fruit and vegetables are major sources. It is possible to add enough fruits and vegetables every day. A richest source of carotenoids comes from the micro-algae *Dunoliella salina*. Some other antioxidants among nature among nature are the yellow pigments found in yellow orange, red some green fruits and vegetables. Carotene is a safe source of vitamin A. But importantly, it acts as a potent anti-oxidant protecting you from the coverage of free radical's damage, reducing the risk of degenerative diseases like cancer, diabetes, Heart diseases, Stress reactions, cataract and other degeneration conditions.

### Vegetables against cancer

While eating vegetables is a way to fight diseases, exactly how they promote health is not clear. Now, researchers think they know how the body used at least one vegetable as a weapon against cancer. According to findings compounds in broccoli known as indoles are digested and broken down in the stomach to a compound celled 3,3-dindoly methane (DIM) This compound may be the key to keeping cancer at a bay. DIM prevents malignant cells from dividing and multiplying thereby preventing the spread of cancer. It also promotes the death of tumour cells and lowering levels of another protein that keeps cell alive.

### Apple against cancer<sup>3,4</sup>

An apple a day keeps doctor away is a found proverb. It is really scientifically true. Apple is highly valued fruit not only for its taste but also for its healthy promoting qualities. Apple is highly valued fruit which contains vitamins A, B, C &E, Calcium, Silica, Sodium, Sulphur, Iron, Magnesium chlorine, Bromine, and other trace elements.

Cancer is one of the important diseases of present-day concern for which apple is widely recommended. In various countries, the apple fruits are given as part of diet of cancer patients for relief. It helps in overcoming such ailments as diarrhoea, loss of appetite, gas problems, weakness resulting from prolonged illness, constipation, and particularly heart diseases. It is nutritional fruit for healthy and diseased person.

- There are various ayurvedic drugs which have anti-cancer property.
- Around 251 herbal drugs have these anti-cancerous property

**SOME IMPORTANT ANTI-CANCER HERBAL DRUG**

<i>Bhallataka</i>	<i>Cancu</i>	<i>Sitaphala</i>
<i>Guggulu</i>	<i>Kustha</i>	<i>Parpaṭa</i>
<i>Patha</i>	<i>Arka</i>	<i>Śatāvārī</i>
<i>Saptaparna</i>	<i>Palāśa</i>	<i>Saharramūla</i>
<i>Bhumyamala</i>	<i>Dhattūra</i>	<i>Sthouneyaka</i>
<i>ki</i>	<i>Haridrā</i>	<i>Amisa</i>
<i>Brahmi</i>	<i>Manjistha</i>	<i>Vaśā</i>
<i>Dhataki</i>	<i>Babbula</i>	<i>Śveta</i>
<i>Kāncanara</i>	<i>Pāribhadra</i>	<i>Rohitaka-</i>
<i>Aśvagandha</i>	<i>Amaravalli</i>	<i>(Rohitakajāti</i>
<i>Devadāru</i>	<i>Sauvarcalā</i>	<i>)</i>
<i>Amalaki</i>	<i>Amragandhiharid</i>	<i>Aśvagandhā</i>
<i>Vrścikapatri</i>	<i>rā</i>	<i>Vanya</i>
<i>Katuka</i>	<i>Vanapsikā</i>	<i>Nimbūka</i>
<i>Giriparpata</i>	<i>Aranyaharidrā</i>	<i>Āragvadha</i>
<i>Drākṣā</i>	<i>Gudūci</i>	<i>Kapikacchu</i>
<i>Pāsānabheda</i>	<i>Vaca</i>	<i>Mandūkapar</i>
<i>Nirgundi</i>	<i>Śiriṣa</i>	<i>nī</i>
		<i>Citraka</i>
		<i>Punarnavā</i>
		<i>Haritaki</i>
		<i>Bhrṅgarāja</i>

**Classical Formulations of Ayurveda useful in Cancer RASAYOGA**

<i>Sarveśvara</i>	<i>Vitamdava</i>	<i>Mahakaleśvar</i>
<i>parpat</i>	<i>rasa</i>	<i>a rasa</i>
<i>Bṛhad loknātha</i>	<i>Makaradhvaja</i>	<i>Śitāri rasa</i>
<i>rasa.</i>	<i>Mallasindūra</i>	<i>Nṛpativallabh</i>
<i>Gandamāthara</i>	<i>Tālasindūra</i>	<i>a rasa</i>
<i>sa</i>	<i>Śīlasindūra</i>	<i>Trailokya</i>
<i>Mahālakṣmī</i>	<i>Viyādhiharaṇa</i>	<i>Cintamani</i>
<i>vilās</i>	<i>Rasāyana</i>	<i>rasa</i>

<i>Rasamāṇikya</i>	<i>Rasakarpūra</i>	<i>Lakṣminārāya</i>
<i>Śuddha</i>	<i>Haragvurimall</i>	<i>na rasa</i>
<i>gandhaka</i>	<i>a yoga</i>	<i>Arakeśvara</i>
<i>Gandhaka</i>	<i>Candrāmṛtara</i>	<i>rasa</i>
<i>rasāyana</i>	<i>sa</i>	<i>Pratāpa</i>
<i>Āditya rasa</i>	<i>Sarvasiddha</i>	<i>lankeśvara</i>
<i>Vidya</i>	<i>rasāyana</i>	<i>rasa</i>
<i>vāgeṣvarī rasa</i>	<i>Kāmadudhā</i>	<i>Bṛhad</i>
<i>Rājatāleśvara</i>	<i>rasa</i>	<i>lokanātha rasa</i>
<i>rasa</i>	<i>Jayamangala</i>	<i>Amira rasa</i>
<i>Roudra rasa</i>	<i>rasa</i>	<i>Sanmmukha</i>
<i>Vadvānala rasa</i>	<i>Viśrambhara</i>	<i>rasāyana</i>
<i>Ardhanāris</i>	<i>rasa</i>	<i>Tuttha</i>
<i>rasa</i>	<i>Soumeśvara</i>	<i>rasayana</i>
<i>Candrakalā</i>	<i>rasa</i>	<i>Rasasindūra</i>
<i>rasa</i>	<i>Taleśvara</i>	
<i>Pāśupata rasa</i>	<i>rasa</i>	

**B. GUGGULU YOGA**

- Pancatikta ghr̥ta guggulu*
- Kaiśora guggulu*
- Kāncanāra guggulu*
- Pañcaviṃśati guggulu*
- Triphalā guggulu*
- Mahāyogarāja guggulu*
- Vraṇāri guggulu*
- Gokṣurādi guggulu*

**C. ĀSAVĀRIṢṬA**

- Abhayāriṣṭa*
- Khadirāriṣṭa*
- Rohitakāriṣṭa*
- Sārivādyāsava*
- Punarna vāriṣṭa*
- Pippyāsava*
- Bhrṅgarājājāsava*
- Mrtasanji vani sura*
- Daśamūlāriṣṭa*
- Vasariṣṭa*
- Candanāsava*
- Uśirāsava*

**D. CURNA**

- Triphala cūrṇa*
- Copacinyādi cūrṇa*
- Pancanimba cūrṇa*
- Manjisthādi cūrṇa*
- Nyagrodhādi cūrṇa*
- Sitopalādi cūrṇa*

*Vadyabhāskara cūrṇa*

**E. KVATHA**

*Manjisthādi kvātha*  
*Brhat manjisthādi kvātha*  
*Piunarnavāṣṭaka kvātha*  
*Varuṇādi kvātha*  
*Udumbarādi kvātha*  
*Mahārāsnādi kvātha*  
**F. LEPA**

*Daśāṅga lepa*  
*Sarsapādi pralepa*  
**G. BHASMA - PIṢṬI**

*Hiraka bhasma*  
*Svarṇa bhasma*  
*Abhraka bhasma*  
*Kānta louha bhasma*  
*Tuttha bhasma*  
*Vanga bhasma*  
*Tamra bhasma*  
*Vimalabhasma*  
*Nāgabhasma*  
*Pancaratanpiṣṭi*  
*Mukta piṣṭi*  
*Sveta piṣṭi*  
*Swarna makshika Bhasma*  
*Jaharmohara piṣṭi*  
*Louha Bhasma*  
*Muktapancamrita*  
*Hingula Bhasma*  
*Haratala Bhasma*  
*Mayuracandrika Bhasma*  
*Tamra Bhasma*  
*Sankha bhasma*

**H. ARKA**

*Arbudalavana Arka*

**I. TAILA**

*Malla taila*  
*Jatyadi taila*  
*Karviryadi taila*  
*Candanabala laksadi taila*  
*Yashtimadhvadi taila*  
*Sadbindu taila*  
*Amrtadi taila*

**J. VATI**

*Candraprapleha vati*  
*silajatvadi vati*

*Arogyavardhini vati*  
*Rasanjana ghana vati*  
*Sanjivani vati*  
*Sulavajrini vati*  
*Punarnova ghana vati*  
*Sudarsana vati*  
*Brhad siva gutika*  
*Yogottama vati*  
*Visamustika vati*  
*Gajanalakesvara vati*

**K. RASAYANA**

*Amrtabhallataka rasayana*  
*Madhusnuhi rasayana*  
**L. SATVA**  
*Guduci satva*

**M. LOUHA- MANDURA**

*Punarnavadi mandura*  
*Dhatri louha*  
*Navayasa louha*  
*Candanadi louha*  
*Ahicandra louha*  
*Silajatvadi loha*

**N. PARPATI**

*Vijaya parpati*  
*Pancamrta parpati*  
*Vajra parpati*  
*Svarna parpati*

**O. AVALEHA**

*Draksaveleha*  
*Vasavaleha*

**P. GHRTA**

*Mahatriphala ghrta*  
*Brahmi ghrta*  
*Triphala ghrta*  
*Mahatriphalyadya ghrta*

**O. VARTI**

*Candrodaya varti*

**III. RESULT AND DISCUSSION**

Dr. Gyanendra Pandey's Anti-Cancer Herbal Drugs of India with Special Reference to Ayurveda presents a thorough examination of the role of herbal medicine in cancer treatment, specifically within the framework of Ayurveda. The book outlines a variety of herbs traditionally used in India and provides scientific

evidence supporting their efficacy against cancer. Key findings include:

The text discusses various active phytochemicals found in herbs like Turmeric <sup>5</sup>(*Curcuma longa*) and Ashwagandha<sup>6</sup> (*Withania somnifera*), which have shown promise in preclinical studies for their anti-cancer properties. Curcumin, for example, has been extensively researched for its anti-inflammatory and antioxidant effects, which can inhibit tumour growth. Pandey emphasizes the holistic nature of Ayurvedic treatments, which focus not only on the disease but also on the overall well-being of the patient. This approach aligns with modern integrative practices that advocate for a combination of conventional and alternative therapies, providing a more comprehensive treatment plan. Pandey also contextualizes the use of these herbal remedies within Indian culture, highlighting the historical significance and continued relevance of Ayurveda in modern healthcare. This cultural perspective is essential for understanding how traditional practices can be integrated into contemporary medical frameworks.

In discussing these results, it is evident that while the book provides a robust overview of the potential of Ayurvedic herbs in cancer treatment, further research is needed to validate these findings through rigorous clinical trials. The integration of traditional knowledge with modern science could pave the way for more effective treatment modalities, emphasizing the importance of interdisciplinary collaboration in the field of oncology.

Overall, *Anti-Cancer Herbal Drugs of India with Special Reference to Ayurveda* is a pivotal resource for those interested in exploring alternative cancer therapies, offering valuable insights into the intersection of tradition and modern medicine. The continued exploration of these herbal drugs could lead to significant advancements in cancer care, affirming the relevance of Ayurvedic practices in contemporary health discussions.

#### CONCLUSION

In conclusion, *Anti-Cancer Herbal Drugs of India with Special Reference to Ayurveda* by Dr. Gyanendra Pandey provides a valuable synthesis of Ayurvedic

wisdom and modern scientific insights into the anti-cancer potential of herbal remedies. Through a meticulous exploration of herbal pharmacology, traditional formulations, and clinical implications, Dr. Pandey bridges traditional Ayurvedic practices with contemporary cancer research. This book stands out as an essential resource for practitioners, researchers, and readers interested in integrative medicine, offering both a historical perspective and practical guidance for applying herbal treatments. While its depth may be challenging for beginners, it is an indispensable reference for those looking to deepen their understanding of Ayurveda's role in oncology. While the book presents a wealth of information, it also invites further inquiry into the scientific validation of certain claims, underscoring the need for ongoing research in this area. Overall, this work not only enhances our understanding of Ayurvedic medicine but also empowers patients and healthcare providers to consider holistic approaches in their treatment strategies. This book is highly recommended to those looking to deepen their knowledge of herbal anti-cancer therapies and to appreciate the wisdom of Ayurveda in contemporary health.

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