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## Ayurvedic herbs useful in gastrointestinal cancer

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### Abstract

Cancer is one of the most dreaded disease of 20<sup>th</sup> century globally. Adaptation of western life style, excessive sun and UV exposure, radiation exposure, other carcinogens, alcohol, beverages, fast food, cold drinks, tobacco, smoking are chief causes of this life threatening disease. Gastrointestinal cancer is a term used for group of cancer that affects the digestive system. This includes cancer of esophagus, gallbladder, liver, pancreas, stomach, small intestine, anus etc. Usually stomach cancer is considered as gastrointestinal cancer.

Two well-known classics *Charaka* and *Sushruta samhita* describe cancer as inflammatory or non-inflammatory swelling and term them as *Granthi* (minor neoplasm) and *Arbuda* (major Neoplasm). In *Ayurveda* there are many medicinal herbs which has significant result in treating cancer. Some of them are *Tulsi*, *sahadevi*, *Bhunimb*, *haldi*, green tea etc. Phytochemical study and chemical composition of these herbs proves anti cancerous property of them.

**Keywords:** Cancer, *Arbuda*, *Granthi*, *Tulsi*, *Sahadevi* etc.

### Introduction

*Ayurveda*, which means science of long life, is more than 5,000-year-old system of Indian medicine (1500–1000 BC) designed to promote good health and longevity. Cancer is a hyperproliferative disorder that involves transformation, dysregulation of apoptosis, proliferation, invasion, angiogenesis and metastasis. Cancer is one of the most threatening disease of present era leading cause of death not only in India but worldwide. It affects large population globally making lots of economic loss worldwide. Adaptation of western life style, excessive sun and UV exposure, radiation exposure, other carcinogens, alcohol, beverages, fast food, cold drinks, tobacco, smoking are chief causes of this life threatening disease. Gastrointestinal cancer is a term used for group of cancer that affects the digestive system.

This includes cancer of esophagus, gallbladder, liver, pancreas, stomach, small intestine, anus etc. Usually stomach cancer is considered as gastrointestinal cancer.

*Acharya Charaka* and *Acharya Sushruta* two well-known *Ayurvedacharya*, describe cancer as inflammatory or non-inflammatory swelling and mention them as either *Granthi* (minor neoplasm) or *Arbuda* (major neoplasm) [1, 2].

### Treatment

*Ayurvedic* herbs work as wonderful treatment for all types of cancers especially stomach cancer. The treatment focuses on reducing the cancer cell size, shrinking the tumour mass and preventing the spread of the cancer to other nearing tissues. These herbs are classified based on their *rasa* (taste) as *katu* (pungent), *tikta* (bitter), or *kashaya* (astringent) or other properties as *laghu* (light), *ruksha* (dry), *teekshna* (sharp, penetrating), and *usna* (hot) *guna* (biophysical property) and *usna veerya* (biopotency) and *katu* (pungent) *vipaka* (catabolic effects) [3, 4].

### Herbs Useful In Gastrointestinal Cancer

#### 1. Garlic (*Allium sativum*)

##### Family- Liliaceae

Garlic is one of the most powerful anticancer herb. Its Chemical constitutes- Sulfur allicin and allin. It is the organosulfur compound present in garlic, which inhibit the growth of cancer cell or tumour in the inner lining of stomach [10, 12].

#### 2. *Bhunimb* (*Andrograpis paniculata*)

##### Family-Acanthaceae

*Andrograpis paniculata* is an herbaceous plant, commonly known as “King of Bitters.”

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It is highly effective in fighting infection including AIDS and cancer. Main action of this herb inhibits multiplication of cancer cells [7].

### 3. Green tea (*Camelia sinensis*)

Green tea plays a role in the prevention of gastric cancer. Green tea decreases the risk of gastric cancer in women. It has anticancer properties because of two eminent antioxidant compounds-Catechins and polyphenols present in it. Green tea contains a chief cancer-preventing compound called EGCG (epigallocatechin-3-gallate). Epigallocatechin-3-gallate is the major polyphenolic constituent of green tea [14, 15].

### 4. *Amalaki* (*Emblca officinalis*)

#### Family- Euphorbiaceae

*Amla* is one of the most important medicinal plants used since ancient time by ayurveda physicians. *E. officinalis* inhibits the growth and spread of various cancers, including breast, uterus, pancreas, stomach and liver cancers, and malignant ascites.

It reduces the side effects of chemotherapy and radiotherapy. *Amla* fruit contains 18 compounds that inhibit the growth of tumour cells such as gastric and uterine cancer cells. Emblicanins A and B (tannins) present in *E. officinalis*, have been reported to possess strong antioxidant and anticancer properties. *Amla* is to be taken at least up to 4 months to see proven result against stomach cancer [11].

### 5. *Sahadevi* (*Vernonia cinerea*)

*Sahadevi* (*Vernonia cineria*) is medicinal herb of Compositae family. Alkaloids present in *Sahadevi* are sesquiterpenes, lactones, pentacyclic, triterpene, alcohols, and various alkaloids. The traditional uses of *Sahadevi* include wound healing, asthma, dysentery, cold and diarrhoea. It is used for treating cancer, gastrointestinal disorders and abortions [5].

### 6. *Tulsi* (Holy Basil/ *Ocimum sanctum*)

#### Family-Labiatae

*Ocimum sanctum* is used traditionally as medicine in Southeast Asia.

The fresh leaf of the *Ocimum sanctum* has been shown to enhance the immunity and to possess anti-carcinogenic property. *Ocimum sanctum* has abundant quantities of Eugenol, the anticancerous component. *Ocimum sanctum* declared as anti-Cancer medicine and can be used in curing Cancer [6].

### 7. *Haldi* / Turmeric / *Curcuma longa*

#### Family- Zingiberaceae

It contains the powerful cancer fighting polyphenol curcumin. Curcumin has been clinically shown to inhibit growth of various cancer cells including – bone cancer, breast cancer, brain cancer, colon cancer, stomach cancer, liver cancer, pancreatic cancer etc [8, 9].

### 8. *Shunthi* / *Zingiber officinale*

#### Family- Zingiberaceae

In a study, it has been noted that ginger supplementation suppressed liver carcinogenesis by scavenging the free radical formation and reducing lipid peroxidation [13].

### 9. *Keshar* / *Crocus sativa*

#### Family-Iridiaceae

It grows up to height of 20-30 cm, commonly known as

saffron crocus. Stigmas of the flower contain crocin, which have anticancer activity and commonly used for colorectal cancer treatment [3].

### 10. *Mulethi-Glycyrrhiza glabra*

#### Family- Fabaceae

It is having a height of 1 mtr, commonly known as liquorice. Roots are used for gastrointestinal health and are rich in flavonoids. Glycyrrhizin a triterpenoid saponin isolated from licorice root induce apoptosis in many cell types including human hepatoma promyelotic leukemia and stomach cancer [16].

### Conclusion

Cancer is one of the leading causes of death in present era. Herbs in ayurveda are very beneficial in treatment of this life threatening condition. These herbs can be easily available. Moreover, treatment in modern includes chemotherapy and various drugs, which are very costly and painful. So that's the reason people are moving toward ayurveda for a cancer free life.

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