



EXPLORING THE POTENTIAL OF HARIDRADI GHRUT IN CANCER TREATMENT: AN AYURVEDIC PERSPECTIVE.

Dr. Ashwini S Ghuge

MD Scholer, Dept. of Agadtantra Evum Vidhivaidyak, PDEA's College of Ayurved and Research centre, Nigdi Pune, Maharashtra India

Dr. Jayant Phadake

HOD and Professor, Dept. of Agadtantra Evum Vidhivaidyak, PDEA's College of Ayurved and Research centre, Nigdi Pune, Maharashtra India

ABSTRACT Ayurveda the ancient science of life enhances health promotion and disease prevention through holistic approaches among its eight specialized branches. In Ayurveda Visha means poison or toxin is a concept used to describe substance that can disrupt the body's natural balance and cause imbalances which can manifest various diseases including cancer. Cancer is pathological condition which uncontrolled growth of abnormal cells that invade the adjacent tissues and cause their destruction and sometimes show metastasis. Ayurveda mainly deals with balancing Tridoshas, Saptdhatu, and Trigunas which are abruptly disturbed in general cancer. So there is need to develop more effective and less toxic drugs with the help of Ayurveda. The recent researches in Ayurveda give valuable information that the herbs such as Haridra, Nimba, Bala, Triphala, Yashtimadhu, possess anti-cancerous property and each herb contains multiple active principle that often-producing therapeutic benefits. In this paper information about anti-cancerous properties of ingredients of Haridradi Ghrut is given. **Materials and Methods:** The ingredients of Haridradi Ghrut studied for their scientific validation. The Ayurvedic classics, online journals, were thoroughly reviewed for compiling the relevant data about contents of Haridradi Ghrut. **Result:** A review of various research articles has proved pharmacological and anticancer activity of these ingredients.

KEYWORDS : Herbs, Ayurveda, Anti Cancerous, Cancer, Haridradi Ghrut, Chemo preventive.

INTRODUCTION

Cancer is one of the leading causes of death worldwide, it is group of diseases characterised by the uncontrolled growth and spread of abnormal cells in the body.^[1] Normally the body's cells grow, divide and die in a regulated manner but in cancer, cells begin to grow uncontrollably, form masses called tumours and may invade nearby tissues and spread to other parts of the body through blood and lymph systems, a process known as metastasis.

There are more types of cancer with some of the most common being breast, lung, prostate, colorectal, leukaemia, Pancreatic, liver, lung, cervical cancer and melanoma^[2]. It is caused by variety of factors including environmental exposure, infection, and lifestyle choices such as diet and physical activity.s

Early detection and treatment are critical for improving outcomes treatment option including surgery, chemotherapy, radiation, immunotherapy and targeted therapies; research continues to advance in understanding of cancer mechanism, improving and developing more effective and personalised treatment.^[1] Even after the considerable advances in the treatment options for cancer, side effects associated with chemotherapy and radiotherapy still compromise the patient's quality of life and physical well-being. Hence there is an ever-growing emphasis for the use of nonconventional or alternative medicines to treat cancer.

Ayurveda is the science of health which has tried many herbal Rasayana remedies from the herbs with varying degree of success, but

its main significance lies in its preventive approach.^[3] Over the past decade herbal medicines have been accepted universally and they have an impact on health care system.^[4] According to contemporary Ayurvedic research, numerous herbs have anti-cancer properties, and all has several active principles that frequently have therapeutic advantages. Likewise, although Haridradi Ghrut is used in treatment of Kamala, its ingredients like Haridra, Nimba, Bala, etc., has also been studied for their kind of anti-cancerous action.

AIM- To investigate the potential anticancer effects of Haridradi Ghrut's constituents through a comprehensive literature analysis.

OBJECTIVE- Discuss the pharmaceutical properties and the anticancer activities of individual drug of Haridradi Ghrut.

MATERIAL AND METHOD

Haridradi Ghrut is mentioned in Charak Samhita in Kamala Rogadhikar. It contains Haridra, Aamalaki, Bibhitaki, Haritaki, Nimba, Bala, Yashtimadhu and Ghrut.

All the classical texts of Ayurveda, online journals, PubMed, Google scholar and research articles were thoroughly reviewed for compiling the relevant data about contents of Haridradi Ghrut.

Literature Review on Ingredients of Haridradi Ghrut

Various research articles on anticancer activity of contents of Haridradi Ghrut were studied and data related to it, was extracted. The collected data has been represented in tabulated form. Following tables contains data regarding the drug.

Table No.1: Pharmaceutical Properties of Each Content of Haridradi Ghrut

Sr. No.	Name	Latin Name	Rasa	Virya	Vipaka	Guna
1)	Haridra[5]	Curcuma longa Linn.C	Tikta, Katu	Ushna	Katu	Laghu, Ruksha
2)	Nimba[1]	Azadiracta indica	Tikta	Sheeta	Katu	Laghu, Ruksha
3)	Haritaki[6]	Terminalia chebula	Madhur, Amla, Katu, Tikta, Kashay	Ushna	Madhur	Laghu, Ruksha
4)	Bibhitaki[8]	Terminalia bellirica	Kashaya	Ushna	Madhur	Laghu, Ruksha
5)	Aamalaki[7]	Embilica officinalis	Madhur, amla, Katu, Tikta, Kashay	Sheeta	Madhur	Guru, Ruksha, Sheet
6)	Yashtimadhu[7]	Glycerrhiza glabra	Madhur	Sheeta	Madhur	Guru, Snigdha
7)	Bala[8]	Sida cordifolia	Madhur	Sheeta	Madhur	Guru, Snigdha, Picchil

Table No.2: Action of Each Content of Haridradi Ghrut

Sr. No	Name	Karma	Pharmacological Properties	Extract	Phytochemical
1	Haridra[5]	Vishaghna, Varniya, Kushthghna, Shothhara, Raktaprasadak, Krimighna	Antioxidant, Anti-cancerous, Anti-inflammatory, cardio protective, antimicrobial, Nephroprotective, Hepatoprotective	Root extract	Demethoxycurcumin, Bisdemethoxy-curcumin, Zingiberene, Essential oils, curcumin
2	Nimba [1]	Vishaghna, Kandughna, Kaphahara, Pittahara, Hridayavidaha-shantikara	Hepatoprotective Cardio protective	Aqueous Leaf extract	Phenolics, terpenoids Fiber and Alkaloids

3	Haritaki [1]	Rasayan, Deepan, Pachan Hridya, Grahi, Shothhara, Vedanasthapak, Shonitasthapana	Antiviral, Antibacterial, Antioxidant, Antifungal, Anti-ulcerative, Anti-mutagenic	Fruit	Chebulin, Tannis, Gallic acid, Vit. C
4	Bibhitaki	Deepana, Raktasthambhak, Anulomana, Vednasthapak Shothahara, Krimighna, Jwaraghna	Immunomodulatory Anti-cancerous, Hepatoprotective, Antioxidant, Antibacterial, Antispasmodic	Powder extract	B-sitosterol Gallic acid Galloyl Chebulin Ellagic acid Tannis Terflavin
5	Aamalaki [1]	Hridya, Deepana Anulomana Shonitasthapan Rochana Chakshushya	Antioxidant, Antitumor, Hepatoprotective, Analgesics, Anti-inflammatory, Antimicrobial	Fruit extract	Tannis, Flavonoids
6	Yashtimadhu	Keshya, Shothhara, Vednasthapak, Dahashamak Shonitasthapak	Anti-carcinogenic Antioxidant, Anti-inflammatory Angiolytic Hypocholesterolemic Hypoglycaemic	From the root sweet aromatic flavour extract	Glycyrrhizin, Triterpenoid Saponins, Flavonoids, Polysaccharides soflavonids
7	Bala	Ojovardhaka, Raktapittashamak, Balya, Hrudy, Grahi, Shukrala, Vedanasthapan, Shothhara, Jwaraghna	Blood disorder, Leprosy, Skin infection, Analgesic, Anti-inflammatory, Hypoglycaemic activities	Powder	Resin, Choline, Betaine, Phytosterols Flavonoids, Saponins

Ghrut: Ghrut has Deepana properties and it is considered as best snehana Dravya who increase the Agni^[12]. It is an excellent base for preparing Ayurvedic medicines, due to the fact ghee has different ability to arrive each and every body parts with in short period which help to transport medicine without any change called as Yogwahi action in ayurveda. Ghrut have Madhura Rasa, Snigdha, Sheet Virya and Vata-Pittashamak properties.^[13]

According to Charak Samhita, Haridradi Ghrut is recommended in the treatment of Kamala. From above data, we can state that each of the content of Haridradi Ghrut has potential anti-cancerous properties.

DISCUSSION

The various data obtained for this study reveals the Anti-cancerous activity of contents of Haridradi Ghrut:-

- The Nimb extracts possess potent ability to remove cancerous phenotype. The chemo-protective effects of dietary doses of aqueous Neem leaf extract was studied on in vivo murine system agent H-B-a-p (Benz-a-pyrene) induced initiation of cancer.^{[10][11]} Nimb use as tumour suppressor, the incidence of tumour with an effective inhibition in tumour volume and tumour burden Azadiracta indica contains azadiractin A, Nimbidine, Nimbolide possess anticancer properties.^[1]
- Ethanol extract of Sida cordifolia contains polyphenols and flavonoids which are said to exhibit strong anticancer activity. Ic50 value of ethanol extract of Sida cordifolia was studied after 24 hours of treatment in melanoma cell line and in colon cancer cell line.^[16] Evaluation of anticancer activity of Sida cordifolia against aflatoxin B1 induced hepatocellular carcinoma was studied.
- In-vitro study of Haridra on cervical cancer has been done. The use of Haridra extracts in Arbuta (tumour) has been described. Role of Curcuma longa methanolic extract against colon cancer induced in rats had been observed. It has anti-inflammatory, anti-proliferation effects.
- An Embilica officinalis fruit shows chemopreventive activity, less number of papilloma and tumour suppressive activity.^[1]
- Terminalia Chebula extract has anticancer, anti-inflammatory and cytoprotective properties in DMBA/croton oil induced Swiss albino mouse.^[1]
- Yashtimadhu was observed to be effective and delayed the development of severe form of mucositis. The drug appeared to be more efficient in the management of mucositis in head and neck cancer patients receiving concomitant chemo radiotherapy.^[15] From the above review it is evident that many in vivo and in vitro anticancer studies have been done on contents of Haridradi Ghrut in reference to cancer.

CONCLUSIONS

From the above review, Azadiracta indica, Curcuma longa, Terminalia chebula, Terminalia bellirica, Embilica officinalis, Glycyrrhiza glabra, Sida cordifolia show anticancer activity. Above drugs have immunomodulatory, antioxidant, tumour suppressor and chemopreventive potential.

From the papers and articles that we have reviewed for this research paper, we concluded that contents of Haridradi Ghrut have great

potential for the prevention of cancer.

This approach is able to improve the efficiency of standard cancer therapies by allowing Haridradi Ghrut to decrease chemotherapy doses, and also in reducing the toxicity of chemotherapy drugs. For that further research should be done in this context.

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