



A REVIEW ON: HERBAL ANTICANCER DRUGS

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Abstract:

Medical plants are used from the beginning of the human civilization. Cancer is a group of many diseases which affect the cell. Cell is the very little unit of the any living things.

Cancer grows very faster. Cancer does not affect the normal cell. Cancer is the very dangerous disease that causes death also some time.

Unwanted growth of cell called as cancer. Now a days cancer is increasing very faster. There is no proper treatment to treat the cancer because cancerous cell has abnormal growth of cell.

Some herbal drugs that are used as anticancer that include following family drug

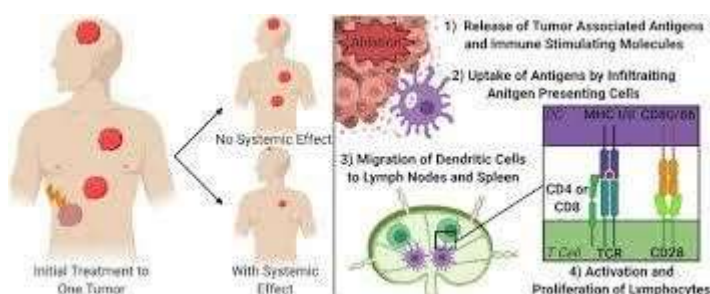
- 1) Zingiberaceae
- 2) Apocyanaceae
- 3) Theaceae
- 4) Solanaceae
- 5) Leguminosae
- 6) Berberidaceae
- 7) Cucurbitaceae

Cancer therapies include some phytochemical cancer drug called anticancer drug or antineoplastic drug. The development of chemotherapy developed by using conventional anticancer drug. Anticancer drug have been many severe side effect. The aim of this review to evaluate the extend use of herbal drug used in the cancer.

Keyword- Anticancer, chemotherapy, Herbal drug .

Keyword: Herbal, Anticancer, Chemotherapy, Tumor, Malignancy, Oncology, Radiotherapy.

GRAPHICAL ABSTRACT

**Introduction:**

The word cancer derived from latin word “*crab*” crab means tumor .the origin of the cancer started from 28-50 BC .the name cancer first given by greek physician hippocrates . hippocrates used the term carcinous for cancer to describe the various types of cancer (i.e tumor). Father of medicine □ Hippocrates cancer is a disease of cell characterised by progressive persistent , prevcted, purposless and uncontrolled proliferation of various tissue . oncoprotein produced by cancer cell without presence of growth factor.

Lung cancer □ most common cancer observed in men

Breast cancer □ most common cancer in women

First patient of cancer observed in the Egypt Another name for cancer

- 1) Malignant Tumor
- 2) Maliganant
- 3) Neoplasm
- 4) Oncology

Cancer is characteristic by continuously multiplying cells in the living organism Current treatment for the treatment of cancer

- 1) Chemotherapy
- 2) Radiotherapy

- 1) Chemotherapy: chemotherapy means the chemical substance that are used to treat cancer by using anti-cancer drug cytotoxic drug.
Chemotherapy done by intravenously route,that should not cause pain when administer.
Cytotoxic drug that inhibit the growth & division of cancerous cell malignant cell

Chemotherapy of malignancy:

Chemotherapy of malignancy deaffer from injection – in injection the invading microbes is biological foregin to the host

Although anti-bodies have been demostreated against certain cancer cell, such host defence is lacking on ineffective Cancer of epithelial cells □ carcinoma
Cancer of non- epithelial cell □ sarcoma

Feature of cancer cell □

- Uncontrolled proferation
 - Redifferentiation & loss of function
 - Tissue metastasis
- 2) Radio therapy

Radio therapy means radiolabile substance that used to treat the cancer by using anticancer drug
In the radio therapy we require high dose of drug.

There are four stages of cancer

- 1) Stage 1
 - 2) Stage 2 3) Stage 3
 - 4) Stage 4
- 1) Stage1: cancer is localized to a small area and hasn't spread to lymph nodes on other tissue
 - 2) Stage 2: cancer has grown but is hasn't spread
 - 3) Stage 3: cancer has grown larger & has possible spread to lymph nodes on other tissue
 - 4) Stage 4: cancer has spread to other organ on areas of your body this stage is also referred as metastatic of advance cancer

Types of cancer:

- 1) Carcinoma
 - 2) Sarcoma
 - 3) Melanoma
 - 4) Lymphoma
 - 5) Leukemia
- 1) Carcinoma :
It is mostly observed type of cancer this type of cancer affects the organ include breast 2) Sarcoma:
It affect the organ include muscle, fat, bone & blood vessel.
 - 3) Melanoma:
This type of cancer developed in the skin 4) Lymphoma :
This type of cancer affect the lymphocyte on WBC.
 - 5) Leukemia :
This type of cancer affect the RBC.

sign & symptoms:

- 1) A lump below the skin, that feel hard
- 2) Changes on skin
- 3) Unusual weight loss
- 4) Flatulence
- 5) Wounds that do not heal
- 6) Itchy or irritable skin
- 7) Tongue or mouth difficulties
- 8) Changes in urination
- 9) Hair loss
- 10) Unusual bleeding
- 11) Naggig cough
- 12) Fatigue

#Diagnosis of cancer:

There are so many test used to diagnose of cancer Diagnosis test include:

- 1) Biopsy
- 2) Radiology
 - CT scanning
 - MRI
 - Mammography
 - Bone scene

- Nuclear medicine scan
- Use of X-ray
- PET scanning

3) Ultrasound

4) Endoscopy

5) Colonoscopy

1) Biopsy :

Biopsy is the test used for removal of some cell or tissue. fluids or growth for examination.

- A piece of suspected tissue is cut stained & examined under microscope (histological study)
- Bone marrow Biopsy abnormal count of WBC-Leukemia
- Detector of cancer in genitals □ (cervix) □ PAP test
- The most common test used to diagnose cancer is a tissue or needle biopsy

2) Radiology:
Radiology is a medical specialized in the radiology test we obtained image of the inside of the body.

3) Ultrasound :

Ultrasound do not used for diagnosis all type cancer because the sound wave cannot go through air or through bone.

All herbal plants:

Herbal plants used for cancer cure:

1) *Devil tree:*



- Synonym: Dita, Dita bark
- Family □ Apocyanaceae
- Biological source: Mature bark of echites scholaris
- USE:
1) It is used medicinally for myriad disease & complaints

- 2) Use to cure skin diseases & rheumatoid arthritis
- 3) Root juice of devil plant is taken with milk to cure leprosy
- 4) Dried powder is administered orally for prevention of diarrhea
- 5) Bark extract is useful in case of intestinal worm.
- 6) Used in the Ayurvedic medicine to treat.

- Fever
- Malaria
- Tumor
- Ulcer
- Digestion

Addition to the cytotoxic effect, devil tree is also observed in process of chemopreventive effect free radical scavenging antioxidant antinflammatory , antimutagenic & immunomodulatory activity of the cancer.

2) *Barberry:*



- Synonym: ophthalmic berberry
- Biological source: fruits of berberis vulgaris

Uses:

- 1) to treat fever, cough, depression, hyperglycemia and bleeding
- 2) Use in the kidney stone.
- 3) for relief from abdominal pain
- 4) cure various infection of eyes and mouth

These are the phytochemicals acts on molecular pathway. The specific mechanisms include increasing antioxidant status carcinogenic inactivation, inhibiting proliferation induction of cell cycle arrest and apoptosis and regulation of the immune system

3) *Ashwagandha*:



- Synonyms: winter cherry, ajagandha
- Family: solanaceae
- Biological source: rootes of withnia sominifere
- Uses:
 1. used for treatment of asthma diabetis
 2. it contains chemicals helps to reduse swelling
 3. it is used little evidence for adaptogen for prevention of digestive apset dirrhea and vomiting

We show for the first time leaves of ashwagandha possess TEG that causes selective toxicity to cancer cell by activation of humor. Cell may prove highly beneficial for cancer treatment .

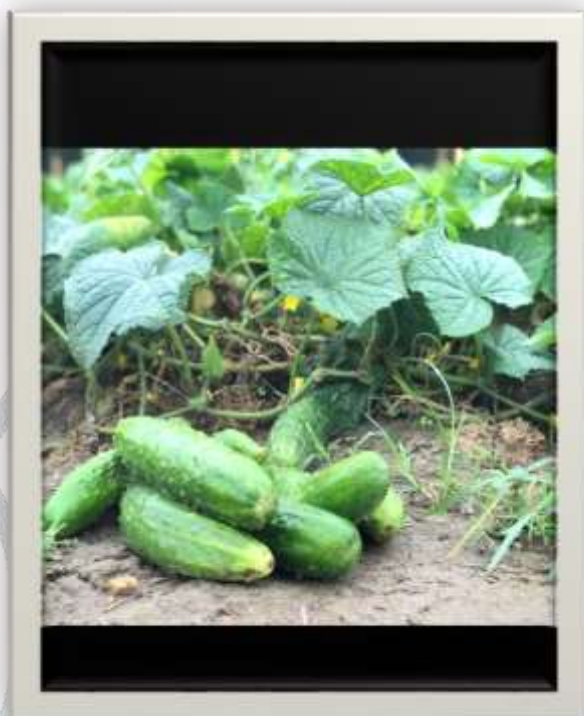
4)Pacific yew:

- Synonym: sycamore, hornbeam , hawthorn
- Family: taxaceae
- Biological source: bark of taxaceae brevifolia
- Uses:
 - 1) it is used to treat diphtheria, tapeworms, tonsins,seizers musle and joined pain,
 - 2) it is used to breast ovarian and lung cancer as well as kaposi's sarcoma

5)vinca:

- Synonym: periwinkle, madgascarperiwikle
- Biological source: the dyed entire plant and areal part of catgaranthus roseus line
- Family: apocynaceae
- Uses: it is use to reliving musle pain & use to depression of the central nerous system

6)cucurbit



- Synonym: cocina indica, bryonia grandis
- Biological source: leaves of coccinia grandis
- Family: cucurbitaceae
- Uses: it is use for traement of
 - ✓ antihyperglycaemic
 - ✓ antilipidemic
 - ✓ antioxidant
 - ✓ anti-tumor
 - ✓ hepatprotective

7) *Deodar cedrus*:



- Synonyms- himalayan cedar.
- Biological source- deodar cedar
- Family -pinaceae
- Uses- Rooms made of deodar cedar wood are used to preserve meat and food grains like oats and wheat in Himachal Pradesh's Shimla, Kullu, and Kinnaur districts because of its antifungal and insect repellent characteristics. Cedar oil is commonly used in aromatherapy for its fragrant characteristics.

8) Piper Longum:

- Synonym- chavica longa
- Biological source- plant alkaloid isolated from black pepper (*Piper nigrum*).
- Family- Piperaceae
- Uses- Chronic bronchitis, asthma, constipation, gonorrhoea, tongue paralysis, diarrhoea, cholera, chronic malaria, viral hepatitis, respiratory infections, stomachaches, bronchitis, spleen illnesses, cough, and tumours are the most prevalent conditions treated with it.

9) Negundo Vitex:

- Synonym- Chinese chaste tree
- Biological source- Verbenaceae □
- Family- Lamiaceae
- Uses- NIF Database is used.
- The ear is oozing. Susanta Kumar Manjhi, Birbhum, West Bengal, puts a few drops of warmed leaf juice in the ear. Ear pain, Diabetes, Rheumatism, Muscular pain, Skin disease.

10) *Aristata Berberies*:



- Synonym- Daru Haldi
- Biological source - B. aristate
- Family- Berberidaceae

Uses- Daruharidra - Berberis aristata is used in Ayurveda to treat eye problems, itchy skin, diabetes, and urinary tract problems, among other things. It is the primary source of berberine, an alkaloid with great promise in the treatment of diabetes and high cholesterol.

Conclusion:

In both the industrialised and developing worlds, cancer is becoming a highprofile disease. According to the WHO, 7.6 million people died from cancer-related disorders in 2005, the majority of them lived in low-income nations 49. Cancer kills one out of every four people in the United States, with over 1.5 million new instances of cancer diagnosed in 2010. According to Cancer Research UK, 14.1 million individuals were diagnosed with cancer in 2012, and 8.2 million people died from cancer worldwide 51. As a result, the need for a cancer cure and prevention is exceedingly great. Chemically-derived drugs have been developed and other cancer treatments pre-exist 11. However, current methods such as chemotherapy have their limitations due to their toxic effects on non-targeted tissues furthering human health problems 1. Therefore, there is a demand for alternative treatments with naturally-derived anticancer agents with plants being the desired source.

The secondary metabolites in the plant kingdom such as polyphenols, flavonoids and brassinosteroids have been studied for their potential use as anticancer agents. Collectively they have been shown to possess anticancer activities which include; antioxidant activity; inhibition of cancer cell growth;

induction of apoptosis; target specificity; cancer cell cytotoxicity 18-19,25,40. Plant-derived drugs have been developed from positive results in research and have progressed into clinical trials

Drugs derived from chemicals have been developed, and other cancer treatments are available. Current approaches, such as chemotherapy, have limitations owing to their toxic effects on non-targeted tissues, which exacerbates human health issues. 1. As a result, there is a demand for alternative cancer treatments based on naturally produced anticancer chemicals, with plants as the preferred source.

Polyphenols, flavonoids, and brassinosteroids are secondary metabolites found in plants that have been researched for their potential as anticancer drugs. They've all been demonstrated to have anticancer properties, including antioxidant activity, cancer cell growth inhibition, apoptosis induction, target selectivity, and cancer cell cytotoxicity 18-19,25,40. Plant-derived drugs have progressed into clinical trials as a result of positive research results.

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