



## Treatment of Breast Cancer Using Medicinal Plants

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**Abstract:** This article examines the prospects for the use of medicinal plants in the treatment of breast cancer, analyzes the main bioactive compounds and their mechanisms of action.

**Key words:** Medicinal plants, breast cancer, herbal medicine, mechanism of action.

Breast cancer is a serious medical and social problem affecting millions of women worldwide. Medicinal plants have long been used in folk medicine to treat various diseases, including cancer. In recent decades, studies have confirmed the presence of antioxidant, anti-inflammatory and antitumor properties in a number of plant compounds. Their use in combination therapy can increase the effectiveness of treatment and reduce the side effects of traditional methods.

According to WHO, the five-year survival rate after diagnosis of breast cancer is about 85% in developed countries and less than 60% in developing countries. The leaders in incidence of the disease are:

1. United States: about 287,000 new cases annually.
2. Canada: about 27,000 cases annually.
3. Germany: 70,000 cases annually.
4. France: 60,000 cases annually.
5. United Kingdom: 55,000 cases annually.
6. Sweden: 10,000 cases annually.
- 7 Italy: 55,000 cases annually.
8. Spain: 34,000 cases annually.
9. Russia: about 80,000 cases annually.
10. Uzbekistan: about 5,000 new cases annually.

The use of medicinal plants in the treatment of breast cancer.

Clinical studies:

1. India: Curcumin, the active ingredient in turmeric, has been shown to inhibit the growth of breast cancer cells.
2. China: Reishi polysaccharides enhance the effectiveness of chemotherapy.



3. Japan: Green tea contains catechins, which reduce the risk of relapse.
4. Iran: Saffron extracts reduce side effects of chemotherapy.
5. Korea: Ginseng helps restore immunity after chemotherapy.

European experience:

1. Germany: Use of mistletoe extract as an adjunct to chemotherapy.
2. France: study of the antioxidant properties of grape seeds.
3. Italy: herbal preparations based on artichoke.
4. Sweden: Using sea buckthorn berries to strengthen the immune system.
5. UK: Research on flavonoids in honey.

CIS experience:

1. Russia: preparations based on celandine and chaga.
2. Kazakhstan: the use of wild wormwood in folk medicine.
3. Belarus: research into the properties of linseed oil.

Uzbekistan:

In Uzbekistan, medicinal plants such as ferula, aloe and safflower are used.

In our clinic "Oltin Vodiy Tabiati" in the Jalakuduk district of the Andijan region, we use the following natural food supplements for the treatment of breast cancer: "Mazhmuyi Rakhmoniy", "Shifoi Marhabokhon", "Oltin Vodiy", "Astosh", "Asshifo" and others, and it is required to follow our proposed diet No. 1. The physiotherapy clinic "Oltin Vodiy Tabiati" is the only medical institution in which oncologists, therapists, pediatricians and experienced specialists in traditional medicine registered in the "Tabobat Academy of Uzbekistan" work together. We use food supplements obtained from medicinal plants and herbs for the treatment of breast cancer :

### 1. Turmeric (*Curcuma longa*)

- **Active ingredient** : curcumin.
- **Mechanism of action** : inhibition of NF- $\kappa$ B transcription factors, suppression of cancer cell proliferation and induction of apoptosis.
- **Benefits** : has antioxidant and anti-inflammatory properties, enhances the effect of chemotherapeutic drugs.

### 2. Green tea (*Camellia sinensis*)

- **Active ingredients** : epigallocatechin-3-gallate (EGCG).
- **Mechanism of action** : suppression of angiogenesis and metastasis, activation of programmed death of cancer cells.
- **Benefits** : Reduces oxidative stress and supports the immune system.

### 3. Ginger (*Zingiber officinale*)

- **Active ingredients** : gingerol and shogaol.
- **Mechanism of action** : suppression of inflammatory cytokines, reduction of oncogene expression.
- **Benefits** : reduces nausea and vomiting during chemotherapy, has antitumor effect.



#### 4. Milk thistle (*Silybum marianum*)

- **Active ingredient** : silymarin.
- **Mechanism of action** : protects the liver from toxins, improves detoxification, inhibits tumor growth.

#### 5. Meristem of mountain pine (*Pinus mugo*)

- **Active ingredient**: pinene
- **Mechanism of action**: protection of the respiratory system, improvement of lung ventilation, anti-inflammatory and antiseptic action, due to unsaturated compounds.

#### 6. Black cumin (*Nigella sativa*)

- **Active ingredient**: nigellone, thymoquinone.
- **Mechanism of action**: protects the body from toxins, strengthens the immune system, has antibacterial, anti-inflammatory and antioxidant effects.

#### 7. Oat seeds (*Avena sativa*)

- **Active ingredient**: avenanthramides, beta-glucan.
- **Mechanism of action**: strengthening the nervous system, reducing cholesterol levels, improving metabolism, antioxidant and anti-inflammatory action.

#### 8. *Ziziphora odorata*:

- **Active ingredients** : essential oils, flavonoids, tannins.
- **Mechanism of action** : anti-inflammatory, antiseptic, antispasmodic effect, improved digestion, strengthening the immune system.

#### 9. St. John's Wort (*Hypericum perforatum*)

- **Active ingredients** : hypericin, hyperforin, flavonoids, essential oils.
- **Mechanism of action** : anti-inflammatory, antiseptic, sedative and antidepressant action, improvement of skin condition, acceleration of wound healing.

#### 10. Wheat sprouts (*Triticum aestivum*)

- **Active ingredients** : B vitamins, vitamin E, vitamin C, carotenoids, amino acids, enzymes, antioxidants, minerals (magnesium, potassium, iron, zinc).
- **Mechanism of action** : strengthening the immune system, improving metabolism, normalizing the digestive tract, antioxidant effect, supporting skin health, increasing energy levels, improving detoxification of the body.

#### 11. Red beet (*Beta vulgaris*)

- **Active ingredients**: betanin, betaine, organic acids (malic, oxalic), vitamins (C, B1, B2, B6), folic acid, microelements (iron, magnesium, potassium, zinc), fiber, antioxidants.  
**Mechanism of action** : improves blood circulation, stimulates hematopoiesis, supports liver and kidney function, has antioxidant and anti-inflammatory effects, normalizes blood pressure, improves digestion.

#### 12. Bitter almond (*Prunus amygdalus var. amara*)

- **Active ingredients**: amygdalin, essential oils.
- **Mechanism of action** : anti-inflammatory, antiseptic and analgesic effect, stimulation of the digestive system, strengthening of blood vessels, improvement of skin and hair condition, antioxidant effect.



### 13. Peach blossoms (*Prunus persica*)

- **Active ingredients:** amgdalin, flavonoids, anthocyanins.
- **Mechanism of action:** antioxidant and anti-inflammatory action, improved blood circulation, stimulation of skin regeneration processes, support of the immune system, mild sedative effect, normalization of metabolic processes.

### 14. Pear fruits (*Pyrus communis*)

- **Active ingredients :** phenolic compounds (chlorogenic acid, arbutin, quercetin), organic acids (malic, citric, ascorbic), vitamins
- **Mechanism of action :** improved digestion, antioxidant and anti-inflammatory action, strengthening the cardiovascular system, mild diuretic effect, normalization of blood sugar levels, support of the immune system.

### Mechanisms of action of medicinal plants

Plant extracts contain a variety of bioactive compounds that act on different stages of tumor development. The main mechanisms include:

- Inhibition of angiogenesis (formation of new blood vessels);
- Reduction of inflammation associated with the tumor process;
- Induction of apoptosis (programmed cell death);
- Modulation of the immune response;
- Inhibition of cell growth and proliferation factors.

### Conclusion

Medicinal plants have significant potential in the treatment of breast cancer, especially as a supplement to the main methods of therapy. We offer a joint use of modern methods with methods of traditional medicine, as a result, they contribute to the recovery of breast cancer 75%-80%.

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