Essiac & Cancer Treatment (Chemotherapy): Safety, Interactions

Studies indicate that up to 9% of cancer patients use Essiac, mostly alongside chemotherapy. Patients may be afraid to bring this up with their oncologists, while oncologists may not feel comfortable discussing complementary and alternative therapies. This article aims to fill that gap. We provide an up-to-date, evidence-based overview of the possible interactions between Essiac and chemo.

Disclaimer: This article is for informational purposes only. Chemotherapeutic drugs are strong medications that can interact with many other drugs, supplements, and foods. If you or a loved one is undergoing chemotherapy, please discuss the use of any over-the-counter (OTC) medications and herbal supplements with your health care team. Do not take any supplements before consulting your health care team. The FDA has not approved Essiac for treating cancer or any other medical condition. Essiac is sold as a herbal dietary supplement.

Using Essiac while on Chemo

Skip to the drug interactions section.

Who Uses Essiac and Chemo?

Essiac is among the most common complementary and alternative medicine (CAM) supplements taken by cancer patients. Most patients who take Essiac have advanced disease and received or are still receiving chemo. Others turn to Essiac or other CAM modalities in end-stage disease because their condition is considered incurable (Dy et al., 2004)

Although several studies published promising findings, it's important to point out that there is currently not enough clinical evidence to support the use of Essiac in cancer patients. Further controlled clinical trials are critical.

According to research done at the Mayo Clinic Comprehensive Cancer Center, 88.2% out of 102 surveyed patients with advanced cancer used at least one CAM modality. Around 48% used both dietary supplements and nonpharmacologic techniques like prayer and spiritual practice. **Essiac was the third most common herbal supplement, after green tea and echinacea**. **Essiac use was reported in 9.5% of cancer patients** (Dy et al., 2004)

Additionally, all patients included in Mayo Clinic's study were enrolled in phase I chemotherapy trials. This was important for tracking supplement-chemotherapy interactions. The majority of patients had **gastrointestinal/hepatobiliary, lung, pancreatic, renal), and head and neck cancer** (Dy et al., 2004).

Why Do People on Chemo Use Essiac?

Similarly, a controversial Canadian study revealed that **8% of women diagnosed with breast cancer use Essiac**. The main reported reasons for use include desiring to feel better and reduce the side effects of conventional breast cancer treatment. Breast cancer survivors took the tonic wishing to maintain cancer-free status (Zick et al., 2006).

In a North American survey published by the American Botanical Council, cancer patients took Essiac or Flor-Essence mostly to **support their immune system**. Some users hoped the tonic would improve their survival and quality of life, based on anecdotal reports. The majority reported symptom improvement after supplementation (Richardson et al., 2000).

In the above study, 85.3% took and 36.8% were currently taking conventional medicine for breast, prostate, or lung cancer (Richardson et al., 2000).

It's clear that most cancer patients who take Essiac do so alongside conventional chemo and radiotherapy. Yet, **very little is known about the interactions between Essiac and chemotherapeutic drugs**.

For example, only one case report mentions the successful use of Essiac with conventional breast cancer chemotherapy (Arimidex), although this combination is clinically common (Gladwish et al., 2010).

Searching for Middle Ground

Some websites that sell Essiac irresponsibly advise against chemotherapy and other conventional treatments when using the tea "to help it work effectively." Other websites might promote Essiac as a "proven cancer cure." Such recommendations can be dangerous, and they have no basis in science. No reputable scientific cancer organization supports them.

On the other end of the spectrum are websites that strictly advise against taking Essiac while on chemotherapy. Most authoritative, trusted resources claim that Essiac tea may negatively interact with chemotherapy. They mention that many experts caution against combining essiac tea and chemotherapy.

Given that most cancer patients use complementary therapies like Essiac alongside chemotherapy without major side effects, advising against their combined use may *not* be the most effective solution (Richardson et al., 2000).

So, what *is* the solution?

Accessing Evidence-Based Care

A US study found that just 41% of oncologists discussed the use of herbs and supplements with their patients. Only 26% of discussions were initiated by the oncologist. Many oncologists indicated a lack of knowledge and education as a barrier to such discussions. This can make patients hesitant to openly speak about the herbs and supplements they plan on taking (Lee et al., 2014).

It's clear that both patients and healthcare professionals are in need of evidence-based information about using Essiac with chemotherapy to enable discussion and individualized care.

This article aims to take a deep dive into the scientific literature to fill that gap for both cancer patients and their healthcare providers.

Can Essiac Reduce Chemotherapy Side Effects?

Common Chemotherapy Side Effects

The side effects mentioned in this section are not exhaustive. There are main types of chemotherapy drugs. The specific side effects a person may experience will depend on the exact drug regimen and dosage. Please remember to consult your oncologist or pharmacist about any medication-related concerns you may have.

Many cancer patients use Essiac expecting the tonic to reduce the side effects of chemotherapy. Read more about the effects they report in this article.

Common side effects of chemotherapy include (Pearce et al., 2017; Henry et al., 2008; Kalathil & Thanavala, 2016):

- Fatigue
- Diarrhea
- Constipation
- Mouth and gut sores (mucositis)
- Shortness of breath (dyspnea)
- Rash
- Pain
- Nausea/vomiting
- Chest pain
- Immunosuppression

Less common side effects also include (Nurgali et al., 2018)

- Kidney damage (nephrotoxicity)
- Muscle wasting
- Cognitive impairment (neurotoxicity)

- Depression, ataxia, insomnia (chemotherapy-induced peripheral neuropathy)

In an Australian study of 449 cancer patients, 86% reported at least one side effect. Older people were less likely to report side effects in this study. For over 60% of people, this will include a serious side effect (Pearce et al., 2017).

Similarly, a large US study reported that 88% of the 814 respondents experienced at least one side effect during their cancer treatment. In this study, being female, younger, and unemployed patients, and suffering from anxiety and depression increased the risk of fatigue (Henry et al., 2008).

Effects of Essiac on Immune & Other Side Effects

Cancer patients using Essiac report less fatigue, better disease coping, improved symptoms, improved appetite, less nausea and vomiting, and less pain as some of the perceived benefits of Essiac (Richardson et al., 2000).

Essiac had **immune-balancing** effects in cells, helping to strengthen immune defense against bacteria and viruses and improving tumor surveillance. Human studies have yet to test these potential immune benefits (Seely et al., 2007).

In mice, Flor-Essence **increased the survival of weakened immune cells due to treatment with the cancer drug cyclophosphamide**. It also increased the debris-clearing activity of macrophages and helped NK immune cells get rid of more leukemia cells (Wu et al., 2020).

Scientists explain that further research should test if Essiac or Flor-Essence can prevent immune damage caused by cyclophosphamide and other chemotherapeutic drugs in humans (Wu et al., 2020).

In animals and cells, the three main Essiac herbs—burdock root, sheep sorrel, and slippery elm—helped **protect the stomach lining from ulcers and inflammation**, a common side effect of chemo. Clinical studies are needed to support these findings too (Bae et al., 2012; Dos Santos et al., 2008; Bae et al., 2012; Newall et al., 1996).

The mucilage in burdock root and slippery elm can form a protective layer in the esophagus and gut. Allegedly, this **may improve appetite** by sustaining the esophageal and stomach lining in people undergoing chemotherapy. However, studies have not yet tested these claims either (Almeida et al., 2013)

Sheep sorrel might reduce **nausea** by relaxing smooth muscles in the gut, based on tissue studies. When too tight, these muscles can cause pain and cramping (Hussain et al., 2015).

How Can Essiac Interact with Chemotherapy & Other Oncology Drugs?

Herbal supplements like Essiac may change the way the body absorbs, uses, or eliminates chemotherapeutic drugs. This may alter the required dose of chemotherapy, effectiveness, or side effects profile. Possible mechanisms are covered in this section.

The main constituents of Essiac expected to contribute to drug interactions are the dominant herbs: burdock (60%) and sheep sorrel (30%). The effects of slippery elm (8%) are possible, while the contribution of rhubarb root (2%) to interactions is highly unlikely.

1) Phase I Drug Detoxification

Cytochrome P450 (CYP450) are powerful liver enzymes that break down and clear all drugs and foreign substances from the body. They are our body's first-pass detox mechanism and are part of phase I detoxification (Wilkinson & Clapper, 1997; Liska 1998).

Most drug interactions are a result of increased or decreased activity of specific CYP450 enzymes. Many drugs, herbs, and nutrients can stimulate or inhibit CYP450 enzymes.

CYP450 enzymes include CYP1A1, CYP1A2, CYP3A4, CYP2A6, CYP2C19, and CYP2E1.

Essiac may block CYP450 enzymes and raise the levels of certain drugs. In one case report, reduced clearance of an experimental chemotherapy drug (DX-8951f) was described in a patient taking Essiac (Cassileth, 2011).

Many drugs used in oncology are metabolized by CYP450 enzymes, including warfarin, benzodiazepines, etoposide (3A4, 1A2, 2E1), vincristine, vinblastine, taxanes, anthracyclines, quinazoline epidermal growth factor receptor tyrosine kinase inhibitors (CYP3A4/A5), estradiol (1A2), and tamoxifen (CYP2E1, CYP3A family substrate) (Dy et al., 2004).

Burdock root, the main ingredient in Essiac, contains polyphenols and flavonoids that have variable effects on CYP450 activity.

Quercetin from burdock root is a known potent inhibitor of CYP3A. This means it may theoretically raise the levels of drugs metabolized by CYP3A to higher than expected levels (Dy et al., 2004).

In contrast, rhubarb root may activate CYP3A. But since it's present in tiny amounts in the original Essiac formula, it's highly unlikely to contribute to interactions (Yu et al., 2016).

2) Phase II Drug Detoxification

Burdock root may contain catechins, though levels are higher when the root is roasted. The herbs in Essiac also contain various polyphenols (Lee & Kim, 2017).

Catechins and polyphenols in Essiac may induce phase II drug-metabolizing enzymes (including glutathione S-transferase and quinone reductase) (Pandey & Rizvi, 2009).

High levels of these detoxifying enzymes are **one possible mechanism of resistance to certain chemotherapy drugs** such as nitrogen mustards, nitrosoureas, and other DNA damaging agents (Dy et al., 2004).

On the flip side, scientists think that boosting phase II activity may **support the detoxification of carcinogens and aid cancer prevention**. This might explain, at least in part, the health-boosting effect of many herbs, fruits, and vegetables (Surh et al., 2008, Wilkinson & Clapper, 1997).

Read about Essiac and prevention in this article.

Also, phase I detox can trigger oxidative stress and can make toxic substances more destructive. This may be a wanted effect of chemotherapy, but it may also cause unwanted effects on healthy cells. Supporting phase II detoxification enzymes helps ensure the removal of toxic waste products. Human studies are needed to support this approach, though (Sak, 2012).

3) Drug Absorption

Essiac may reduce the absorption of some chemotherapeutic drugs. Burdock and slippery elm inner bark contain mucilage, which can entrap drugs and prevent their absorption. It's usually recommended to take mucilage-rich herbs at least 2 hours away from medication (Wynn & Fougère, 2007).

Herbs in Essiac, including burdock root, rhubarb, and slippery elm, also have the potential to cause either increased or decreased bowel movement.

Both diarrhea and constipation have been reported as possible side effects of Essiac and Flor-Essence. **Diarrhea can decrease the intestinal absorption of oral chemotherapeutic drugs**.

4) Drug Resistance

P-glycoprotein (Pgp) is a small protein that has large implications for cancer treatment. It sits on the gut lumen and membrane of virtually all cancer cells and stubbornly prevents many drugs from being absorbed. Pgp has been called the "permeability glycoprotein" and **its overactivity is involved in chemotherapy drug resistance** (Callaghan et al., 2014).

Scientists are currently searching for effective and safe Pgp inhibitors.

Quercetin, high in burdock root, is an inhibitor of Pgp. However, its effects on chemotherapy resistance haven't yet been researched in humans (Choi et al., 2011).

In one rat study, quercetin increased the bioavailability and blood levels of the chemotherapy drug **doxorubicin** given by mouth. Intravenous doxorubicin was not affected. The scientists explained this by quercetin's potential to increase doxorubicin absorption by blocking Pgp in the gastrointestinal tract and CYP3A in the small intestine and liver (Choi et al., 2011).

5) Transporters

Sheep sorrel inhibits a transporter called the organic anion-transporting polypeptide 1A2 (OATP1A2). Similar to Pgp, these transporters (OATP) are found in the small intestine and liver. Their job is to enable the absorption of drugs. Inhibiting these transporters may reduce the bioavailability of some oral drugs (Hwan Ahn et al., 2020).

Therefore, Essiac may reduce the levels of oncology drugs that OATP transports. These drugs include Bosentan (Tracleer, add-on for some melanomas), Celiprolol (Celicard, others), etoposide (VePesid), fexofenadine (Allegra), fluoroquinolone antibiotics, glyburide (Micronase, Diabeta), irinotecan (Camptosar), methotrexate, nadolol (Corgard), paclitaxel (Taxol), saquinavir (Fortovase, Invirase), rifampin, statins, talinolol, torsemide (Demadex), troglitazone, and valsartan (Diovan).

6) Blood Clotting

Burdock root and sheep sorrel might slow blood clotting (burdock inhibits platelet-activating factor while sheep sorrel inhibits collagen-induced platelet aggregation) (Iwakami et al., 1992; Jeong et al., 2020).

Similarly, rhubarb root may interact with blood-thinning medication and slow blood clotting due to its vitamin K content (Ge et al., 2014).

Anticoagulant or antiplatelet drugs are commonly prescribed to cancer patients to manage possible complications like stroke or thromboembolism (Leader et al., 2020).

Therefore, **taking Essiac with the following drugs might theoretically increase the risk of bleeding**: Aspirin, clopidogrel (Plavix), diclofenac (Voltaren, Cataflam, others), ibuprofen (Advil, Motrin, others), naproxen (Anaprox, Naprosyn, others), dalteparin (Fragmin), enoxaparin (Lovenox), heparin, and warfarin (Coumadin).

Avoiding any blood-clotting interactions is especially important before surgery. Your doctor will go over your medications and supplement regimen in detail if you have an upcoming surgery.

7) Cytotoxic Interactions

Quercetin, found in burdock root, had synergistic cytotoxic (“cancer-fighting”) effects with certain chemotherapeutic drugs like cisplatin in some experiments (Dy et al., 2004).

Anthraquinones found in both sheep sorrel and Turkish rhubarb like emodin also have cytotoxic and immunosuppressive properties. In cells, emodin blocked pathways associated with cancer progression. It also acted in synergy with chemo drugs like cisplatin, doxorubicin, and etoposide to stop tumor cells from dividing (Dy et al., 2004; Li et al., 2016).

The burdock active L-asparagine increased the effects of cyclophosphamide chemotherapy in animals with cancer (Urazova et al., 2011).

Researchers point out that none of these interactions have been confirmed in humans. Clinical studies are needed to test if Essiac or its constituent herbs may increase the cancer-fighting effects of chemotherapy.

8) Other Interactions

Rhubarb root may cause potassium loss at high doses. The overuse of rhubarb **may increase corticosteroid-induced potassium loss**. Corticosteroids are often prescribed to cancer patients to manage disease and medication complications (Blumenthal, 1998).

Potassium loss is not a reported or expected side effect of Essiac since the original formula contains rhubarb in tiny amounts (2%).

Other Herbs/Supplements

Concomitant use of Essiac with **herbs and supplements that slow blood clotting** could theoretically increase the risk of bleeding.

Some herbs that may also slow blood clotting include angelica, clove, danshen, garlic, ginger, ginkgo, Panax ginseng, and others. Cancer patients report using several of these herbs for supporting the immune system, improving energy levels, or as general health tonics.

Oxalates in sheep sorrel leaves may also reduce **the absorption of some minerals** like zinc, calcium, iron, and others. However, the amount of oxalates in Essiac is low and this interaction is unlikely to be significant.

List of Essiac Interactions with Drugs Used in Oncology

Interactions List

To summarize, here is a list of possible interactions between Essiac and drugs commonly prescribed to cancer patients*:

- Experimental drug DX-8951f (↑)
- Warfarin (↑)
- Benzodiazepines (↑)
- Etoposide (↑)
- Vincristine (↑)
- Vinblastine (↑)
- Taxanes (↑)
- Anthracyclines (↑)
- Quinazoline (↑)
- Epidermal growth factor receptor tyrosine kinase inhibitors (↑)
- Estradiol (↑)
- Tamoxifen (↑)
- Doxorubicin (↑)
- Cisplatin (↑)
- Cyclophosphamide (↑)

- Aspirin (↑)
- Clopidogrel (↑)
- Diclofenac (↑)
- Ibuprofen (↑)
- Naproxen (↑)
- Dalteparin (↑)
- Enoxaparin (↑)
- Heparin (↑)
- Warfarin (↑)
- Corticosteroids (↑)
- Etoposide (↑↓)
- Bosentan (↓)
- Celiprolol (↓)
- Nadolol (↓)
- Fexofenadine (↓)
- Fluoroquinolone antibiotics (↓)
- Glyburide (↓)
- Irinotecan (↓)
- Methotrexate (↓)
- Paclitaxel (↓)
- Saquinavir (↓)
- Rifampin (↓)
- Statins (↓)
- Talinolol (↓)
- Torsemide (↓)
- Troglitazone (↓)
- Valsartan (↓)

*Arrows indicate whether Essiac may increase (↑) or decrease (↓) the levels, toxicity, or effects of the drug. An up-down arrow (↑↓) means that both effects are possible. The theoretical effects in this section are based on findings from the scientific literature and have not been confirmed in clinical studies.

Questions to Ask Your Oncologist/Oncology Pharmacist

Fewer than one-half of oncologists initiate discussions about the use of dietary supplements with their patients. As a patient, coming to the doctor's office prepared can help start the discussion.

As an oncologist, gaining **more evidence-based knowledge and education** can make these important discussions welcome.

Oncology pharmacists are also key members of the cancer care team. They are knowledgeable about cancer treatment and drug interactions.

Here are some questions you may want to ask your oncologist or oncology pharmacist if you are curious about using Essiac or other dietary supplements with chemotherapy:

- Does my chemotherapy interact with the supplements I want to take?

- Does my chemotherapy interact with any foods or drinks, such as grapefruit juice or milk?
- What herbal supplements, vitamins, or over-the-counter medications can I take safely with my medications?
- What is the best schedule for me to follow? Should I take herbal supplements at a different time in the day than my medications?

In Conclusion

Although most patients who use Essiac also undergo conventional cancer treatment, there is a lack of quality information about the potential interactions and safety of this combination.

One of the reasons cancer patients use Essiac is to reduce the side effects of chemotherapy and prevent a decline in immune function. Survey-based studies reveal good outcomes. Yet, no clinical studies back up this perceived benefit.

Essiac might interact with some chemotherapeutic and oncology drugs, especially with drugs taken by mouth. It may alter their absorption, activity, or elimination from the body. In some cases, this can raise the blood levels of these drugs to dangerously high levels.

If you plan on using Essiac with chemotherapy, it's important to discuss your plans with your care provider first. Come prepared, ask questions, and be sure to mention all medications, supplements, and OTC medications that you're already taking.

DBA Rene's Naturals, Inc.
613-729-9111
sales@essiac.com
www.essiac.com