



Making Treatment Decisions

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Coriolus Versicolor

Other common name(s): "Turkey Tail" mushroom, Yun zhi, polysaccharide K (PSK), polysaccharide-peptide (PSP), versicolor polysaccharide (VPS)

Scientific/medical name(s): *Coriolus versicolor*, *Trametes versicolor*

Description

Coriolus versicolor is a mushroom used in traditional Asian herbal remedies (see [Chinese Herbal Medicine](#)). Two substances extracted from the mushroom, polysaccharide K (PSK) and polysaccharide-peptide (PSP), are being studied as possible complementary cancer treatments. Versicolor polysaccharid (VPS), another extract from the mushroom that is sold as a dietary supplement in the United States, is also being studied. A polysaccharide is a carbohydrate formed by a large number of sugar molecules.

Overview

Available scientific evidence does not support claims that the raw mushroom itself is an effective anti-cancer agent in humans. But there is some scientific evidence that substances derived from parts of the mushroom may be useful against cancer. Clinical trials suggest that PSK may help people with certain types of cancer by increasing survival rates and lengthening periods of time without disease, without causing major side effects. PSK is commonly used with other cancer treatments in Japan. PSP and VPS have not been studied as thoroughly.

How is it promoted for use?

Herbalists claim *Coriolus versicolor* and its extracts are useful against a number of conditions, including cancer and certain infections. PSK, one of the substances that can be extracted from *Coriolus versicolor*, is believed to be a strong anti-oxidant, a compound that blocks the action of free radicals, activated oxygen molecules that can damage cells.

What does it involve?

Coriolus versicolor can be taken as a capsule, as an extract, or as a tea. The doses usually range from 1 to 9 grams per day, depending on the patient's condition. *Coriolus versicolor* can be obtained in herbal medicine shops, health food stores, and on the Internet. A variety of extracts of the mushroom, including PSP and VPS, are also sold as dietary supplements in the United States.

What is the history behind it?

Coriolus versicolor has been a component of traditional Asian medicine for centuries. In the 1980s, the Japanese government approved the use of PSK for treating several types of cancer. In Japan, PSK is a best-selling anti-cancer drug where it is currently used as a cancer treatment along with surgery, chemotherapy, and radiation therapy. PSP was discovered more recently and has been studied mainly in China.

What is the evidence?

We are unable to find reports of controlled clinical trials with the Coriolus versicolor mushroom itself that have been published in the available peer-reviewed journals. However, there have been many studies looking at the usefulness of the extract PSK.

Researchers have found that PSK, one of the substances that can be extracted from *Coriolus versicolor*, has several anti-cancer properties. In some animal studies, it slows the spread of cancer cells. PSK also appears to have some immune system–boosting properties in people undergoing chemotherapy and may lessen some side effects of chemotherapy and radiation therapy. PSK is also believed to be a strong anti-oxidant, a compound that blocks the action of free radicals, activated oxygen molecules that can damage cells.

More than 2 dozen human studies of PSK have been reviewed by experts at the University of Texas MD Anderson Cancer Center. Almost all of these studies were done in Japan and focused on cancer of the esophagus, stomach, colon, or breast. Most of them found that people with cancer were helped by PSK. People who received PSK with other treatments, such as surgery, chemotherapy, or radiation therapy, generally had longer periods of time without disease and had increased survival rates compared with patients who received only standard treatment. Side effects from PSK in these studies were very mild. Smaller studies have suggested PSK may not be as effective against liver cancer or leukemia.

The effects of PSP are less well known. While some early Chinese studies of PSP have reportedly shown it may help protect the immune system from the effects of cancer treatment, most studies published in medical journals thus far have been in cell cultures or animals. These types of studies can suggest possible helpful effects, but they do not provide proof that such effects can be achieved in humans. Studies in animals have suggested that PSP may slow the growth of lung cancer and sarcoma, and may help make radiation therapy more effective in treating certain brain tumors. One small study in humans found that lung cancer patients taking PSP seemed to maintain their health longer than those who did not take PSP, although they did not get better and did not report improvement in cancer-related symptoms. Larger human studies will be needed determine whether PSP can be helpful for people. A 2005 study using mice treated with a chemical that causes colon cancer did not find any reduction in colon tumors in mice also given VPS. A 2006 study found that VPS may have actually increased the number of large colon tumors in mice.

Are there any possible problems or complications?

This product is sold as a dietary supplement in the United States. Unlike

drugs (which must be tested before being allowed to be sold), the companies that make supplements are not required to prove to the Food and Drug Administration that their supplements are safe or effective, as long as they don't claim the supplements can prevent, treat, or cure any specific disease.

Some such products may not contain the amount of the herb or substance that is written on the label, and some may include other substances (contaminants). Actual amounts per dose may vary between brands or even between different batches of the same brand.

Most such supplements have not been tested to find out if they interact with medicines, foods, or other herbs and supplements. Even though some reports of interactions and harmful effects may be published, full studies of interactions and effects are not often available. Because of these limitations, any information on ill effects and interactions below should be considered incomplete.

No serious risks have been linked with the use of Coriolus versicolor or products derived from this mushroom. Rarely, side effects include nausea, vomiting, loss of appetite, and diarrhea. Even less common are darkening of the fingernails and low blood cell counts.

Relying on this type of treatment alone and avoiding or delaying conventional medical care for cancer, may have serious health consequences.

Additional Resources

More information from your American Cancer Society

The following information on complementary and alternative therapies may also be helpful to you. These materials may be found on our Web site (www.cancer.org) or ordered from our toll-free number (1-800-ACS-2345).

- [Guidelines for Using Complementary and Alternative Methods](#)
- [How to Know What Is Safe: Choosing and Using Dietary Supplements](#)
- [The ACS Operational Statement on Complementary and Alternative Methods of Cancer Management](#)
- [Complementary and Alternative Methods for Cancer Management](#)
- [Placebo Effect](#)
- [Learning About New Ways to Treat Cancer](#)
- [Learning About New Ways to Prevent Cancer](#)

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Note: *This information may not cover all possible claims, uses, actions, precautions, side effects or interactions. It is not intended as medical advice, and should not be relied upon as a substitute for consultation with your doctor, who is familiar with your medical situation.*

Last Medical Review: 11/01/2008

Last Revised: 11/01/2008