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Olive Leaf Extract

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Scientific Name: Olive Leaf
Other Names: Oleae europaea, Oleae folium, Olivier

Uses

One of the most active chemicals found in the leaves of olive trees is known as oleuropein. In animal studies, oleuropein not only prevented the development of high blood pressure but also reduced existing high blood pressure. Although the possible reasons for these effects are not known, it is thought that oleuropein may relax blood vessels, and it may also prevent deposits of plaque that lead to arteriosclerosis or "hardening of the arteries". A few small human studies of olive leaf for controlling high blood pressure have been inconclusive and more studies are needed to confirm or deny these effects.

In other studies, olive leaf extract appeared to lower blood sugar levels in laboratory animals with diabetes. It is believed that olive leaf has a dual effect -- it may cause more glucose to be utilized by the body and it may also stimulate the release of insulin. Few results are available from human studies, however. More research into the possible blood sugar-lowering effects of olive leaf is needed before it can be recommended for this use.

In recently reported laboratory studies, extracts of olive leaf have shown anti-infective properties. Extracts are concentrated liquid preparations usually made by soaking chopped or mashed plant parts in a liquid such as alcohol, and then straining out the solid parts. In separate studies, contact with olive leaf extract killed specific types of bacteria and slowed the growth of some skin fungi. Another laboratory study found that an extract of olive leaf interfered with some of the infective properties of HIV, the virus that causes AIDS. Much more study in animals and humans is needed to confirm or disprove the potential anti-infective effects of olive leaf extract.

Precautions

Very little information is available on how olive leaf might affect a developing fetus or an infant. Therefore, its use is not recommended during pregnancy or breast-feeding.

Individuals with diabetes should avoid using large amounts of olive leaf because it can lower blood sugar levels, potentially resulting in hypoglycemia (blood sugar that is too low). Symptoms of low blood sugar include shakiness, sweating, confusion, distorted speech, and loss of muscle control. If not corrected, low blood sugar can lead to unconsciousness and even death.

What side effects should I watch for?

Olive leaf may lower blood pressure by several methods, which may include the widening of blood vessels. Hypotension or blood pressure that is too low may result. Hypotension may not have any definite symptoms, but it may produce blurred vision, confusion, dizziness, or fainting.

What interactions should I watch for?

Due to its possible ability to lower blood pressure, olive leaf is believed to increase the effects of drugs that also lower blood pressure. Some blood pressure-lowering drugs are:

ACE inhibitors such as captopril, enalapril, lisinopril, and Monopril
Beta blockers such as atenolol, metoprolol, and propranolol
Calcium channel blockers such as nifedipine, Norvasc, and verapamil
Diuretics such as Dyazide, furosemide, and hydrochlorothiazide

Due to a possible decrease in blood sugar levels, taking olive leaf may increase the effects of insulin and oral drugs for diabetes, such as:

Actos
Amaryl
Avandia
glipizide (Glucotrol XL)
glyburide (Glynase)
Glyset
metformin (Glucophage)
Prandin
Precose

Because olive leaf may decrease blood sugar levels, taking it with other blood sugar-lowering herbal products may result in hypoglycemia -- blood sugar that is too low. Herbals that may reduce blood sugar include:

Eleuthero
Fenugreek
Ginger (in high amounts)
Kudzu
Panax ginseng

Some interactions between herbal products and medications can be more severe than others. The best way for you to avoid harmful interactions is to tell your doctor and/or pharmacist what medications you are currently taking, including any over-the-counter products, vitamins, and herbals. For specific information on how olive leaf interacts with drugs, other herbals, and foods and the severity of those interactions, please use our Drug Interactions Checker to check for possible interactions.

Should I take it?

Trees that produce olives are thought to have originated in the areas around the

Mediterranean Sea. Now growing wild and cultivated in orchards throughout Mediterranean countries, they are also found in warm parts of Africa, Asia, Australia, and the Americas. Generally, cultivated olive trees are kept relatively small so that the ripe fruits can be harvested easily. They have clusters of white or yellow flowers and small narrow leaves that stay green all year. Traditionally the symbol of peace, olive branches were woven into garlands and worn by ancient Greek and Roman leaders. They were also awarded to athletes at the original Olympic games. Today, they are represented on Olympic medals and on many flags including the flag of the United Nations.

For medicinal use, olive leaves may be gathered at any time of the year. Typically, they are dried and used to make a tea or processed into extracts. At various times since the residents of a Mediterranean island named Crete are known to have been using olive leaf as medicine about 5,000 years ago, it has been used to treat a number of chronic and infective illnesses.

Dosage and Administration

Olive leaf is most often sold as capsules or liquid extracts. Extracts are concentrated liquid preparations usually made by soaking chopped or mashed plant parts in a liquid such as alcohol, and then straining out the solid parts. A typical dose is 400 mg four times a day, but dosing recommendations vary considerably. If you use an olive leaf product, follow the directions on the package that you buy.

Olive leaf tea may be made by soaking about 2 teaspoons of dried olive leaf in 5 or 6 ounces of boiling water for 30 minutes. After the solid parts are strained out, olive leaf tea may be taken up to four times a day.

Summary

The major current uses of olive leaf are to lower high blood pressure and high blood sugar, although neither of these effects has been proven through well-controlled studies.

Risks

Pregnant and breast-feeding women are advised to avoid taking olive leaf because not enough is known about its possible effects.

Side Effects

Taking olive leaf may result in hypoglycemia or hypotension.

Interactions

Olive leaf may enhance the effects of drugs that lower blood pressure. It may also increase blood-sugar lowering effects of drugs or herbals.

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Olive Leaf Extract
A New/Old Healing Bonanza for Mankind

by
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INTRODUCTION

Science has long stalked the chemical world within plants to uncover their amazing healing secrets. Lately, these investigations have yielded discovery after discovery of natural compounds with promising health and medical potential.

Some of these compounds stimulate the production of anti-cancer enzymes in the body. Others bind and neutralize certain carcinogenic chemicals. Other have antioxidant effects,protecting the body from oxidation damage caused by harmful molecular fragments known as free radicals that contribute to aging and illness.

These natural compunds are found abundantly in roots, stems, leaves, fruits and vegetables. They go by a variety of scientific names like polyphenols, flavonoids, flavonols, pycnogenols, glucosinolates, isoprenoids, carotenoids, tocotrienols and proanthocyanadins. To keep things simple and pronounceable, we will just call them phytochemicals or phytonutrients. Phyto stems from the Greek word for plant.

The volume of current research is intense. Some experts say these compounds may offer the best protection we know of against the diseases that plague us today. There's much yet to learn about the tissue-specific way they work. But with time, these phytonutrients, in the form of supplements or medical preparations, may play a major role in anti-aging medicine and how we prevent and treat disease.

Among the many phytochemicals that have interested me, as a clinician, is oleuropein (pronounced oh-lee-or-oh-pin), a substance found in the olive leaf. I, as well as other health practitioners, have found that a natural supplement of olive leaf extract contains substantial medicinal benefits. Among them, boosting the energy among patients and aiding in the treatment of herpes and other viral conditions, flu and colds, fungal infections, chronic fatigue and allergies. I have also been surprised by unexpected results generated by this supplement.

The Olive Leaf in History and Medicine

It is hard to avoid the conclusion that there is something very special about the olive leaf. For one thing, it is the first botanical mentioned in the Bible.

"And the dove came in to him in the evening, and lo, in her mouth was an olive leafplucked off. So Noah knew that the waters were abated from off the earth." (Genesis 8 : 11)

After the Great Flood we didn't hear too much about the olive leaf for a long time. Obviously this was a hard act to follow.

In a much later biblical time (Ezekiel 47 : 12), God speaks of a tree: "The fruit thereof shall be for meat, and the leaf thereof for medicine."

Was it the olive tree?

In Revelations, at the very end of the New Testament, there is an angelic vision of a "tree of life" whose leaves "were for the healing of the nations." Today, as modern medicine increasingly embraces phytochemicals it is interesting to speculate about the biblical "tree of life."

Again, was it perhaps the olive tree?

The ancient Egyptians may be been the first to put the olive leaf to practical use. They regarded it as a symbol of heavenly power, and in keeping with that belief, they extracted its oil and used it to mummify their kings.

Later cultures found the leaf was better utilized for the living than the dead. Over the ages, there is documentation that it was a popular folk remedy for combating fevers.

The first formal medical mention of the olive leaf - an account describing its ability to cure severe cases of fever and malaria -- ocurred about 150 years ago. In 1854, the Pharmaceutical Journal carried a report by one Daniel Hanbury and contained the following simple healing recipe:

Boil a handful of leaves in a quart of water down to half its original volume. Then administer the liquid in the amount of a wineglass every 3 or 4 hours until the fever is cured.

The author said he discovered the effective tincture in 1843 and had used it successfully. This method became well known in England for treating sick Britons returning from His or Her Majesty's tropical colonies. The author believed that a bitter substance in the leaves was the key healing ingredient.

He was right.

Decades later, scientists isolated a bitter substance from the leaf and named it oleuropein. It was found to be one ingredient in a compound produced by the olive tree that makes it particularly robust and resistant against insect and bacterial damage. From a technical angle, oleuropein is an iridoid, a structural class of chemical compounds found in plants. It is present in olive oil, throughout the olive tree, and is, in fact, the bitter material that is eliminated from the olives when they are cured.

In 1962, an Italian researcher reported that oleuropein lowered blood pressure in animals. This triggered a flurry of scientific interest in the olive leaf.

Other European researchers confirmed this interesting finding. In addition, they found it could also increase blood flow in the coronary arteries, relieve arrhythmias, and prevent intestinal muscle spasms.

Around this time, a Dutch researcher determined the active ingredient in oleuropein to be a substance he called elenolic acid. It was found to have a powerful anti-bacterial effect.

By the late 1960's, research by scientists at Upjohn, a major American pharmaceutical company, showed that elenolic acid also inhibited the growth of viruses. In fact, it stopped every virus that it was tested against. Among others, the substance was found to counteract a

variety of viruses associated with the common cold of humans.

Moreover, a number of laboratory experiments at this time with calcium elenolate, a salt of elenolic acid, demonstrated a strong effect against not just viruses, but bacteria and parasitic protozoans as well.

The compound worked effectively at low concentrations without any harmful influence on host cell mechanisms, the American researchers concluded. That meant they believed it to be extremely safe and non-toxic, even at high doses.

Following test tube experiments, the pharmaceutical company launched animal tests. Experiments showed the compound was indeed extremely well tolerated. There was a hitch, however. In the body of an animal, the substance rapidly attached to protein in blood serum. For all intents and purposes, this meant calcium elenolate was of no use. The binding action essentially took it "out of action," rendering it ineffective. As a result of this obstacle, research into the compound as a potential virus and bacteria killing pharmaceutical drug was dropped.

Nevertheless, research and interest in olive leaf extracts has moved forward, primarily in Europe. Among the most recent findings are these:

> In a series of experiments, oleuropein was found to inactivate bacteria by apparently dissolving the outer lining of microbes.
>
> At the University of Milan Pharacological Sciences, researchers found that oleuropein inhibited oxidation of low-density lipoproteins, the so-called "bad cholesterol" involved in heart and aterial disease. This revelation, if confirmed by further research, suggests that oleuropein may contain antioxidant properties similar to other phytochemical compounds. Medical researcher Morton Walker, D.P.M., writing about olive leaf extract in the July 1996 issue of the Townsend Letter for Doctors and Patients, comments that the intake of flavonoids "is correlated with a lower incidence of cardiovascular disease indicated that the daily intake of olive oil and/or olive leaf extract containing phenols will likely bring on a similar result." At the present time, the cardiovascular research community is excited about such actions. Studies have shown that some phytochemicals can reduce the harmful oxidation of cholesterol as well as slow down the accelerated clumping of blood platelets that can lead to dangerous clots.
>
> At Spain's University of Granada, pharmacologists determined that olive leaf extract causes relaxation of arterial walls in laboratory animals. Such results suggest a possible benefit for hypertension, an effect first mentioned by researchers more than 30 years ago.
>
> In Tunis, researchers found that aqueous extract of olive leaves reduced hypertension, blood sugar, and the level of uric acid in rodents. This finding again indicates potential in the treatment of hypertension, as well as diabetes and heart disease. An elevated uric acid level is a risk factor for heart disease.

Remember the biochemical snag mentioned earlier -- that elenolic acid binds with proteins in the body to nullify any therapeutic use? The problem has been overcome and the door opened for the development of effective olive leaf extract supplements.

Such products are now available, containing oleuropein and synergistic olive leaf extracts, including flavonoids.

The medicinal firepower is there.

The safety is there.

The added benefit of other phytochemicals is there. In short, we now have an exciting new herbal with a promising future.

Olive Leaf Firepower

For the record, the researchers at Upjohn found calcium elenolate effective in test tube experiments against the following viruses: **herpes, vaccinia, pseudorabies, Newcastle, Coxsacloe A 21, encepthlomyocarditis, polio 1, 2, and 3, vesicular stomititus, sindbis, reovirus, Moloney Murine leukemia, Rauscher Murine leukemia, Moloney sarcoma,** and many influenza and parainfluenza types.

They found it effective against these bacteria and parasitic protozoans: **lactobacillus plantarum W50, brevis 50, pediococcus cerevisiae 39, leuconostoc mesenteroides 42, staphylococcus aureus, bacillus subtilis, enterobacteraerogenes NRRL B-199, E. cloacae NRRL B-414, E. coli, salamonella tyhimurium, pseudomonas fluorescens, P. solanacearum, P. lachrymans, erwinia carotovora, E. tracheiphila, xanthomonas vesicatoria, corynesbacterium Michiganese, plasmodium falciparum, virax** and **malariae**.

The researchers credit a number of unique properties possessed by the olive leaf compound for the broad killing power:

> An ability to interfere with critical amino acid production essential for viruses.
>
> An ability to contain viral infection and/or spread by inactivating viruses or by preventing virus shedding, budding or assembly at the cell membrane.
>
> The ability to directly penetrate infected cells and stop viral replication.
>
> In the case of retroviruses, it is able to neutralize the production of reverse transcriptase and protease. These enzymes are essential for a retrovirus, such as HIV, to alter the RNA of a healthy cell.
>
> It can stimulate phagocytosis, an immune system response in which cells ingest harmful microorganisms and foreign matter.

The research suggests that this may be a "true anti-viral" compound because it appears to selectively block an entire virus-specific system in the infected host. It thus appears to offer healing effects not addressed by pharmaceutical antibiotics.

Clinical Perspective

Clinically, the olive leaf extract has been used for a relatively short time. Health professionals began using it early in 1995 when it first became available. Although we do not have long-term perspectives as yet, initial results are very positive. We see a very promising and unique

herbal with multiple applications. It shows considerable therapeutic action against many common conditions. In short, it appears to be living up to its unique background and expectations.

From research and clinical experience to date, we can say that supplemental olive leaf extract may be beneficial in the treatment for conditions caused by, or associated with, a virus, retrovirus, bacterium, or protozoan. Among such conditions are influenza, the common cold, meningitis, Epstein-Barr Virus (EBV), encephalitis, herpes I and II, human herpes virus 6 and 7, shingles, HIV/ARC/AIDS, chronic fatigue, hepatitis B, pneumonia, tuberculosis, gonorrhea, malaria, dengue, bacteremia, severe diarrhea, blood poisoning, and dental, ear, urinary tract and surgical infections.

In our clinic, we use olive leaf extract for a variety of infectious and chronic conditions. We also believe that many people who lead stressful lives or who may be particularly susceptible to colds and viruses may benefit from long-term use of olive leaf extract as a preventive agent.

As I mentioned earlier, I am constantly surprised by unexpected benefits reported by patients. This indicates that we are perhaps just scratching the surface in our understanding of phytochemical benefits. Patients have told me about improved psoriasis, normalization of arrhythmias (heart beat irregularities), and less pain from hemorroids, toothaches and chronically achy joints.

I myself cured a chronic toenail fungal infection after starting on the supplement. It had not responded to the many other nutrients that I take.

One woman with bad allergies reported significant improvement and a level of energy she hadn't felt for years.

One elderly male with severe arrhythmia told me his condition had vastly improved in about eight days just from taking olive leaf extract alone. A woman with mild arrhythmia said her condition improved substantially while she took the supplement and then slowly became irregular again after she ran out.

We know from the oleuropein research done in the 1960s that the substance improves blood flood to the heart and acts to normalize arrhythmias. Currently, we are learning much about the cardiovascular benefits of the phytochemical compounds found in grape seeds, onions, kale, green beans, broccoli, and other vegetables. It will be interesting to see what benefits the particular phytochemicals in olive leaf extract produce for heart and arterial health.

Phil Selinsky, a naturopathic doctor at the Institute for Holistic Studies in Santa Barbara, and biochemist Arnold Takemoto, who has been developing patient nutritional programs on behalf of physicians in Arizona for 15 years, have found olive leaf extract to be an effective addition to their array of natural healing tools.

After using the supplement in dozens of cases for over a year, Selinsky is impressed with the benefits and looks forward to continued use and greater understanding about its most effective applications.

There is no doubt that olive leaf extract has real healing power. In a moment I will go into much greater detail on how it has helped patients.

It is important to keep in mind, however, that like any nutritional supplement it should not be considered a cure-all or panacea. In holistic practices such as mine, individual supplements are part of a comprehensive program that includes better diet, exercise, and stress control methods. That's how we maximize health and minimize symptoms.

In such a program, a patient may start with supplement X, Y and Z, get involved in an exercise program, and experience perhaps 50 percent relief for a given condition. That's a lot of relief but then we keep trying to improve the situation. We now add another supplement, let's say the olive leaf extract, and we get another degree of improvement, often quite large. In this manner, we continually tailor the program of an individual patient for the best results. And in this scheme of things, olive leaf extract is making a very positive contribution. It complements all the good things patients are doing.

There is always the possiblity that one ingredient, one supplement, can fill a large gap or particular need in the body and by itself lead to major improvement. We see that happen all the time. But usually it is all the elements in a nutritional program that work together -- like a team of horses pulling a wagon -- that gets the job done most effectively.

Biochemist Arnold Takemoto puts it this way: "Olive leaf extract is not a single magic-bullet. There are very few such things, especially in non-pharmaceutical medicine. In many cases it takes a whole lot more than just one ingredient to get over a particular condition. Yet I find it a very valuable addition against chronic fatigue syndrome and many other viral conditions, especially those that are more tenacious. It fills a hole that we haven't been able to fill before."

In the Townsend Letter article, Takemoto told Morton Walker that he has "yet to discover another herbal substance that accomplishes antimicrobially what this substance achieves."

Takemoto went on to say that Lisa Weinrib, M.D., one of the physicians he works with, treats many cases of fibromyalgia and chronic fatigue syndrome.

She has noticed that patients with these problems exhibit much improvement from use of the extract, according to Takemoto. "It's the missing link that functions as an antiviral and antiretroviral agent by slowing down the organism's reproductive cycle. A slowdown...allows the patient's immune system to go on the attack."

Takemoto says olive leaf extract has helped patients eliminate stubborn viral infections they have had for years. One patient, who had suffered from shingles (herpes zoster) for nine years, experienced complete relief within two days of starting olive leaf extract and other supplements.

"In my approach," Takemoto says, "I target key antibody responses for specific viruses, stimulate the immune system, and with olive leaf extract attempt to inhibit the reproduction of the virus. It takes everything to get over some of these real chronic conditions."

More Energy

One of the most frequent comments we hear from patients after they start taking olive leaf extract is that they feel more energetic and have a greater sense of well-being. Many want to continue the supplement even after the treatment program has cleared up or reduced specific problems.

Some patients are energized to the point that they inquire whether there is an "upper" in the product. There is not. It simply generates a natural "upper" effect. Healthy people who take it say they also feel this infusion of energy.

One of my patients is an 18-year-old professional ice-skater who says that one or two olive leaf extract tablets a day helps her sustain the high energy level she needs for practice and performance.

In my clinic, as in many others, fatigue is the No. 1 complaint. I am not refering to serious chronic fatigue situations but just routine tiredness, likely caused by a combination of consuming a dead food diet and not exercising. The average person, of course, is not going to change eating habits and is not going to go on a regular exercise program. In such cases, the olive leaf extract looks like a good source of pep for the pepless.

Chronic Fatigue

In my experience, olive leaf extract also has helped in many chronic fatigue cases, even the most serious. One female patient described to me what she called a "really quite unbelievable" recovery within one month of taking the supplement.

"For the last few years I have not been feeling like myself. I've had little energy and enthusiasm for anything. This is not my usual nature. I attributed it to weight, unemployment and just being down. My head was always somewhat achy and I couldn't figure out why. The only way I could describe it would be as a constant low-degree headache which never left.

"I started taking olive leaf extract and noticed an immediate elevation of my spirits. What I liked about the product was that it was effective but gentle and didn't make me hyper or unable to sleep. Quite the contrary, I slept better.

"After a few days I began to notice more energy and a stronger sense of well-being. The cobwebs in my brain started to diminish. I also noticed a bad shoulder and a bad knee started to get better. The pain associated with these joints remarkably improved.

"The only side-effects I had were a couple of headaches in the beginning which disappeared with some aspirin. I started to feel much, much better. It was amazing to see the fatigue disappear and my general health improve. I couldnít believe I felt so well. I stopped taking the product after 30 days and experienced no withdrawal or anything. I simply felt better and that has stayed the same for the last 60 days without the product."

Another female patient with Epstein-Barr Virus reported that the supplement "has helped me very much in overcoming the tiredness I feel. It has given me energy."

For some very sick individuals, including people with chronic fatigue syndrome or particularly heavy loads of virus or bacteria in their bodies, olive leaf extract may possibly generate detoxification symptoms -- known as the "die-off effect" -- that may be unpleasant.

Such people may actually feel worse for a short time before feeling better. As an example, many chronic fatigue patients suffer from an associated depression. Patients of mine who toughed it out through the"die-off" period emerged highly energized and no longer depressed.

The "die-off effect," or Herxheimer Reaction as it is medically called, refers to symptoms

generated by a detoxification process. If you are sick and use this product, you should be aware of the possibility. For this reason it may be advisable to consult first with a holistic health practitioner before using it.

If you have ever used Nystattin to fight yeast infections, you are probably familiar with this situation. Nystattin kills yeast. As the body becomes full of dead yeast, you may experience a variety of detox symptoms. Symptoms may intensify to the point where you need to stop or reduce the dosage of the medication in order to give your body a chance to eliminate the toxic waste.

Olive leaf extract is potent stuff. It can generate an internal cleansing action that may similarly cause significant detox symptoms. Refer to the next chapter about what to do if you experience such a reaction.

"Die-off" Effect

"Die-off" symptoms can begin almost immediately after starting the supplement. It can hit different people in different ways. Reactions include extreme fatigue, diarrhea, headaches, muscle/joint achiness or flu-like symptoms. Severity differs also from person to person, depending on the extent of infection.

Keep in mind that such symptoms are positive signs. Nevertheless, they can be unpleasant. Some people may not want to continue because of the discomfort. Others handle it better. Others experience no such effect.

Here's what to do in case of substantial detoxification symptoms:

> Reduce the number of tablets, or even stop them altogether for a while.
>
> You may need a day or two, or even a week, to allow your body to process the "die-off."
>
> When you feel better, you can resume the supplement at a low dose and increase slowly.
>
> Holistic practitioners can usually provide a supportive detoxification program for individuals who experience a strong "die-off" response. In my clinic, this program includes taking vitamin C to bowel tolerance. Such a regimen is best done under professional guidance.

Other than the "die-off" detoxification effect among some individuals, olive leaf extract appears to create no side effects. Past research with calcium elenolate, the derivative or oleuropein, included safety studies with laboratory animals. They were dosed orally and also via injection. The only symptom observed was a mild irritation of the mucous membrane among some animals at the injection site. Since olive leaf extract is taken orally, this observation is basically irrelevant.

The research indicated that doses many times higher than recommended are unlikely to produce toxic or other adverse side effects. During 1993 testing of the liquid form of the product against the herpes virus, there were no observed or reported side effects.

Potential Against Serious Infectious Diseases

Deaths from infectious diseases, formerly on the decline, have recently taken an alarming upward turn in this country.

According to federal researchers, such deaths rose by 58% from 1980 to 1992, pushing this category of illness up behind heart disease and cancer in the No. 3 spot of killer diseases.

While the AIDS epidemic accounts for most of the rise, experts say there has been an unusual increase in mysterious respiratory infections among the elderly and blood infections among people of all ages. When you eliminate the AIDS the death rate during the same period for all other infectious diseases rose by 22 percent.

The World Health Organization (WHO), back in 1978, looked to the future and issued a report which contended that by the year 2000, sources other than Western, technological medicine would be needed in order for all people to have adequate health care. The organization subsequently adopted the report that recommended the use of traditional forms of healing and medicine, such as the use of herbs, to meet the demands of an factor, exploding global population.

As we approach the year 2000, the wisdon -- and the urgency -- of this advice is obvious in the light of the serious side-effects and shortcoming of pharmaceutical drugs.

With the emergence, for instance, of antibiotic-resistant bacterial strains, natural products such as olive leaf extract take on greater importance. Even if new antibiotics are developed, new infectious bacteria would emerge that are resistant to new drugs. In the case of herbal medicinals, their complex chemistry may often render them potentially more effective against a wide variety of microorganisms for which pharmaceutical drugs prove to be ineffective.

AIDS

It will be interesting to see if olive leaf extract can benefit AIDS cases. We know that it inhibits the production of reverse transcriptase and protease, enzymes necessary for certain viruses, such as HIV, to damage healthy cells.

Informal, preliminary reports are promising.

Mark Konlee, editor of "Positive Health News," a newletter on alternative treatments that circulates widely in the AIDS community, has reported exciting initial results with olive leaf extract, either in the tablet supplement form or directly as a tea brewed from leaves, in combination with other ingredients.

Those other ingredients, according to Konlee, have been found to be highly beneficial over the years. They include:

> Naltrexone, an immune-stabilizing drug used in the treatment of heroin and alcohol addiction. Clinical trials conducted by Bernard Bihari, MD, a New York City physician specializing in HIV/AIDS, demonstrated that this preparation stops the progression of the disease and the decline of the immune system in a majority of patients who take it regularly. Naltrexone stimulates key hormones regulating the immune system and the communication between the brain and immune function. No side effects have been reported.

DNCB (dinitrochlorobenzene), a chemical used in photography labs that is applied in small doses on the skin. This compound acts as anti-viral agent by stimulating killer cell activity. An estimated 7,000 patients with AIDS have used this substance for some 10 years.

A blend of olive oil/whole lemon juice. This "grassroots" recipe appears to be uniquely helpful in reversing neuropathy, swollen lymph nodes and wasting syndrome associated with the HIV.

For more specifics on this approach, interested individuals may contact "Keep Hope Alive," P.O. Box 27041, West Allis, WI 53227, or by phone at 414-548-4344.

Konlee reports that the combination, with added olive leaf extract, "has producted stunning results," including viral loads dropping dramatically within a month. Among the cases he describes are these:

1. A patient had been using Naltrexone since October 1995 along with weekly topical applications of DNCB. He had not used the olive oil/lemon juice blend. In August of that year he had had a CD8 count of 700. CD8 refers to killer T cells, which, along with so-called Natural Killer cells, are major immune destroyers of virus infected cells. They reduce viral loads and inhibit damage to the body's defenses.

In January of 1996, his CD8 count had risen to 1380. In March of 1996 he added olive leaf extract at the standart dose of one capsule four times daily. He initially experienced a mild headache, a probably "die-off effect." Within days, he reported a significant increase in energy along with the disappearance of swollen lymph nodes. He said he felt 20 years younger. On March 21, his CD8 count had soared to 1920! His physician said never before in his career had he seen such improvement in an AIDS patient.

2. One patient reported that after finishing a bottle of olive leaf extract, one of three Kaposi Sarcoma lesions on his chest vanished. He experienced headaches and flu-like symptoms for about two weeks, again a probable "die-off effect." Continuing with a second bottle, he said the second lesion was completely gone and the last one was "fading fast."
His HIV viral load, as measured by PCR technology, had dropped from 160,000 to 30,000 in two months. Soon afterward, he reported that his PCR results for HIV were now down to 692.

3. An HIV patient reported his genital herpes vanished within four days of starting on the olive leaf extract.

4. Another patient with Kaposi's Sarcoma and retinitis added five capsules of olive leaf extract daily along with Naltrexone and DNCB. After doing this, he said that the sarcoma lesions stopped growing. This prompted him to stop two drugs he had been taking -- Ganciclovir and Biaxin -- because of severe intestinal side effects. A few days after discontinuing the drugs, his digestion returned to normal. He soon reported improved vision and that lesions were becoming lighter in color.

5. One patient took the olive leaf extract by itself for about 3 1/2 months. His HIV viral load dropped nearly in half as a result, along with significant improvements in his white blood cell counts. After adding Naltrexone and the lemon/olive oil drink, his improvement accelerated.

Herpes

I have recommened olive leaf extract to many patients with herpes. The results have been encouraging.

One man in his early 40s suffered from repeated lesions plus fatigue. In a week after starting the supplement, his lesions disappeared and his energy level increased. He told me that olive leaf extract was the only preparation that had ever cleared up the herpes. "Even the most minute blisters are gone," he said.

A female patient had an unusually stubborn herpetic cold sore in the mouth for four months. She also suffered from cancer, thus there may have been some significant immune exhaustion involved. After one week with the olive leaf, the sore disappeared.

These and other similar clinical successes are consistent with a private 1993 herpes study in humans. In that investigation, a weaker and ethanol (alcohol-based) form of olive leaf extract was used by six individuals with herpes.

All reported symptomatic relief.

Three said their lesions disappeared within 48 hours. The remaining three, who experienced no improvement, then received a stronger dose. One said that three days later, most of the lesions were gone. The other two also reported doing better.

All six subjects said the olive leaf extract produced better results than Acyclovir, a medication they had previously used.

Flu and Colds

Results to date indicate that olive leaf extract may be a good weapon against the common cold and flu. Consider the following letter written to me in August of 1995 by a female patient suffering from persistent flu symptoms:

"I became ill with the flu in February and had several immune boosters, extra vitamins and three antibiotics. My fever was 102-103 every afternoon and this continued even after the antibiotics. I developed paralyzing chest and abdominal pain, being confined to the couch for weeks -- not able to hardly walk. My weight dropped to 84 pounds. Medical tests revealed nothing specifically wrong.

I started taking olive leaf extract on July 18. Within a few days my temperature started dropping and it is slowly and steadily going down, so that some days I haven't needed to take Tylenol to reduce it. The pain is subsiding gradually and my appetite and strength is returning."

At the time of her next medical examination, the woman's temperature had been normal for a week. She hadn't needed pain-killers for two weeks.

I received a striking testimony from an elementary school teacher with a history of asthma and vulnerability to colds and flu. She felt that olive leaf extract fortified her against the constant exposure to germs circulating throughout her classroom.

"I used to get sick all the time," she told me. "One school year I got strep throat eight times. If

you sneezed at me, the chances are I would get sick. Not any more. When many kids in my class were coughing, sneezing, and blowing their noses before Christmas, I caught a slight cold and that's it."

Bacterial Infections

The ability of olive leaf extract to destroy bacteria was demonstrated dramatically in the case of a 64-year-old physician who had been bedridden for several years following a serious stroke. He also had recurrent bladder infections which caused considerable pain, smelly urine and fever.

All efforts to alleviate his condition had been generally unsuccessful. Even a $1,000 antibiotic specially made for him had not worked. He had constant discomfort. His urine was cloudy "and looked like soup." Often it was bloody.

After one month on olive leaf extract, the infections had vanished. After six months, the condition has not recurred.

The doctor also suffered from frequent allergies and colds and had to take medication to keep these under control. The incidence and severity were significantly minimized with the supplement and as a result he requires considerably less medicine.

Naturopath Phil Selinsky reports success against bacterial infections in a number of cases. These include sinus and bladder infections and oral infections associated with tooth or gum disease.

"Some patients have told me that olive leaf extract took down their dental-related infections within hours," according to Selinsky. "They were quite impressed by the response."

The general recommendation for olive leaf extract is four tablets daily. For these kind of infections, Selinsky recommends patients begin with two tablets followed by another every four hours.

"That usually gets you on top of the situation," he says. For more serious infections, tablets can be taken at shorter intervals.

One night a patient of mine developed swelling and intense pain from an abscess and decided to take several tablets at one time. It reduced the pain. In the morning, when the pain returned, he took a "handful" of tablets -- about eight or nine, he guesses. An hour-and-a-half later, the pain and swelling were gone. The pain did not return but a dental examination determined that the involved tooth had to go.

Diabetes

Researchers have found that the natural olive leaf compounds can decrease the level of blood sugar. I have had several cases in my clinic confirming this finding.

One involved a 15-year-old girl with juvenile diabetes. The teenager had been regularly taking 350 units of insulin daily for control. After one month on olive leaf extract, she was able to maintain similar control with just 220 units.

In another case, the blood sugar level of a diabetic elderly priest dropped from 450 to 160

after three months. In an yet another instance, the blood sugar of a middle aged man stabilized at 140, down from 250, after one month. He reported a great increase in energy during this time.

These results are exciting. I look forward to more opportunities to gauge the benefits of olive leaf for diabetics. Will it generate improved blood flow and antioxidant effects to help against the destructive vascular complications of diabetes that contribute to stroke, heart disease and peripheral circulatory problems?

Time will tell.

Rheumatoid Arthritis

A number of patients have experienced significant easing of joint pain. We don't know yetprecisely how this is happening.

A male patient, who had been diagnosed with rheumatoid arthritis five years before, had this to say: "After taking all the medicines I could stand with no real results, I was informed about some nutritional supplements. One of them was an olive leaf extract.' "After taking it for three weeks I noticied more flexibility in my fingers, elbows, and neck. There was marked relief of muscle tension surrounding my joints. Overall I am enjoying olive leaf extract with my daily routine."

Multiple Symptoms

One of our clinical observations is that olive leaf extract appears to work on many different levels in the body. As a result we often hear reports from patients that a variety of symptoms begin improving.

One woman with chronic fatigue, frequent colds, asthma, and vaginal yeast infections said that all her symptoms had virtually cleared up within five weeks. The woman, a teacher, was able to take on new projects she wouldn't even begin to think were possible before.

A male patient wrote a detailed letter about his experience:

"I became ill in December 1993 and was diagnosed with a stomach and prostrate infection. I was treated with high doses of antibiotics, but never fully recovered. I was troubled with multiple symptoms, some of which were back and neck pain, fatigue, flu-like symptoms, swollen glands, sinus and digestive problems. I was subsequently diagnosed with fibromyalgia (chronic fatigue syndrome) and the physicians recommeded Prozac-type antidepressants and anti-inflammatory drugs. But I refused them. I began taking olive leaf extract along with my regular vitamin and mineral supplements in August of 1995 at the rate of one tablet every six hours. I increased the dosage after five days and began to feel better."

"I tried different dosages for a number of days until I found the optimum amount for me. Today I take three tablets four times a day. My overall health has greatly improved and so has my energy and disposition. One very interesting thing has occurred. My finger nails were infected, by whatever infection I had, leaving them wrinkled looking. Now they are slowly returning to their normal shape."

A female patient, after taking olive leaf extract for a month, gave me this happy report:

"It has improved my allergy-like psoriasis, and symptoms of a kidney infection. I have been having back aches for almost a year and frequent urination. These have improved a lot also.

Fungus and Yeast Infections

Earlier I mentioned my own positive experience with olive leaf extract. I started taking the supplement and it completely cleared up a stubborn toenail fungus infection. A number of other patients have told me similar stories.

A woman with an infection of the large toenail said that within 60 days her condition was about three-quarters healed. For five years, she had tried many types of medication and natural agents without help.

More than 10 million Americans are said to have disfiguring fungal nail infections, a widely ignored medical problem. It is frequently found among patients with AIDS, cancer and diabetes, athletes, elderly individuals, people who spend considerable time standing or who wear the same shoes day after day, or who wear artificial fingernails. Drugs taken for cancer and AIDS lower resistance and are believed to make people more susceptible to infection.

For the first time in 35 years, a new drug has been approved for the condition. It is called Sporanox and is reported to be more effective than previous anti-fungal preparations. But none of these preparations come cheap. Patricia Anstett of the Knight-Ridder Newspapers reports that two 100-milligram pills of Sproranox are taken daily for about three months at a cost of $900. Older drugs, taken for 12 months or more, cost double or more that amount over the longer duration. Even with the new drug, the condition may return if the medication is stopped.

Olive leaf extract may offer a natural -- and for sure, less expensive -- method of self-treatment.

One patient said a fungal infection of the tongue he had for 30 years responded virtually overnight to the olive leaf. "I had tried all kinds of diets, treatments and regimes but to no avail," he told me. "Within three weeks on olive leaf extract the fungus disappeared!"

More than a dozen patients with candidiasis have reported significant improvements. They say they have fewer infections, allergic reactions, less dullness and more energy. One woman said she was finally able to clean out her dust-ridden garage. Before olive leaf extract that would have been impossible for her.

One 36-year-old woman, who had suffered repeated vaginal yeast infections for several years, told me this account of her experience with olive leaf extract:

"I have seen several doctors using conventional medicine. They prescribed every medication available to combat yeast, all to no avail. After less than three weeks of taking the olive leaf supplement, all symptoms cleared up and have not returned. As a sufferer of herpes simplex II, I would experience outbreaks several times a year. Now, I have had no more flare-ups."

Skin Conditions

A chronic scalp infection that had stubbornly resisted all treatment for more than 10 year responded directly to olive leaf extract within 60 days. The patient wrote me this detailed letter:

"The condition would flare up causing very painful eruptions and lesions in my scalp, which, over time, have killed quite a few hair follicles. Modern medical doctors and dermatologists have been unable to eradicate (the condition). I had resolved my self to the fact that there was no cure.

"I am satisfied that I am getting some significant results from using the olive leaf extract. My scalp remains a little tender, but the eruptions have all but ceased. I am continuing to use the product about twice a day, and the skin color is much healthier than it has been in recent time.

"No matter what drug therapy my doctors have prescribed in the past, none has provided me with the level of relief I am currently experiencing. I would gladly recommend this product to others suffering chronic skin aliments."

A female patient reported better energy and disappearance of a rash in 30 days. The rash occurred in winter, or during times of extreme cold.

Tropical Illnesses

Olive leaf extract may offer considerable potential in the treatment of tropical infections such as malaria and dengue.
Malaria is caused by parasitic protozoans injected into the body by infected mosquitoes. Protozoans, in case you are interested, are one-celled organisms, the simplest creatures in the animal kingdom.

As far back as 1827, reports have appeared in medical literature indicating the benefits of olive leaf extract in the treatment of malaria. In 1906, one report stated that olive leaves were, in fact, superior to quinine for malarial infections. Quinine was preferred, however, because it was easier to administer. In studies performed by the Upjohn company, calcium elenolate, the substance within oleuropein, was found to be effective against the malaria protozoa.

Now in tablet form, there may be renewed interest in olive leaf extract as an anti-malarial agent. Preliminary reports from Latin America are promising.

A full-fledged case of malaria at a clinic in Mexico was totally cured with a dosage schedule of two olive leaf extract supplements every six hours. A clinic report said that the 34-year-old female patient made a steady recovery and after six months, "she was without any of the malaria symptoms, not even anemia or shivers. Her breath is good. Her state of mind excellent and she does not show any signs of chronic or contagious disease."

Malaria has been reported recently in Texas and continues to be a leading cause of illness and deaths worldwide, particularly because of the development of drug-resistant strains. "It is a continuing concern in the United States because of increased international migration, travel, and commerce, " according to the publication **Morbidity and Mortality Weekly Reports**.

Another serious tropical disease giving concern to public health officials is dengue fever. This ailment is also mosquito-borne, in this case caused by a virus, and occurs mainly in tropical Asia and the Caribbean. It can cause vomiting, high fever, loss of appetite, and abdominal pain, and is deadly in 50 percent of the cases. Some 50 million people are affected each year and about half a million require hospitalization, according to the World Health Organization. Researchers are trying to find a vaccine but no breakthroughs have occurred yet.

In 1995, large outbreaks of dengue were reported by health authorities in 12 Latin American and Caribbean countries.

Dosages

Olive leaf extract is currently available in the form of 500 mg. tablets. The routine dosage is one tablet every six hours or four throughout the day. Take the supplement between meals for best results.

In the case of bad colds or flu, you can use two tablets every six hours. For acute infections, some individuals have taken more -- three and even four every six hours -- and reported rapid relief.

If you encounter a "die-off" effect, cut back on the number of tablets you are taking or temporarily discontinue them. See the section on "die-off effect."

For healthy folks seeking more energy or the prevention benefits of olive leaf extract, we suggest one or two tablets a day. The younger and cleaner the body, the more responsive it is to supplements such as this. When a person becomes older and more toxic, more of the supplement is required to do the job.

Dr. James R. Privitera, M.D.

Dr. Privitera, M.D. earned his medical degree at Creighton University and completed an Internship in Internal Medicine at Providence Hospital in Seattle, Washintion and his residency at Presbyterian Hospital in San Francisco, CA. Following a Clinical Fellowship in allergy, immunology and rheumatolgy at Scripps Clinic in La Jolla, he entered private practice in allergy and nutrition in Covina, California where he practices today. Affiliated with the American Preventive Medical Association and the International College of Applied Nutrition, among others, Dr. Privitera has served on the boards of several top health organizations including the National Health Federation. A pioneer in dark field microscopy, Dr. Privitera has been asked to consult to some of our nations's leading vitamin manufacturers. He has a book soon to be released entitled "Silent Clots - the Nation's Biggest Killer".

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DE102005063179
2006-09-28

FOOD SUPPLEMENT COMPOSITION INDUCING GALLSTONE REMOVAL
KR20030031384
2003-04-21

Extraction method and technique of olive leaf extract
CN1827127 - 2006-09-06

Health-caring tea made by olive leaf and preparation method thereof
CN1806649 - 2006-07-26

METHOD OF USING WHOLE OLIVE AND FOOD HAVING ACTIVITY AGAINST HELICOBACTER PYLORI
WO2005046358 - 2005-05-26

Natural olive beverage with high vitamin and calcium content
CN1672593 - 2005-09-28

Olive kernel leaf extracts and preparation process and medical use thereof
CN1544007
2004-11-10

Medicine for treating diabetes
CN1483453 - 2004-03-24

Olive-leaf foods and its preparation method and use
CN1422537 - 2003-06-11

TEA BAG OF OLIVE TEA AND METHOD FOR PRODUCING THE SAME
JP2003339360 - 2003-12-02

METHOD FOR PRODUCING OLIVE TEA, AND METHOD FOR PRODUCING TEA BEVERAGE MAINLY CONSISTING OF THE OLIVE TEA PRODUCED BY THE METHOD
JP2004024002
2004-01-29

DRIED OLIVE LEAF HAVING HIGH OLEUROPEIN CONTENT AND EXTRACT OF THE LEAF
JP2003335693
2003-11-25

Olive leaf extraction method and formulations containing olive leaf extract
US6743449
Abstract --- A non-aqueous method of extracting olive leaves, and products formed containing the olive-leaf extract. The resulting extract is used, preferably together with vitamins C, E and A or components thereof to form a skin treatment product that has efficacy as a photoprotectant and antioxidant.

Herbal intestinal tract cleanser
US6551628 - 2003-04-22

Extraction of biologically active compounds from plant material using acid and antioxidant
NZ515182
2004-03-26

AMYLASE INHIBITOR CONTAINING OLIVE LEAF OR EXTRACT THEREOF AND FOOD FOR PERSON HAVING HYPERGLYCEMIA
JP2002010753
2002-01-15

METHOD FOR OBTAINING OLIVE LEAF EXTRACTS AND APPLICATIONS THEREOF
WO0147537
2001-07-05
Abstract -- The invention concerns a method for obtaining olive leaf extracts by performing

extraction of olive leaves dried at a temperature of less than 35 DEG C with alkanols at low temperature and purifying the extract. The invention also relates to new pharmacological applications of olive leaf extracts as potentiator of cell immunity and delayed hypersensitivity in healthy humans by activating and proliferating T lymphocytes, natural killer cells, monocytes, granulocytes and pro-inflammatory cytokines.

Herbal formulation for stimulating the immune system to prevent colds and the flu and method of using same
US2001018077
Abstract -- A herbal formulation that is orally administered and which affects colds or the flu in a human subject comprises beta glucans, olive leaf extract, echinacea, goldenseal, una de gato, pao d'arco, elderberry dried berries and cayenne pepper. The formulation can also include zinc lozenges if symptoms of a sore throat are present in the subject.

Chinese olive polyphenols and preparation process thereof
CN1333203
2002-01-30

COSMETIC AND/OR DIETETIC COMPOSITION COMPRISING A MIXTURE OF LYCOPENE AND OLIVE LEAF EXTRACT
WO0066078
2000-11-09

OLIVE LEAF EXTRACT, APPLICATION TO SKIN PREPARATION FOR EXTERNAL USE OR BATHING AGENT
JP2001002550
2001-01-09

USE OF EXTRACT FROM LEAF OF OLEA EUROPEA AS ANTI-RADICAL AGENT
JP2000344621
2000-12-12

Olive leaf series products and production process thereof
CN1237356 - 1999-12-08

PRODUCTION OF LIQUID TEA COMPRISING OLIVE LEAF AS MAIN RAW MATERIAL
JP11262378 - 1999-09-28

PULVERIZATION TREATMENT OF OLIVE LEAF
JP11239460 - 1999-08-16

METHOD FOR PRODUCING EXTRACT OF OLIVE LEAVES AND EXTRACT PRODUCED THEREBY
WO9938383
1999-08-05

Compsn. for causing hair growth - contg. garlic, celery, vegetable oil and opt. root of stinging nettles and leaves of green ivy
DE4138680
1993-05-27

USE OF POLYLYSINE IN COMBINATION WITH EITHER GREEN TEA OR OLIVE EXTRACTS OR BOTH FOR USE AGAINST HALITOSIS
WO2006117029
2006-11-09

Nutritional or therapeutic composition containing the compound oleuropeine or one of the derivatives thereof
US2006193931
2006-08-31

Method of treating diabetes type II)
US2006177530
2006-08-10

Topical composition for the treatment of psoriasis and related skin disorders
US2006165819
2006-07-27

METHODS FOR INHIBITING CANCER AND SCAR FORMATION
MXPA05006069
2005-11-17

METHOD OF OBTAINING HIGH-VALUE-ADDED COMPOUNDS FROM OLIVE LEAVES
WO2005075614
2005-08-18
TABERA GALVAN J JAVIER, et al.
Abstract -- The invention relates to a method of obtaining high-value-added compounds from olive leaves. The inventive method comprises the following steps, namely: a first step in which the leaves are subjected to solid-liquid extraction with organic solvents, preferably hexane or ethanol, and the crude extract thus obtained is vacuum concentrated; and a second step in which the crude extract is fractionated by means of supercritical CO2 countercurrent column extraction and separation into two cells with different fixed pressure and/or temperature conditions which alter the dissolving power of the CO2, thereby precipitating different compounds. The invention can be used to extract natural products of interest from olive leaves for the food, pharmaceutical and cosmetic industries, such as waxes, squalene, beta -carotene, alpha -tocopherol, oleuropein, hydroxytyrosol and other phenolic compounds, beta -sitosterol, alpha - and beta -amyrin, erythrodiol, uvaol and other terpenic alcohols, oleanolic acid, ursolic acid and maslinic acid, among others.

METHOD OF TREATING DIABETES TYPE II
WO2005007114
2005-01-27

Water-soluble extract from olives
US6936287
Abstract -- The invention provides olive-derived vegetation water substantially free of monophenolic compounds (e.g., tyrosol and its derivatives) from olive pits. According to one aspect of the invention, the pits or seeds are removed from the olives prior to pressing. The pitless pulp or meat is then pressed to obtain a liquid-phase mixture including olive oil, vegetation water, and solid by-products. The vegetation water is separated from the rest of the

liquid-phase mixture and collected. The vegetation water is useful as a source of oleuropein.

Isolation of oleuropein aglycon from olive vegetation water
US2005103711
Abstract -- The present invention provides economical methods for collecting oleuropein aglycon from olive vegetation water, a routine byproduct in the manufacture of olive oil. The methods have the advantage of facilitating the collection of other valuable constituents of olive vegetation water, and furthermore render the olive vegetation water environmentally benign, and thus suitable for routine disposal.

Methods for inhibiting cancer and scar formation
US2004097428
2004-05-20

Topical composition for the treatment of psoriasis and related skin disorders
US2005003023 - 2005-01-06

Hydroxytyrosol-rich composition from olive vegetation water and method of use thereof
US2003108651 - 2003-06-12

DRIED OLIVE LEAF HAVING HIGH OLEUROPEIN CONTENT AND EXTRACT OF THE LEAF
JP2003335693 - 2003-11-25

METHOD FOR PRODUCING EXTRACT COMPOSITION CONTAINING OLEUROPEIN
JP2002128678 - 2002-05-09

Water-soluble extract from olive
US6197308 / US6165475 (A1)
Abstract -- The invention provides olive-derived vegetation water substantially free of monophenolic compounds (e.g., tyrosol and its derivatives) from olive pits. According to one aspect of the invention, the pits or seeds are removed from the olives prior to pressing. The pitless pulp or meat is then pressed to obtain a liquid-phase mixture including olive oil, vegetation water, and solid by-products. The vegetation water is separated from the rest of the liquid-phase mixture and collected. The vegetation water is useful as a source of oleuropein.

METHOD FOR PRODUCING EXTRACT OF OLIVE LEAVES AND EXTRACT PRODUCED THEREBY
WO9938383 / US5714150 (A1)
Abstract -- A method for preparing an olive leaf extract and the extract prepared thereby. The leaves are covered with an aqueous alcohol solution which remains in contact with the leaves for at least 4 hours and is then drained. This process is repeated at least two more times, and the drained extracts are combined, concentrated by distillation under vacuum, and dried by spray drying or oven drying under vacuum, to obtain a powder containing about 30-40 % by weight oleuropein. The steps of the extraction are conducted at a temperature of about 20 to 88 DEG C.

METHOD OF PREPARING OLEUROPEIN
SU1066603
1984-01-15

US Patent # 6,197,308
Roberto Crea, et al.
(March 6, 2001)

Water-Soluble Extract from Olives

Abstract -- The invention provides olive-derived vegetation water substantially free of monophenolic compounds (e.g., tyrosol and its derivatives) from olive pits. According to one aspect of the invention, the pits or seeds are removed from the olives prior to pressing. The pitless pulp or meat is then pressed to obtain a liquid-phase mixture including olive oil, vegetation water, and solid by-products. The vegetation water is separated from the rest of the liquid-phase mixture and collected. The vegetation water is useful as a source of oleuropein.

Current U.S. Class: 424/769
Current International Class: A23L 1/30 (20060101)

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Description

FIELD OF THE INVENTION

This invention relates to a polyphenolic compound present in olive plants known as oleuropein. Particularly, the invention provides an olive extract containing oleuropein, substantially free of undesirable monophenolic compounds, and a method of obtaining the same.

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BACKGROUND OF THE INVENTION

The olive tree and other members of the family Oleaceae have been documented as a source of medicinal substances since biblical times. Many researchers have studied the cocktail of phytogenic substances produced by the olive and other members of this family. One compound that has received particular attention from the research community is a glucoside known as oleuropein. A number of scientific studies have shown this compound to have certain anti-viral, anti-fungal, and anti-bacterial properties (Koutsoumanis; el al., 1998; Aziz, et al., 1998; Tranter, et al., 1993; Tassou, et al., 1995), anti-oxidant properties (de la Puerta, et al., 1999; Visiola, 1998a), and anti-inflammatory properties (Visioli, et al., 1998b). Interest in natural anti-oxidants is increasing because of the growing body of evidence indicating the involvement of oxygen-derived free radicals in several pathologic processes, such as cancer and atherosclerosis.

Not surprisingly, the market for oleuropein is quite substantial. Dietary supplements containing oleuropein are readily obtainable via mail-order catalogs and the internet. Currently, most of the oleuropein commercially available to consumers is derived from olive

leaves. To date, the fruit of the olive plant, which is rich in oleuropein, has largely been ignored as a source of oleuropein due to certain problems associated with the production of olive oil, discussed below.

Conventionally, olive oil production involves crushing olives, including the pits, to produce a thick paste. During this procedure, the crushed olives are continuously washed with water, a process known as "malaxation." The paste is then mechanically pressed to squeeze out the oil content. In addition to providing olive oil, the pressing also squeezes out the paste's water content. Such washing and pressing steps yield a considerable amount of water, referred to as "vegetation water."

Both the pit and the pulp of olives are rich in water-soluble, phenolic compounds. Such compounds are extracted from olives during malaxation, according to their partition coefficients, and end up in the vegetation water. This explains why various polyphenolic compounds, such as oleuropein and its derivatives, produced in olive pulp, can be found in abundance in vegetation waters. Similarly, a number of monophenolic compounds, such as tyrosol and its derivatives, produced in olive pits, are also abundant in vegetation waters.

Oleuropein and its derivatives are readily degraded into breakdown products (e.g., upon exposure to air/oxygen, certain enzymes or bacteria) that are substantially non-polluting and non-toxic. Tyrosol and its derivatives, on the other hand, are substantially resistant to air/oxygen, bacterial and enzymatic degradation and are of a highly polluting nature. Unfortunately, current technology does not permit the isolation of oleuropein and its derivatives from such highly polluting monophenolic compounds in vegetation waters except through time-consuming and expensive separation processes. For these reasons, vegetation waters are currently treated as waste and are discarded without realizing their content of oleuropein.

SUMMARY OF THE INVENTION

One aspect of the present invention provides a method of producing vegetation water from olives, the vegetation water containing oleuropein substantially free of monophenolic compounds from olive pits, comprising the steps of:

separating olive pits from olives to obtain a pitless olive pulp;

pressing the pitless olive pulp to obtain a liquid-phase mixture including water, oil, and olive pulp components;

separating the water component from the oil and olive pulp components of the liquid-phase mixture to obtain a water component substantially free of oil and olive pulp; and,

collecting the separated water component.

According to one related embodiment, moisture is removed from the separated water component to obtain an increased concentration of oleuropein.

According to another related embodiment, the separated water component is dried to obtain a powder containing oleuropein. The powder containing oleuropein may be encapsulated into a gelatin capsule.

Another aspect of the invention provides a composition, prepared according to the method of the invention, which comprises oleuropein substantially free of monophenolic compounds from olive pits.

A further aspect of the invention provides a method for obtaining oleuropein from olives, substantially free of monophenolic compounds from olive pits, which comprises the steps of:

separating olive pits from olives to obtain a pitless olive pulp;

extracting the pitless olive pulp with an aqueous or aqueous-alcoholic solvent to produce a crude mixture of polyphenolic compounds in the extract; and,

removing the solvent from the extract.

A related embodiment further includes the step of chromatographing the extract on a column; and collecting fractions from the column which contain oleuropein.

An additional aspect of the invention provides a dietary supplement comprising extract of olives containing oleuropein substantially free of monophenolic compounds from olive pits.

According to one related embodiment, the extract is an aqueous or aqueous-alcoholic extract. The extract may have a reduced moisture content to provide a concentrated liquid. Or, the extract may be dried to provide a powder. The extract may be in the form of a tablet, capsule, pill, or confection food additive.

These and other features and advantages of the present invention will become clear from the following description.

DETAILED DESCRIPTION OF THE INVENTION

One aspect of the present invention provides olive-derived vegetation water that is substantially free of monophenolic compounds from olive pits. To obtain such vegetation water, the invention provides for the removal of the pits or seeds from the olives prior to pressing. The pitless pulp or meat is then pressed to obtain a liquid-phase mixture including olive oil, vegetation water, and solid by-products. Thereafter, the vegetation water is separated from the rest of the liquid-phase mixture and collected.

It should be appreciated the vegetation water produced in this manner is substantially free of compounds that are found primarily in olive pits, such as tyrosol and other highly polluting, monophenolic compounds. The vegetation water thus obtained may be used, for example, in a variety of ways not amenable to conventional vegetation water. For example, vegetation water obtained by the method of the present invention can be used: (i) as a natural anti-bacterial, anti-viral and/or fungicidal product for agricultural and/or pest control applications, (ii) as a raw material for the production of oleuropein and other anti-oxidants for a variety of medical purposes (e.g., holistic medicine), and (iii) as a therapeutic and/or an antioxidant beverage for a variety of health purposes.

According to one embodiment, a batch of olives is processed to remove the pit from each fruit. The pitless pulp is then mechanically pressed to yield a liquid-phase mixture including olive oil, vegetation waters, and solid by-products. The solid by-products are substantially removed from the liquid-phase mixture by filtration and/or centrifugation. Next, the oil and

aqueous fractions are then allowed to segregate. The aqueous phase is then decanted and saved for further use.

In one embodiment, the pitless olive pulp is mixed with water or an alcohol/water solution to produce an extract substantially free of chemicals associated with the olive pits or seeds, such as tyrosol and its derivatives.

The vegetation water or extract may be concentrated by distillation under vacuum. The concentrate may be dried by spray drying or oven drying under vacuum to obtain a powder containing oleuropein. It may be desirable to conduct such steps at a temperature no greater than about 88 degrees Celsius to avoid degradation of the glucoside. The oleuropein can then be purified, for example, by chromatographic separation procedures. The oleuropein content may be tested by standard thin layer chromatography and high-pressure liquid chromatography methods.

Techniques suitable for concentrating and/or isolating oleuropein from aqueous and aqueous-alcoholic solutions are taught, for example, in U.S. Pat. No. 5,714,150, expressly incorporated herein by reference.

The olives processed according to the method disclosed herein may be pitted by any suitable means. The pits may be separated from the pulp manually or in an automated manner. Preferably, such means should be capable of segregating the pits without breaking them, which might otherwise cause sharp pieces to become embedded in the olive meat.

For purposes of commercial production, it may be desirable to automate various aspects of the invention. In this regard, one embodiment contemplates the use of an apparatus as disclosed in U.S. Pat. Nos. 4,452,744, 4,522,119 and 4,370,274, each to Finch et al., and each expressly incorporated herein by reference. Briefly, Finch et al. teach an apparatus for recovering olive oil from olives. Initially, olives are fed to a pulper that separates the olive pits from the olives to obtain a pitless olive meat. The meat is then taken up by an extraction screw that subjects the meat to an extraction pressure sufficient to withdraw a liquid phase, comprising oil, water and a minor proportion of olive pulp. The liquid phase is collected in a bin and then sent to a clarifying centrifuge that separates the pulp from the liquid phase to obtain a mixture comprising olive oil and water. A purifying centrifuge then separates the water and a small proportion of solid matter from the mixture to obtain an olive oil, substantially free of water, that is collected in a tank. According to Finch et al., the water is put to a disposal means such as a sewer. The present invention, in sharp contrast, provides for the collection, saving and use of the vegetation waters.

Additional devices that may be used in practicing the present invention are disclosed in Italian Patent Nos. 1276576 and 1278025, each expressly incorporated herein by reference. As above, these devices can be used to separate the pulp from the pits prior to processing of the crushed olive pulp into oil, water, and solid residues.

As previously described, a number of uses are contemplated for vegetation waters obtained in accordance with the method of this invention. In one exemplary embodiment, the vegetation water, or a concentrate or isolate thereof, is administered to a mammalian subject, such as a person desirous of one or more of the benefits associated with oleuropein.

The oleuropein obtained by the method of the invention can be administered orally or parenterally. Oral dosage forms can be in a solid or liquid form. Such dosage forms can be

formulated from purified oleuropein or they can be formulated from aqueous or aqueous-alcoholic extracts. Regarding the latter, aqueous or aqueous-alcoholic (e.g., water-methanol or water-ethanol) extracts can be spray-dried to provide a dry powder that can be formulated into oral dosage forms with other pharmaceutically acceptable carriers.

The solid oral dosage form compositions in accordance with this invention are prepared in a manner well known in the pharmaceutical arts, and comprise oleuropein in combination with at least one pharmaceutically acceptable carrier. In making such compositions, oleuropein, either in substantially pure form or as a component of a raw distillate or extract, are usually mixed, diluted or enclosed with a carrier. The carrier can be in a solid form, semi-solid or liquid material which acts as a vehicle, carrier or medium for the active ingredient. Alternatively, the carrier can be in the form of a capsule or other container to facilitate oral administration. Thus, the solid oral dosage forms for administration in accordance with the present invention can be in the form of tablets, pills, powders or soft or hard gelatin capsules.

Alternatively, the oleuropein obtained in accordance with this invention for oral administration can be in liquid form wherein the pharmaceutically acceptable carrier is water or an aqueous-alcoholic medium.

The compositions for administration in the present invention can also be formulated with other common pharmaceutically acceptable excipients, including lactose, dextrose, sucrose, sorbitol, mannitol, starches, gums, calcium silicate, microcrystalline cellulose, polyvinylpyrrolidone, methylcellulose, water, alcohol and the like. The formulations can additionally include lubricating agents such as talc, magnesium stearate and mineral oil, wetting agents, emulsifying and suspending agents, preserving agents such as methyl- and propylhydroxybenzoates, sweetening agents or flavoring agents. Further, the compositions of the present invention can be formulated so as to provide quick, sustained or delayed release of the active ingredient after administration to a subject.

Parenteral formulations for use in accordance with the present invention are prepared using standard techniques in the art. They are commonly prepared as sterile injectable solutions, using a parenterally acceptable carrier such as isotonic saline solution or as a sterile packaged powder prepared for reconstitution with sterile buffer or isotonic saline prior to administration to a subject.

Those skilled in the art can now appreciate from the foregoing description that the broad teachings of the present invention can be implemented in a variety of forms. Therefore, while this invention has been described in connection with particular embodiments and examples thereof, the true scope of the invention should not be so limited. Various changes and modification may be made without departing from the scope of the invention, as defined by the appended claims.