Artemisia annua

Dr. med. Heinz Lüscher

The Artemisia plant

Artemisia annua is an annual plant that grows to a man-sized bush in summer and thrives well in our latitudes. It belongs to the genus Artemisia, which comprises about 250 to 500 species. Other Artemisia species include mugwort, wormwood, rodroot and rue.

Ingredients of Artemisia annua

The species Artemisia annua is very well researched. To date, 245 different active substances have been isolated and detected. In addition to the best-known ingredient, artemisin, these include numerous anti-inflammatory polyphenols. Artemisia annua has been known in Chinese folk medicine for 2000 years.

And the winner is... Artemisia!

The Nobel Prize is one of the highest awards in science and an honour for every researcher. In 2015, the Nobel Prize for Medicine went to - Artemisia! At least indirectly... The prize was awarded to the 84-year-old Chinese woman Youyou Tu for her discovery of the active ingredient artemisin in the Artemisia plant. In the late 1960s, when common malaria drugs of the time lost their effectiveness because the malaria pathogen became increasingly resistant, Ms Tu turned to traditional Chinese medicine and looked for alternatives. She came across Artemisia annua and extracted the active ingredient artemisinin from it. Artemisinin has since been used in medicines and has significantly reduced the mortality of malaria patients.

Artemisia in malaria

The effectiveness of Artemisia annua against malaria is proven worldwide by hundreds of thousands of people who have been cured of malaria with this plant extract alone. Thanks to Artemisia annua, the poorest population in Africa, who cannot afford expensive drugs, can be effectively helped.

Meanwhile, the plant's main active ingredient, artemisin, has been patented as an antimalarial agent and is mainly produced in China and India. It is considered to be one of the best antimalarial drugs of all, but as with all mono-substances, resistance has already appeared.
Less resistance if the whole plant is taken

If, on the other hand, the plant extract is used, resistance is much less likely to develop because the plant contains 9 other substances that are effective against malaria. The malaria pathogen (a certain plasmodium) may still be able to defend itself against a single active substance (= mono-substance) and develop resistance. However, if the pathogen is confronted with a whole salvo of active substances, this is much more difficult for it. Unfortunately, the pharmaceutical industry works almost exclusively with mono-substances, which is why various malaria drugs that were good in the past are now almost ineffective. There is a danger that it will come out similarly with artemisin.

To date, no resistance has been found worldwide when using the whole plant. It is therefore important to use the plant extract rather than just a drug for malaria. The clinical cure rate for malaria is 90-95%.

However, it is important to know that in some areas of Africa (e.g. Uganda) there are now very resistant pathogens and it is therefore recommended to continue the Artemisia therapy for some time after leaving the malaria area (more on this under dosage).

Mechanism of action of artemisin

But how does Artemisia work against the malaria pathogen? Many mechanisms of action are still unknown, but at least one is known. And this is extremely remarkable. Artemisia annua, for example, contains a chemically stable peroxide, which according to the basic chemical rules cannot exist at all, but it can exist in God’s creation. Plasmodia (or cancer cells, by the way) contain 10-20 more iron ions than normal cells.

When the peroxide comes into contact with this iron, it breaks down into two aggressive free radicals. These damage affected cells decisively so they die. This mechanism is also the reason why artemisia should never be taken together with iron, but should be taken outside meals. Otherwise there is a risk that the peroxide bridge may already be broken in the stomach or intestines. But it should only do so if it is inside or near pathogens or diseased cells.

Artemisia in cancer

Further observations have been made on the use of Artemisia annua in malaria patients. Among these malaria patients there were people who suffered from other serious diseases like cancer or AIDS. Surprisingly, these diseases have also improved significantly under treatment with Artemisia annua. The US national library of medicine website (www.ncbi.nlm.nih.gov/pubmed) lists 497 studies of a general nature and 51 studies on Artemisia annua on cancer. Even the largest cancer centre in the world, the Memorial Sloan-Kettering (www.mskcc.org/cancer-care/herb/artemisia-annua), which is a pharmaceutical-friendly organisation, certifies that this plant has clear anti-cancer properties in vitro.

In principle, any type of cancer can be treated with Artemisia annua. As there are practically no clinical studies yet, little can be said about the success rate. Unfortunately, such a study costs between one and ten million Swiss francs, so apart from the pharmaceutical industry, which naturally has no interest in it, hardly anyone is in a position to carry out such a study.
Artemisia and viral infections / AIDS

Among the cured malaria patients there were also those who had additionally contracted AIDS and this disease was also improved or cured in many cases. Meanwhile, there is clear evidence that Artemisia is able to fight viruses, especially in the early stages of a disease. The following studies look at the antiviral properties of Artemisia annua:

- www.ncbi.nlm.nih.gov/pubmed/16902856
- www.cid.oxfordjournals.org/content/47/6/804.full

Artemisia in bacteria

Artemisia also seems to help against bacteria. The first evidence of an effect has been found, but the data is still thin. There are observations of anti-bacterial properties in vitro on gram-positive and gram-negative bacteria. Somewhat better data are available for leishmaniasis and African sleeping sickness, which are caused by protozoa, but which do not play a role here in Europe. While it can be partly explained how Artemisia works against malaria or cancer, it is still largely unknown which mechanisms are responsible for the antiviral and antibacterial effects of Artemisia. So far we cannot say why Artemisia works, but we can observe and scientifically prove that it works!

Artemisia in influenza

According to my experience, Artemisia annua can be successfully used for influenza and colds. If you take plenty of artemisia powder at the first signs of flu or cold, there is a good chance that you will feel completely healthy again the next day. This is very encouraging, even though there is little scientific basis for this.

Artemisia in skin cancer

I have repeatedly received feedback that patients were able to cancel their previously arranged surgery appointments after they had rubbed Artemisia cream on a white skin cancer or a conspicuous birthmark and/or took Artemisia powder. The suspicious areas fell off like a crust or receded so far back that the dermatologists could no longer find them. This feedback is very, very encouraging. We can speak of a complete cure in these cases.

Artemisia with neurodermatitis

I have also had good experience with an artemisia cream for neurodermatitis, especially in children. It does not work equally well for everyone, but often there is a rapid and lasting improvement.
Dosage and side effects

- At the first signs of influenza I recommend taking 4 x 1.2 g artemisia powder daily, e.g. in the form of capsules.
- In case of cancer, take 4 x 1.2 g Artemisia powder daily. Take 1 week break every month.
- When visiting malaria areas I recommend the following intake: 1 day before the start of the trip until 20 days after the end of the trip, take 3 x 1.2 g Artemisia powder every day.
- It is important to take Artemisia annua outside of meals, i.e. 30 minutes to 1 hour before meals. Should not be taken together with iron.
- Duration of intake: Artemisia is not suitable for preventive use and should not normally be taken for longer than 2 weeks (e.g. in the case of influenza).
- No side effects are known. The only contraindications are stomach ulcers and stomach acid.

Special Breeds

There are special breeds of Artemisia annua which, unlike the wild plants, grow well even in the tropics and have up to 20 times higher active ingredient content.

Artemisia annua (powder, capsules) can have a preventive or curative effect on the following diseases:

- Viral infections
- Bacterial infections
- fever / flu
- Various types of cancer
- Aphthae
- Malaria
- Inflammations
- Diverticulitis
- Meningitis
- AIDS
- Herpes simplex (cold sores)

Artemisia Cream

Since we assume that Artemisia annua has an antibacterial, antiviral and also fungicidal effect, an Artemisia cream must also have an effect on skin diseases. This is indeed the case according to the reports of numerous users.

Artemisia annua cream or ointment can have a preventive or curative effect on the following diseases:

- acne vulgaris
- anal fissures
- Aphthae
- Eczema
- Haemorrhoids
- Skin infections
- skin fungus
• Herpes simplex (cold sores)
• Itching with insect bites
• Open wounds
• Psoriasis
• Rosacea in the face
• Warts

Selected studies on Artemisia annua (English)

• Artemisia annua in “Natur und Heilen 08/17”
• The genus Artemisia: a comprehensive review
• Dried whole-plant Artemisia annua slows evolution of malaria drug resistance and overcomes resistance to artemisinin
• Artemisia annua dried leaf tablets treated malaria resistant to ACT and i.v. artesunate: Case reports
• First-time comparison of the in vitro antimalarial activity of Artemisia annua herbal tea and artemisinin
• Artemisinin production in Artemisia annua: studies in planta and results of a novel delivery method for treating malaria and other neglected diseases
• Evaluation and pharmacovigilance of projects promoting cultivation and local use of Artemisia annua for malaria
• Dried-leaf Artemisia annua: A practical malaria therapeutic for developing countries?
• Artemisia annua as a self-reliant treatment for malaria in developing countries
• The potential of Artemisia annua L. as a locally produced remedy for malaria in the tropics: agricultural, chemical and clinical aspects
• Anti-Helicobacter pylori potential of artemisinin and its derivatives
• Antibacterial activity of some Artemisia species extract
• Artemisinin inhibits inflammatory response via regulating NF-κB and MAPK signaling pathways
• Effect of Artemisia annua extract on treating active rheumatoid arthritis: A randomized controlled trial
• The Antiviral Activities of Artemisinin and Artesunate
• Antiviral effect of artemisinin from Artemisia annua against a model member of the Flaviviridae family, the bovine viral diarrhoea virus (BVDV)
• Durchbruch in der Diabetesforschung: Pankreaszellen produzieren Insulin durch Malariamedikament
• Scientists develop new cancer-killing compound from salad plant
• The Memorial Sloan Kettering Cancer Center on Artemisia annua
• Antibacterial and antioxidant activities of Artemisia annua essential oil