

The Fight Against Bacteria, Fungi and Parasites by Supporting the Oxidative System in the Human Organism

12 Dec 99 by Dr. Gerhard Steidl

1. Biological Fundamentals

Modern anaerobic bacteria have descended from primitive cells that existed when the earth had an anaerobic carbon dioxide atmosphere. Later, when the process of photosynthesis transformed the atmosphere to an aerobic oxygen atmosphere, higher life-forms, which consist of aerobic oxygen-processing cells, evolved. But anaerobic bacteria, which are not dependent on oxygen, can still find environments suitable for their existence. A human organism affected by oxygen deficiency in the intestines, for example, and in tissues and organs with corresponding hypoxia provides an adequate breeding ground for such bacteria. When anaerobic bacteria and fungi established in the human organism display asymbiotic behaviour, increasingly multiply and cannot be kept under control, the body's health will invariably suffer to some degree.

2. The Use of Oxygen in the Oxidative System

Oxygen is essential in the life of higher cells and organisms. Living beings such as humans use oxygen in three ways:

1. Oxygen is taken into the haemoglobin and transported in erythrocytes through the arteries, capillaries, and membranes to the tissue cells. It is transferred to enzyme systems for the oxidation of substrates along with the release of warmth and vital energy in the mitochondria. Approximately 97% of transported oxygen is used for energy metabolism.
2. The white blood cells need approximately 3% of this oxygen for producing oxygen radicals, the immune system's best weapon against foreign and asymbiotic cells.
3. The oxygen physically bound in the haemoglobin ensures that, by means of an $\text{Hb}(\text{O}_2)_4 \rightleftharpoons \text{Hb} + 4 \text{O}_2$ balance, the body tissue remains oxygenated. This is designed to prevent oxygen deficiency in the body tissue, which is sealed off from the air.

3. The Oxidative and Anti-oxidative System

Although oxygen is necessary for all living functions, many components of the biochemical system, such as oxidation-sensitive enzymes, for example, must be protected from excess oxygen. The endogenous cells and iron in the haemoglobin must also be protected from oxygen radicals and oxidative stress. This is the function of the anti-oxidative system which consists, among other things, of substances such as glutathione, selenium, vitamins and, above all, the enzymes peroxide dismutase and catalase. Anaerobic bacteria do not possess these enzymes and are therefore sensitive to oxygen and oxygen-rich compounds, while mammalian (including human) cells can render oxygen radicals non-toxic. A healthy, robust organism is therefore dependent on a balance between the oxidative and anti-oxidative systems.

4. Oxygen Deficiency and Its Consequences

According to books on human physiology by authors such as Thews, Mutschler, and Vaupel, anaemia and sub-oxygenation have many causes and can produce unpleasant consequences because endogenous and symbiotic cells and tissue are damaged while foreign and asymbiotic cells may be promoted. Generally, one can expect symptoms such as chronic fatigue due to deficient energy metabolism or susceptibility to infection due to a weakened immune system. When normal cells are oxygen deficient, they can degenerate into tumour cells. This was proven by Warburg, who won a Nobel Prize for his discovery.

Symbiotic cells are found above all in the intestinal tract, where they are responsible for converting food,

which must be broken down into usable components. Much of this work is done by resident bacteria that can optionally exist anaerobically, such as E.coli, by anaerobic bacteria such as bifidobacterium and bacteroides, and also by aerobic bacteria such as lactobacillus. But if the oxygen level in the intestines, especially the lower areas of the small intestine and the large intestine, drops to absolutely zero, then colonies of purely anaerobic bacteria will definitely build up bacteria such as Clostridia, which cannot be tolerated physiologically because it generates toxic metabolic products.

When this occurs, treatment is required because a whole series of ubiquitous non physiological (foreign, asymbiotic) germs such as bacteria, fungi, and parasites which pollute the intestines, blood, body tissue, and organs with toxins can become established. Chronic constipation can create a similar effect because the contents of the intestines remain for a longer period thus producing a more favourable environment in which the non physiological germs can multiply. Such germ and toxin pollution can cause blood poisoning, strain on the liver, excessive demand on immune cells, even psychotic syndromes to the extent of personality changes. The symptoms are at first vague and later pronounced.

5. Ozonides from Natural Vegetable Oils

5.1 Properties

Physiologically compatible ozonides are long-chained, oxygen-rich oils. They are water-free and viscous and formed from natural fatty oils such as olive oil or castor oil and oxygen in the form of ozone. By exchanging three oxygen atoms for the double bond in unsaturated fatty acids, a bactericidal and fungicidal substance is produced ozonide which can obviously also attack parasites. Mixed with water, ozonides produce emulsions that can be taken internally. They were already being used clinically between 1915 and 1947 in the U.S., for example, against wound infection in operations and against fungi, bacteria, and viruses in both humans and animals. They have not been used since 1947 because antibiotics from fungus cells and synthetic biocides (sulphonamide, chlorine compounds) became available in large quantities.

For good health, the intestinal environment must be made aerobic and the basis for anaerobic germs' existence completely removed. Ozonide is perfectly suited in this regard to cleansing a non physiological, anaerobic intestinal tract. Its effectiveness is based, among other things, on its ability to keep the intestinal mucosa moist, its capillary action and its formation of emulsions. In this way, ozonide is evenly distributed throughout the intestines and its clefts, where fungal nests or bacterial foci may reside. Eliminating anaerobic, asymbiotic germs unburdens the immune system clearly a desirable effect.

5.2 Research

The world's largest foundation for naturopathic research, the Karl and Veronica Carstens Foundation in Essen, has financed scientific research into the biochemical properties of ozonides derived from long-chained fatty acids at universities in Erlangen, Tuebingen, and Mainz since 1997. The foundation's yearbooks publish the test results. One such result shows that, while some conventional antibiotics damage the mitochondria (i.e. the powerhouses in human cells, which produce vital energy and warmth), ozonides do not. The test for mutagenity according to OECD guidelines showed that ozonides are not mutagenic. Cell culture experiments on bacteria and fungi showed that ozonides hinder the propagation of Candida, Trichophyton, Staphylococcus, Streptococcus, and to a lesser degree, Aspergillus niger, which grows aerobically and which can thus resist oxygen species. Ozonide kills off Schistosoma mansoni, the pathogen causing bilharzia.

5.3. Similarity to Vegetable Endoperoxides

Over the last twenty years in the U.S.A. and England, oxygenous vegetable extracts of the endoperoxide

class from more than 300 plant species including many medicinal plants such as wormwood, sage, yarrow, chamomile, etc., have been isolated through a time-consuming procedure, their structure analyzed and their action on bacteria tested. These endoperoxides possess a ring structure similar to, yet more complicated than, that of the ozonides and all prove to be potent germicides. They presumably serve the plants in fending off foreign germs. Traditional Chinese medicine uses *Artemisia annua* L. Effectively to treat malaria pathogens. The active agent in *Artemisia annua* L., identified as artemisinin, is an endoperoxide.

Synthetic ozonides can be regarded as imitating natural endoperoxides because they have a similar structure and effectiveness. Humans take in endoperoxides, which help in the battle against bacteria, fungi and parasites, when consuming raw plant food. But when the food is cooked, the endoperoxides are destroyed along with vitamins, enzymes, and other valuable elements. Ozonides are compatible with the human organism. This is understandable when one compares the structure of ozonides with those of the underlying fatty oils and the natural endoperoxides that human cells adapted to during biological evolution.

5.4. Reinforcing the Germicidal Effect

Ozonides can give the intestinal tract a thorough aerobic cleansing and thus remove the basis for many problematic germs' existence. There are, however, many kinds of bacteria, fungi, and parasites that have a defence mechanism against oxygen species and therefore demand a dosage of ozonides so high that it may not be physiologically tenable. Among such germs are, for example, mould fungi such as *Aspergillus niger*. Recourse to phytotherapy may provide a remedial measure. In books on phytotherapy as far back as the Middle Ages specific plants like tansy, wormwood, crane's-bill, cloves, walnut shells, and others are described as anti-inflammatory and anti-parasitic. These properties exist as much now as they did then and can be used effectively in therapy. In fighting fungi, bacteria, and parasites, water- and alcohol-free extracts from these plants can be combined with ozonide oils. This achieves both conversion of the anaerobic regions and an increased germicidal effect.

6. Medicinal Uses

Many people who have an infectious disease are potential beneficiaries. Ozonides can be used externally on skin diseases (skin and nail fungus, eczema, neurodermatitis, psoriasis, itching, bed-sores) on internal diseases from the head (colds, sinusitis, inflammations in the mouth and pharynx, esp. inflammation of the gums and paradontosis) down to the intestinal tract (intestinal fungi, fermentation and putrefactive foci, constipation or extremely anaerobic intestinal environments with a marked increase in *Clostridia* in the large intestine). In other words, they can be used wherever unphysiological bacteria, fungi and parasites are associated with the diseased condition. Symptoms such as chronic fatigue, depression, cravings, overweight, and also psychological symptoms are problems that can be traced back to intoxication produced by bacteria, fungi and parasites. Results pre and post therapy do not allow any other conclusion.

In dentistry, the healing of gum regions inflamed with paradontosis can be observed and photographically documented with both conventional curettage and application of ozonides. Micro-organisms can even play a fatal role in cancerous diseases: 15% of cancerous diseases in the world are definitely attributable to viruses and bacteria and a further 15% are suspected of being so, according to the report at a conference of specialists in internal medicine in Wiesbaden in April 1999. Experts estimate that 7,000 to 10,000 people die from fungal infections in Germany every year. Doctors can gain a special advantage by mastering a bioresonance method, which enables them to detect toxic pollution in the blood, for example, and to differentiate between the various kinds of toxins. Furthermore, it helps them determine which remedy and what dosage is most appropriate for the patient. Matching results in blood and stool diagnoses with both the bioresonance method and laboratory and microbiological analyses prove that bioresonance is accurate and effective. These facts are unknown in conventional Western medicine.

Translated by Russell Townsend, 12 Dec 99.

7. Literature

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