Non Toxic Prevention and Treatment of Cancer

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### **Abstract**

The goal of this article is to investigate the possibility of non-toxic **prevention** and **treatment** of cancer and to find a consensus therefore.

Aging of cells may result in damage. If a cell is seriously damaged it will fall apart and will be cleared away by apoptosis. If the apoptosis fails, damage of DNA may induce cancer.

All cells and tissues will be renewed continuously. Old cells will be removed by apoptosis and replaced by new cells. The first approach must be **prevention** of a failing apoptosis and a delay of cell and tissue aging. To receive an optimal apoptosis of damaged cells we need to optimize the body’s glutathione level. The delay of aging can be achieved by the consumption of antioxidants and flavonoids in food supplements.

If a malignant tumour is diagnosed, **treatment** will follow. If the tumour is found in an early stage, the tumour can be removed by a surgical procedure. When surgical intervention is no longer an option, chemotherapy and radiation will be the choice today. Usually Fluorouracil (5-FU), Cisplatinum, Taxol, Vincristine and their derivatives are the favourites. They will delay some trouble but will not heal the patient. Unfortunately, one of the side effects of today’s treatment is the destruction of the body’s own defence system. Many patients will therefore die from septic processes for this reason. Nontoxic treatment, however, offers better results.

Recent research show that lactoferrin, a protein of mother’s milk, inducing an effective immune system in the new born, can destroy cancer cells. Furthermore derivatives of artemisinin, today in use for the treatment of malaria patients, can be used for the killing of cancer cells.

In the following will be explained how to prevent cancer and how to eliminate cancer by a nontoxic procedure using lactoferrin and artemisinin derivatives.

Because there are no side effects, iron saturated lactoferrin and DHA are good food supplements for the prevention and nontoxic treatment of all kinds of cancer.

**Non-Toxic Prevention of Cancer**

**Apoptosis**

If a cell is seriously damaged it will fall apart and will be cleared away. This mechanism of apoptosis is coordinated by the P53 gen. This is a protein that controls the cell cycle and suppresses the onset of cancer (1). To be able to perform this function, P53 uses the tri-peptide Glutathione. Glutathione exists in a reduced form in every cell and protects the DNA of the cell against damage caused by free radicals. Glutathione is the natural antioxidant of the cell and the natural protector of the cell against oxidative stress.

In due course however, the production of Glutathione is reduced and aging increases (2). By regular oral intake of N-Acetyl Cysteine, the reduced production of Glutathione can be reversed (3).

**Oxidative stress**

Aging of cells and tissues will be accelerated by ”oxidative stress” (4). Oxidative stress is present when too many free radicals arise during metabolism in the mitochondria. Cell structures can then be damaged and tissues will age (5). When during this process the DNA of the cell gets damaged, mutants of the DNA can appear and these mutants form the source of cancer cells and ultimately the onset of cancer.

Aging can be delayed by suppression of oxidative stress.

By oral intake of Proanthocyanidine oxidative stress can be prevented. Proanthocyanidine is a source of oligomer OPC. This oligomer binds the free radicals and in this way protects the DNA of the cell against mutations (6). OPC’s are present in vegetable and fruit. For the preparation of food supplements it will be extracted out of pines bark or grape seeds (7).

A healthy diet, consisting of plenty of fruit, vegetables, good carbohydrates, fibres, little fat, sufficient protein, vitamins, minerals and a limited amount of calories, can reduce the chance of oxidative stress.

**Prostaglandins**

Prostaglandins (PGs) are lipids from 20 carbon fatty acids, particularly arachidonic acid. PGs are produced by most tissues of the body by oxidation of arachidonic acid. An association of high levels of PGs have been noted for many types of cancer. Prostaglandins may contribute to the cancer process. PGs can be eliminated by loading cells and tissues with acetyl-salicylic acid (Aspirin) (8).

**Food supplements and medication for the prevention of cancer:**

1. Aspirin Cardio 100 mg once a day to block prostaglandins.
2. Antioxidants such as Proanthocyanidine 200 mg once a day.
3. Iron loaded Lactoferrin 150 mg twice a day to optimise the immune system.
4. Acetyl-cysteine (100 mg) once a day to optimise the glutathione level.

**Non-Toxic Treatment of Cancer**

When there are free ions of iron in the serum circulating, they will be swallowed by all types of cancer cells. If these uploaded cells will be invaded by Lactoferrin or Dihydroartemisinin (DHA) the mitochondria of the cell will explode and apoptosis will result. This absorption process can be accelerated when Artemisinin derivatives are loaded with iron. Epithelial cancers, and other types of cancer will be killed in the same way. We know, that each of the components can kill cancer cells.

**Lactoferrin**

Recent research shows that an effective stimulation of the immune response can be achieved by the iron binding protein lactoferrin (9). Antibacterial and antiviral effects are described (10). Furthermore iron saturated lactoferrin is a potent natural adjuvant for augmenting cancer therapy (11). It has been demonstrated that cancer cells have a preference for iron molecules, which will be absorbed in high levels. Therefore “Iron saturated” lactoferrin will destroy a cancer cell after having been swallowed by the cell. Lactoferrin also destroys all kind of tumour metastasis (12).

**Artemisinin**

A second option in cancer treatment is the use of Artemisinin derivatives. Artemisinin is an extract of the plant *Artemisia annua* and its derivatives currently in use for the treatment of malaria. Dihydroartemisinin (DHA) is the most active preparation of Artemisinin. DHA is in use as a nontoxic anti-cancer agent. It may be used as a singular therapy and also in combination with a comprehensive cancer management strategy.

DHA reacts with high concentrations of iron. Ferrous compounds are something found in high concentration in malaria parasites and cancer cells as well. DHA invade cancer cells, attack their RNA and DNA, breaking them apart and killing the cell. Then cancer cells will disappear by apoptosis (13). To achieve an iron saturated Dihydroartemisinin it can be given orally in combination with ferrous sulphate (14).

It has been demonstrated, that Dihydroartemisinin is more effective than artemisinin, because of its longer presence in the circulation. The combination of dihydroartesimin and iron loaded lactoferrin seems to be 100 x more effective than each of the components alone (15). As adjuvant to radiation treatment DHA induces an effective and therapeutically relevant radio sensitization. This investigation is performed, using human glioma cells (16).

**Food supplements and medication for the treatment of cancer:**

1. Iron loaded Lactoferrin 150 mg twice a day.
2. Canceron C (125 mg Dihydroartemisinin + 25 mg α-Lipoic acid)

 twice a day.

1. Acetyl-cysteine 100mg once a day to optimise the glutathione level.
2. Aspirin Cardio 100 mg once a day to block prostaglandins.

**The treatment is finished after 3 weeks of using the described medication.**

There are many reports about the effect of iron loaded lactoferrin in combination with DHA demonstrating the killing of cancer cells using in vitro and in vivo models as well. There is no specification of the kind of a tumour, solid ore metastatic.

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