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Sodium Bicarbonate

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Other common name(s): Simoncini Cancer Therapy, baking soda

Scientific/medical name(s): NaHCO₃

Description

Sodium bicarbonate, also known as baking soda, is promoted by some alternative practitioners as a cancer treatment. This treatment is based on the theory that cancer is caused by a form of yeast infection and that sodium bicarbonate can kill the yeast. This claim is not supported by science or clinical evidence and is contrary to widely-accepted basic facts of oncology and microbiology.

Sodium bicarbonate is used as a conventional treatment for disorders in which the blood is too acidic. It is also used as an over-the-counter remedy for heartburn.

Overview

Available scientific evidence does not support claims that cancer is caused by infection with a type of yeast known as *Candida albicans*. Available scientific evidence also does not support the idea that sodium bicarbonate works as a treatment for any form of cancer or that it cures yeast or fungal infections. There is substantial evidence, however, that these claims are false. Although sodium bicarbonate is safe when used in proper doses and as directed as a conventional treatment, high doses can cause serious problems or even death.

How is it promoted for use?

Sodium bicarbonate is promoted by some alternative practitioners, especially Dr. Tullio Simoncini, as a cure for all types of cancer. This claim is made on several Web sites, in videos of Dr. Simoncini posted on the Internet, and in a book written by Dr. Simoncini.

What does it involve?

Sodium bicarbonate is given by some alternative practitioners by mouth (orally) or into a vein (intravenously). It is also given intra-arterially (into an artery supplying blood to the tumor) and is sometimes given as a solution directly through the trachea (windpipe) into the lungs to treat lung cancer.

What is the history behind it?

The main proponent of sodium bicarbonate as an alternative cancer treatment is Tullio Simoncini, MD. Information on the Internet describes how Dr. Simoncini concluded that cancer is caused by *Candida albicans* and can be cured with baking soda. The sequence of events and timeline are not described in detail.

According to the Cancer Treatment Watch Web site, "[Dr. Simoncini] has been using unsubstantiated cancer treatments for 15 years... in 2003, his [Italian] license to practice medicine was withdrawn, and in 2006 he was convicted by an Italian judge for wrongful death and swindling... This has not stopped him from continuing to provide his controversial treatments, not only in Italy, but apparently also in foreign countries, such as the

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Netherlands." (Koene, Jitta. 2008)

What is the evidence?

No peer-reviewed articles in medical journals were found supporting the theory that cancer is caused by a fungus infection or a yeast infection. Available peer-reviewed medical journals do not support claims that sodium bicarbonate works as a cancer treatment.

Scientists require certain kinds of evidence to support claims that a kind of germ causes a certain disease. The first requirement is that the germ should be present in all cases of the disease. Simoncini claims that all tumors contain fungi. But these fungi have not been found in tumors when biopsies are examined by methods capable of revealing fungi in infected tissue. Another requirement is that infecting laboratory animals with the germ should cause the disease. Infections can develop in animals that are exposed to *Candida albicans*, but there are no credible reports that this exposure or infection causes cancer. Finally, when researchers remove diseased tissue from infected laboratory animals, they should be able to recover the germs and grow them in laboratory dishes. There are no reports in scientific journals that this has been observed for *Candida albicans* and cancer of experimental animals.

A number of Web sites propose various reasons people believe there is a connection between fungus and cancer (for example, that *Candida albicans* can cause serious infections, and that cancer is a serious disease). However, none of these Web sites show scientific evidence supported by credible experiments or clinical trials.

Fungal infection deep in the body is a serious health problem that can be fatal. Although a number of antifungal drugs are available to treat these infections, there is no evidence that sodium bicarbonate can. There is no evidence that most people with cancer have any deep tissue yeast or fungal infections. People whose immune systems are weakened by high doses of chemotherapy can sometimes contract these kinds of infections. While antifungal drugs can often cure the infection, there is no evidence that antifungal treatment causes the patients' tumors to shrink. If this had happened, the doctors caring for these patients would have been likely to report it in medical journals.

Some people with cancer have other health conditions for which sodium bicarbonate is used. But, again, there is no evidence that sodium bicarbonate has caused their tumors to shrink. Chewable sodium bicarbonate tablets or powder are a common over-the-counter treatment that is used to neutralize stomach acid that causes heartburn. Intravenous sodium bicarbonate is used as a conventional treatment to reduce acidity of blood in serious conditions like shock, severe dehydration, and uncontrolled kidney failure or diabetes.

Are there any possible problems or complications?

This substance may not have been thoroughly tested to find out how it interacts with medicines, foods, herbs, or supplements. Even though some reports of interactions and harmful effects may be published, full studies of interactions and effects are not often available. Because of these limitations, any information on ill effects and interactions below should be considered incomplete.

In general, oral and intravenous treatment with sodium bicarbonate that is given for the right reasons and in proper doses is considered safe. Concern has been raised that the same substance can be dangerous in other medical situations. The Cancer Treatment Watch Web site quotes the Netherlands Health Inspectorate:

... there are no scientific data that justify the administration of sodium bicarbonate to patients with cancer... the administration of sodium bicarbonate even has risks for patients with high blood pressure, patients with diseases of lungs, heart, or kidneys and for patients with cancer. This is certainly the case if a number of specific blood levels are not monitored daily before, during and after the treatment. The balance of the body can become completely disturbed when large amounts are administered. In severely ill patients, this may lead to organ damage. In sick people, there is in fact irresponsible health care if this product is administered without monitoring. (2008)

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

Additional resources

More information from your American Cancer Society

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

[Dietary Supplements: What Is Safe?](#)

The ACS Operational Statement on Complementary and Alternative Methods of Cancer Management

[Complementary and Alternative Methods and Cancer](#)

[Placebo Effect](#)

[Learning About New Ways to Treat Cancer](#)

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

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