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BHT --THE HEALTH EFFECT

BHT is an antioxidant and common food preservative, approved by the FDA for food, oils and fats. Over 25 years ago, a paper was published in the journal Science showing that BHT could inactivate herpes simplex and other lipid coated viruses in vitro (In lab dishes).(1) This was followed by another paper published in Science showing that BHT could prevent chickens from dying of Newcastle disease.(2) The herpes virus and the virus that causes Newcastles disease have a lipid envelope. That is, the nucleic acid core of these viruses is coated with a fatty membrane. Viruses of this type require an intact lipid membrane in order to penetrate cell walls and infect living cells.

BHT appears to work against such viruses by disrupting their lipid membranes making them vulnerable to the immune system and impairing their ability to penetrate human cells. BHT also removes binding proteins that the virus uses to penetrate cell membranes. In addition, BHT acts as an **antioxidant neutralizing free radicals that damage cell membranes and cause inflammation.** It is believed that the destructive action of **many pathogenic viruses involves the destructive action of free radicals on cellular membranes.** More recent studies have confirmed the anti-viral activity of BHT against many different human and animal viruses **including CMV (cytomegalovirus), (3) pseudorabies (4), genital herpes (5), HIV (6) and some strains of influenza.(7) --** A few of the viruses that have a lipid envelope and may be affected **by BHT include herpes simplex I, herpes simplex II, herpes zoster, ckytomegalovirus, west nile virus, HIV virus, influenza virus, hepatitis B and C viruses, avian flu influenza virus and the SARS virus. Remember that BHT has not been clinically tested and approved to treat these infections.--**

Based on these early scientific results, **some individuals afflicted with herpes virus infections began experimenting on themselves with BHT. They used dosages in the 250 to 3000 mg. per day range with the result that they experienced a reduction in herpes outbreaks.** For some, their eruptions remained suppressed for as long as they continued to take BHT daily. **For others, they were able to eventually discontinue taking BHT with no recurrences.** BHT is discussed in Mann and Fowke's book "Wipe Out Herpes with BHT" and Pearson and Shaw's book "Life Extension".(8)(9) At issue is that none of the controlled studies on the antiviral properties of BHT have been performed on humans. Rather, most of the experiments have been conducted in the laboratory or on animals. **In addition, BHT is a common, inexpensive substance that is unpatentable.** No pharmaceutical company will invest money in researching and certifying its value as a medication. Furthermore, it may be difficult to perform human trials because the Food and Drug Administration (FDA) has approved BHT for use only as a food preservative, not as a medicine.--- Therefore, it is not approved for the treatment of herpes infections or any other disease. While doctors have the authority to prescribe BHT, they could face peer

pressure and malpractice insurance issues for using unapproved treatments. You are, therefore, unlikely to get a doctor to recommend or prescribe BHT. If you decide to make an independent decision to take BHT, at least tell your doctor what you are doing so that he can give you advice regarding your diagnosis, your other treatment options, potential consequences, possible drug interactions, etc.

The lack of approval hasn't stopped some people from using BHT on their own to treat herpes or other viral conditions. While there is no accounting of how many people have used BHT to treat herpes and other viral infections, the estimates run from tens of thousands to hundreds of thousands.

BHT Safety Concerns and Side Effects

Studies performed on rats demonstrated liver and kidney damage at doses of 0.5 to 1.0 grams per kilogram.(10) This is the equivalent of a 160 pound adult taking 73 grams per day. Compare this to a typical suppressing dose of 0.25 to 0.50 grams per day and a typical dosage for an acute outbreak of 1.0 to 2.0 grams per day. **No evidence was noted for BHT causing cancer and conflicting results were obtained regarding effects on the immune system, tumor formation and other effects. Again all of these tests were done on rats and usually using high doses far in excess of therapeutic dosages.--** BHT is metabolized by the liver and some of the rat experiments showed a suppression of liver enzymes and enlargement of the liver. This implies a degree of liver toxicity if the dose is high enough. At what dose a human might experience some degree of liver toxicity is unclear. Liver toxicity is a common side effect of a great many medications including some common over the counter pain relievers. If you are taking BHT or choose to take BHT, consider asking your doctor to do a blood test to measure your liver enzymes. [\[U1\]](#)--- A large number of individuals have taken BHT in therapeutic doses for extended periods of time with no reported adverse effects. (8)(9) A case was reported in The New England Journal of Medicine of a patient who took 4 grams of BHT as a single dose on an empty stomach and experienced severe gastric pain, nausea, vomiting and dehydration.(11) To be fair, a number of substances including aspirin, vitamin and mineral supplements some foods and many common medications can produce similar effects when taken on an empty stomach.--- Additional anecdotal reports indicated that BHT may cause hives in a few individuals who are sensitive to BHT[\[U2\]](#). BHT was also observed to temporarily cause a decrease in blood clotting when individuals first begin taking it in substantial doses. One individual reported dizziness and disorientation when taking 3 grams per day. His symptoms disappeared when he dropped his dose down to 250 mg. per day. (8)(9)-- There are a few physicians who regularly prescribe BHT for herpes treatment and outbreak prevention and consider it safe. There have been no formal clinical trials on humans to definitively determine the safety status of BHT.

BHT Dosage

Based on anecdotal information, it appears that a dosage of **250 mg. to 1000 mg. per day may be effective for many people**. Dr. Ward Dean, M.D. recommends a dosage of 250 to 500 mg. per day as an anti-oxidant and 2000 mg. per day in divided

doses for acute herpes outbreaks.(12) Anecdotal evidence also suggests that therapy at this dosage may be insufficient to suppress herpes outbreaks in some individuals. **It is hypothesized that combining BHT with other measures, either alternative or orthodox, may be more effective than using BHT alone.**

[U3]BHT Precautions

- No one knows if there are any yet unrecognized health risks of large doses of BHT.
- Patients with diseases that compromise liver function should have their liver enzymes monitored by a physician.
- BHT is fat-soluble, so thin people may need less and may be more susceptible to side effects.
- BHT can interfere with blood clotting. It may pose a risk to persons with clotting problems or persons using anti-coagulant medications.
- Doses of BHT should start small and gradually increase.
- A few people are chemically sensitive to BHT.
- Alcohol should be avoided for at least several hours before and after taking BHT. Alcohol may have a stronger effect than usual.
- BHT can interact with some drugs.
- BHT is best taken with food, both to minimize any possible GI distress and to facilitate absorption.
- Anyone who chooses to take BHT with or against medical advice should consult a physician regarding their actions to obtain a diagnosis, advice on alternative treatments and advice on possible drug interactions

(ATN) AIDS/ARC and BHT

*AIDS Treatment News No. 10 (San Francisco Sentinel) - August 11, 1986 -**John S. James***

[The author indicates today -- 1/22/87 -- that a revision or modification of some of this article may be necessary due to information received recently. -- Ed.] -BHT, a chemical used commercially as a food preservative, has also shown antiviral effects in scientific tests. Though no medical uses have been officially approved, many people have used it for controlling herpes, and a few for AIDS or ARC. BHT does cross the blood-brain barrier. Unlike many other experimental AIDS treatments, BHT is readily available in many health-food stores and by mail order. And expense isn't a problem because BHT costs so little that twenty dollars can buy a three-year supply. This paper will outline the arguments for and against the antiviral use of BHT, list some precautions, and tell readers how to find out more about it.

The Scientific Case for BHT ---Scientists first became interested in BHT as an **antiviral by accident**, when their virus cultures failed to grow in media containing the substance. **More research showed that only lipid-coated viruses were**

affected. (The AIDS virus, and also the opportunistic infection cytomegalovirus (CMV), are lipid coated.) The team that discovered this effect of BHT, at **Pennsylvania State University**, **published the first paper on it (Snipes and others, 1975)**. ---BHT has been found to inhibit or inactivate every lipid-coated virus against which it was tried, including herpes (Freeman and others, 1985; Keith and others, 1982; Richards and others, 1985), cytomegalovirus (CMV) (Kim and others, 1978), Newcastle disease virus in poultry (Brugh 1977; Winston 1980) and other viruses. **In the laboratory, it worked especially well against CMV. It does not affect other kinds of viruses that are not lipid coated, such as polio.** ---No one knows for sure how BHT has this effect. One theory is that it removes the lipid coat, allowing antibodies to attack the core of the virus. Another theory is that it removes a particular protein from the coating of the virus, preventing the virus from attaching itself to a healthy cell. This mode of action may be unique among antivirals. ---Since BHT has worked with all lipid-coated viruses tested, and AIDS is lipid coated, it would be worthwhile to try the same laboratory test with the AIDS virus. At least one scientist wants to perform this work, but it has been difficult to get the needed funding, fifteen thousand dollars. (One organization may want to fund this work, but it can only award grants to non-profit institutions like universities, not to individuals or corporations; and no one has yet been found who knows this scene and can make the necessary arrangements. ----**What about human or animal tests of BHT with the AIDS virus?** No one has done such a study, and as far as we know, **there is no official interest in doing one.**^[U4] But a handful of published reports describe tests of BHT with other lipid-coated viruses IN VIVO (in animals or humans, not in a laboratory dish): two in chickens, one in mice, one in guinea pigs, one in rabbits, and one in humans. **All were successful, to varying degrees.** ---The studies using chickens (cited above) tried to determine whether feed additives were responsible for agricultural vaccination failures. An incidental finding in the studies showed that **BHT protected chickens against Newcastle disease, caused by a lipid-coated virus.** ----In mice, **BHT reduced the healing time for herpes lesions when applied topically to the sores (Keith and others, 1982).** In guinea pigs, topical BHT **shortened the time of the original herpes infection, but not of recurrences** (Richards and others, 1985. This study is difficult to interpret, since most of the placebo animals died during the initial infection; anyone interested in this report should read the entire paper, not just the abstract.) In rabbits, **BHT in their diet reduced the severity and death rate from herpes eye infections** (Coohill and others, 1983). ---We can find only one published scientific study of BHT used as an antiviral in humans. In this double-blind test, published in 1985, BHT or placebo was applied topically to herpes sores, but late in their development, after the patients had arrived at the clinic. **BHT caused a small but definite improvement.** Researchers speculated that BHT might possibly be effective even **when the virus travels directly from cell to cell** (Freeman and others, 1985). ---

The Case Against BHT

People who use BHT as an antiviral (or who take it to slow the aging process and extend lifespan, an effect found in some animal studies), take about a thousand times as much

as most people obtain in the average American diet. The biggest concern about BHT, whether used as a medicine or a food preservative, is that it has promoted cancer in some animal experiments. ---Due to the widespread use of BHT in food, many studies have fed large amounts of it to animals to investigate cancer and other risks. The results are complex and contradictory, with experts disagreeing on its safety as a food additive. --What seems to emerge from the recent **studies is that BHT does not cause cancer by itself**. But in some cases, **it can increase the occurrence of tumors in animals exposed to known carcinogens** (Ito and others, 1985; Tsuda and others, 1984). In other cases, **however, BHT prevents cancer, and actually protects the animals from it**. ---The bottom line is that nobody really knows what the cancer risk is -- if any -- from BHT. The possibility cannot be ignored; anyone who uses BHT should consider it. [U5]--Another concern is the danger of overdose. BHT cannot be used like vitamin C, which has a huge safety factor. Some people use as much as two grams a day of BHT; animal studies suggest that ten times that amount would be close to a fatal dose. [U6]--Last year, two published reports attacked the popular use of BHT for herpes or for life extension. "The Saga of BHT and BHA in Life Extension Myths" (Llaurado 1985) played down the concern about cancer, but cited a 1957 study by the same author in which he had **fed one gram per day of BHT to rabbits through a stomach tube. Not surprisingly, the rabbits died**. The author concludes by urging the **FDA** to ban BHT except for its use as a preservative. ---The other report was a letter from two physicians at the University of California, Los Angeles (Shlian and Goldstone, 1986). They cite the cancer danger and the rabbit study, and also report a case of severe stomach problems in a person who ate four grams of BHT on an empty stomach. The patient required hospitalization, but recovered after several days. **(We point out that most BHT users recommend that no one should take more than two grams per day, perhaps no more than one; that they should start with small doses and work up, and -- probably -- not take BHT on an empty stomach.)** [U7]

BHT and Herpes

Most of the current popular interest in antiviral uses of BHT stemmed from two books by Durk Pearson and Sandy Shaw: LIFE EXTENSION: A PRACTICAL SCIENTIFIC APPROACH, and THE LIFE EXTENSION COMPANION. Pearson and Shaw began using two grams of BHT per day in 1968, for life extension; in **1974 they reported that a doctor had tried it for 150 patients who had herpes. Almost all of them achieved remission**. -----Another of the best-informed groups on the antiviral use of BHT is the Mega-Health Society, with offices in Los Altos, CA, and Manhattan Beach, CA. Steven Fowkes in the Los Altos office has been talking with users and collecting their reports for six years. He also co-authored a book, WIPE OUT HERPES WITH BHT, with John Mann, published by the Mega Health Society and available from them or at some health-food stores. Fowkes is now trying to bring BHT to public attention as a possible treatment for AIDS. -----Fowkes has spoken with or corresponded with hundreds of people using BHT for herpes; we asked him about the overall success rate. He said that most of those who call him are the ones for whom it has failed to work. Usually they have taken less than one gram per day of BHT orally, and when they **raise the dose, and take the BHT with some vegetable oil or lecithin to help it dissolve, it often works**. About a third of those who call are not

able to get good results with anything he suggests. ---On the other hand, the vast majority of those who write report good results; usually they are writing to offer thanks. Some also report temporary skin reactions; almost always these are people on low-fat diets. Half of those who write say **that their skin has improved since they started taking BHT**. BHT can be taken in capsules, or the crystals can be dissolved in vegetable oil. Taking it in oil may be more effective, but most people use the capsules because they don't like working with powders. The capsules should probably be taken with fatty foods, since BHT dissolves in fat, in water. Both forms are available in some health-food stores, or from health-products companies such as Vitamin Research Products in Mt. View, CA., or Twin Laboratories in Ronkonkoma, N. Y.

BHT and AIDS

Fowkes has barely begun to talk with people who are using BHT for AIDS or ARC. He has been trying to bring the matter to public attention, but it hasn't been easy.

Last August, he wrote a four-page letter on the use of BHT as a possible AIDS treatment to several dozen public officials and scientists. The only response was a single polite thank you from one scientist. Clearly we cannot wait for any authorities to begin testing BHT. As we have seen repeatedly, after the lip service is done, saving lives is not a priority of U. S. public policy on AIDS -- if it is even a goal. --One company, Key Pharmaceuticals in Miami, has a patent on antiviral use of BHT, so it does have an interest in research. This company helped finance the double-blind herpes study mentioned above, and it may receive approval to market a BHT ointment for the treatment of herpes. We have also heard rumors of good preliminary results of human tests of BHT against CMV, an opportunistic infection which, like AIDS, is caused by a lipid-coated virus. ---In San Francisco, we spoke with Jim Gulli, who has used BHT for ARC for almost a year. Before using BHT, he had serious health problems; since then he has been in good health. His helper T-cell count was 200 to 300 for two years, but since using BHT it has gone up with every test, and was over 800 when last tested four months ago. Suppressor cells went from 1000 to 1500. His swollen lymph nodes remain swollen, but the night sweats are gone. He had had unusual, sharp headaches for a year; these cleared up within a month of starting BHT, and are gone completely. Gulli takes one gram of BHT, dissolved in linseed and sesame oils, once daily. Since it takes about a day of occasional shaking to dissolve the crystals, he prepares a month's supply at a time, adding about 35 grams of BHT to 70 tablespoons of the oils; one tablespoon from each of the two oils then provides a total of one gram. He experienced side effects at first -- some lightheadedness, and loss of appetite for two to three weeks -- but no problems after that. -Gulli knows several other people who are using BHT for AIDS or ARC, and he hopes to start an information group for those doing so. He can be reached at the address below.

Some Precautions

Here are some warnings which we have heard from people who are using BHT. This list is not complete, and some of the items could be wrong. Do not rely on this article for medical advice; we are reporting these precautions for information only.

- * Before deciding to use BHT, consider the risks. BHT should not be used casually.
- * BHT should be avoided by anyone with hepatitis or other liver problems.
- * Beware of overdose, especially if you measure the crystals yourself. Note that doses should be proportional to body weight. The two people we spoke with who use BHT for AIDS/ARC are taking no more than one gram per day.
- * BHT is fat soluble, so thin people may need less. Also, persons on low-fat diets may be more susceptible to side effects.
- * BHT can interfere with blood clotting, so it might be a special risk for persons with ITP, hemophilia, or other clotting problems.
- * Persons with AIDS, especially KS, can react to medicines in unexpected ways. Since no published studies exists on AIDS and BHT, no one knows whether there are any untoward side effects specific to persons with AIDS. Anyone with personal information on BHT and AIDS is encouraged to contact one of the people listed at the end of this article who will distribute this information to others.
- * When BHT is being used, it is a good idea to take vitamin C also.
- * Doses of BHT should start small and gradually increase. It is probably not harmful to stop abruptly, however, because BHT stays in the body for several weeks.
- * A few people are chemically sensitive to BHT. One study (Fisherman and Cohen, 1973) gave test doses to persons who already had allergy or asthma problems, to see if BHT in food was the cause. In those who reacted to BHT, a 250 mg dose (half that amount for severe asthmatics) caused a flare-up of the problem; some of the asthmatics needed medical treatment to stop the attack. The reactions always showed up within 75 minutes. While such reactions were rare, they do reinforce the advice that small doses be used at first.
- * **In research studies, BHT has changed the sensitivity of animals to radiation damage. When it is first used, sensitivity is increased; later, sensitivity is decreased. Anyone receiving radiation treatments should be sure to tell their doctor if they are using BHT.**
- * Maintain a balanced diet. One study gave toxic doses of BHT to rats, and found these doses caused more damage to **animals that were on a protein-deficient diet.**
- * Alcohol should be avoided for at least several hours after taking BHT. Alcohol may have a stronger effect than usual, so be especially careful about driving.
- * Some people at least should avoid taking BHT on an empty stomach.
- * There may be special risks to using BHT during pregnancy.

* BHT can interact with other drugs. It can either increase or decrease their effects. Some drug interactions may be unknown, but a pharmacist may be able to help.

* Always let your doctor know what you are doing. With BHT, as with any experimental or alternative treatment, you should research and understand the treatment yourself. Share what you have learned with your doctor. Most of them will be more sympathetic if they know that you have done your homework.

* If you use BHT, it may be a good idea to invest twenty dollars in a kilogram of the crystals -- a three-year supply -- to guard against the possibility that sales might be banned down the road.

Summary

Published scientific evidence strongly suggests that BHT might help in treating AIDS or ARC, as well as certain opportunistic infections, especially CMV, and that the risks can be kept small. It has been proved effective on every other lipid-coated virus on which it has been tried, and has worked as an antiviral in animals and in laboratory tests. The only human antiviral test, topical use for herpes, was also successful.

But we don't know with certainty whether BHT will help for AIDS or ARC, because no one has done the research, either in the laboratory or with patients. An unknown number of people are using BHT for AIDS or ARC on their own, but there is no way to contact them, and many don't want to talk publicly. For CMV, often a major problem with AIDS/ARC, there is more evidence that BHT may be effective, as it has been tested against the virus in the laboratory and worked well; however, there are currently no published human studies.

This writer talked personally with two people now using BHT for ARC. One seemed definitely to have benefitted; the other is enthusiastic but is taking it on faith, and has no clear evidence of whether or not it helped.

No one expects BHT to be a cure. But if it can help in the management of AIDS and/or CMV, it would have value now until better treatments become available.

We urgently need scientific studies which could obtain definite answers on BHT's effectiveness. This research could be done quickly and inexpensively, since BHT is readily available in high purity for human use, and much of the preliminary work such as animal safety studies has already been done. Meanwhile, we should support those who are using BHT on their own, and collect and publish anecdotal information when possible.

For More Information

To find out about the use of BHT for AIDS or ARC, write to BHT Information Group, c/o Jim Gulli, 3851 21st St., San Francisco, CA 94114.

For background information on BHT as an antiviral or for life extension, contact Steven Fowkes at the MegaHealth Society, 994 Acacia Ave., Los Altos, CA 94022, phone (415) 949-0919. The MegaHealth Society serves as a clearinghouse for BHT information. It also publishes a quarterly newsletter, which will include new developments in the use of BHT for herpes and for AIDS.

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[U1]Or Utilize NAC or Methionine or MSM or Alpha Lipoic acid with this regimen—this will insure the protection of the liver and as well utilize either Sage- Milk thistle-or artichoke as well

[U2]This could as a result of removing the free radicals releasing a histamine response as well

[U3]Combing with MSM and edta would be one suggestion---utilizing it with anti virals would be another

[U4]Does not mean Unofficially it is not going on

[U5]Well then you may as well consider the foods you eat the air you breathe and the water you bathe in—all are risky for some kind of health issue

**[U6] So we are saying 20grams or 20,000mgs maybe problematic---
no one would take that much unless they were consuming major
types of foods at one time that would exceed the safety measures**

[U7] Fat Soluble antioxidant –so take with fat

And use cq10 with it as well and thyme