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Jim HUMBLE

Chlorine Dioxide Therapy

MMS Jim Humble the Good the Bad the Truth

by

Robert Teeter

I've been working with, and researching, chlorine dioxide for two years. I've made my own batches of nearly 100%, using a different formula. There are more than eight formulas to make chlorine dioxide. I have the Genesis II Church member card. I'm not anti-MMS.

Jim Humble is a great humanitarian, and must have been a good NASA engineer. However, his chemistry is bad, which he has said in his book. And his understanding of body biochemistry is completely wrong. My main purpose, for this paper, is to correct his mistakes.

The medical establishment's attack, against MMS, is based on a simplistic, uninformed, negative, buzz word slander. Clorox bleach is not labeled with the skull poison symbol. Like many products, it has warnings. And the warnings are exaggerated, as usual. For instance, it warns of burns to the skin. Hah, I've had bleach on my hands many times. It feels slimy, but doesn't cause a burn. They also use the word "industrial" bleach. "Industrial" makes it sound bad. Supermarket packaged foods are made in a factory. It's an industry. There's nothing bad about being industrial. Sodium chlorite and chlorine dioxide are in the general category of "bleach". That's good if you want to disinfect. And chlorine dioxide is used, for instance in municipal water supplies, because it is the safest one. As I will cover later, bleach oxidizers can do damage. So concentrations must be low.

I'm experienced enough to be aware of the inner works of some groups, especially ones like the FDA. The whole attack, on MMS, may possibly be traced to one man, Mr. Mizer in the US Dept. of Justice, since everyone is repeating his slander, about bleach. There's a cadre of such people who hate Christianity, and so can't stand medical people using the words "cure" or "miracle". For sure,

the attack is uninformed, and so it is illegitimate.

To begin correcting Jim's mistaken ideas about chemistry. Chlorine dioxide is not an ion. It does not have a charge. It is a molecule. Molecules do not have a charge. Chlorine dioxide is unusual, in that it doesn't dissolve, ionize, in water. Body cells are a complex structure of many molecules. They do not have a charge. So chlorine dioxide is not repelled by body cells, and it is not attracted to only bad bacteria. Bacteria are cells, and so do not have a charge. The Gram Stain is not a positive or negative charge. The positive and negative means yes or no for the bacteria becoming stained with a dye. Chlorine dioxide is a free radical, meaning it has an unfilled electron space. This is how it oxidizes. When reacting with organic molecules, chlorine dioxide usually functions as a highly selective oxidant due to its unique, one-electron transfer mechanism where it is reduced back to the chlorite ion. When oxidizing some inorganics, like ferric oxide, it can accept a total of five electrons, which would break it down to a chloride ion, as in salt, and two oxygen ions. Jim's claim that electron shells hold atoms together, and that the nucleus would fly apart if the electrons are drawn away, is false. It takes a high-powered atom smasher to do that.

Chlorine dioxide is said to work differently on different pathogens. Bacteria, fungi, parasite and tumor cells are vulnerable to oxidants because of these components; thiols, polyamines, purines, amino acids with thiols, phenols, and amines [Dr. Thomas Hesselink's paper about malaria]. The method of chlorine dioxide bacterial kill, at low ppm concentration, seems to occur by the disruption of protein synthesis and enzyme inactivation. This is similar to the non-toxic mechanism of some common antibiotics. It does not blow a hole in cell walls. It acts on good as well as bad bacteria, so probiotics should be taken after treatment is finished. Oxidation of RNA and DNA do not appear to take place, or are at least unimportant in the process. The site of action lies in the soluble fraction of the cell and there appears to be no damage to internal structural components such as ribosomes. At high ppm, the method of rapid bacterial and viral kill appears to be the softening and destroying of the cell wall, or viral capsid.

Chlorine dioxide can definitely hurt body tissue, as well as pathogens. It kills algae, parasite organisms, and some insect eggs or larvae, such as mosquitoes. If the concentration is high enough, it can kill zebra mussels and some fish, such as trout (the lethal LC50 for rainbow trout is 290 ppm for 96 hours). Since I believed Jim's harmlessness claim, at first, I took massive doses of pure chlorine dioxide, and inhaled full breaths of it. Once, my lungs hurt for three days afterwards. And massive doses caused my ears to ring, probably damaging sensitive inner ear nerve hairs. So doses should be kept small, and luckily chlorine dioxide works with the lowest doses, compared to other disinfectants. There are many institutional papers assessing the toxicity of chlorine dioxide, sodium chlorite and chlorate. The main problem area is red blood cells. With prolonged, higher dose (up to 1000 ppm for chlorine dioxide, and 100 ppm for chlorite and chlorate) daily use in rat's drinking water, for 1-2 months, some hemoglobin can be oxidized to methemoglobin which doesn't carry oxygen. Also, red blood cell count can decrease. Chlorate (ClO_3^-), which can rupture RBCs, is the worst with serious RBC loss after nine months. There is a claim that some chlorate can be produced in MMS reactions, such as with pH less than 3, and some chemical studies claim chlorine dioxide can change into some chlorate in water. Red blood cells have glutathione to protect them from oxidation, but cell levels can be decreased with prolonged treatment. Other studies show no methemoglobin at these dose levels. There is a reference stating that there's an enzyme that reduces methemoglobin back to normal hemoglobin. One study with low dose, single dose, pure chlorine dioxide using people, showed no problems at 0.34 mg/kg of body weight. In these studies, the doses of sodium chlorite and chlorate were only 1/10th of the amount of chlorine dioxide, evidently for safety reasons, meaning they considered chlorine dioxide much safer. Different studies have found the following safe levels of chlorine dioxide in all of the drinking water, per day: 15 mg/kg in mice for 1 month; 9 mg/kg in green monkeys for 1-2 months; 2 mg/kg in Sprague-Dawley rats for 3 months. At higher doses there could be some nasal irritation from chlorine dioxide gas evaporating at the drinking tube. Effect on newborn rat pups: decreased pup development, decreased thyroid

hormone levels (thyroid hormones T3 and T4 are phenols), and decreased brain cell count, were found at 14 mg/kg of body weight per day in drinking water for the mother rats during gestation and lactation. Dosing below 14 mg/kg had no observed effect, such as in a 3 mg/kg test. I don't think anyone should take maintenance doses for years, especially with so much sodium chlorite in the MMS mix. And doses should be in mg/kg or /pound of body weight, not in drops. Also, Jim is wrong about MMS lasting only one hour in the body. Rat studies show that 100% chlorine dioxide, not the MMS mix, reaches peak blood level in 2 hours, with half absorbed in 3.5 hours. The leftover sodium chlorite, in the MMS mix, reaches peak blood level in 8 hours. 21% of it is still in the blood after 72 hours. So dosing every hour is not a good idea. Studies use one dose per day. There probably hasn't been much research about the effect of chlorite and chlorine dioxide on prescription drugs in the body, but oxidizers are one thing used by illegal drug users to nullify drugs in their urine test. So they probably can affect some prescription drugs in the body. For myself, I would only take low dose pure chlorine dioxide, such as chlorine dioxide solution (CDS), or the new MMS1 tablets in a glass of water [do not swallow the tablet]. Precautions must be employed in people with glucose-6-phosphate-dehydrogenase deficiency disease, as they are especially sensitive to oxidants of all kinds.

As chlorine dioxide is a free radical, antioxidants will quench it back into a chlorite ion. This happens with many antioxidants; Vit. E, Vit. A, CoQ10, flavonoids, Beta-carotene, Lycopene, Lutein, etc., not only vitamin C. So no antioxidant supplements, or natural juices or foods should be consumed with chlorine dioxide. Lemon, or lime juice, has vitamin C and other antioxidants, so are not good to mix with chlorine dioxide.

Jim believes that MMS gets completely changed into chlorine dioxide, in the stomach, if you swallow it. This is no more true than what happens when activating MMS in a glass beaker. There is only a small continuous basal secretion of gastric acid, on an empty stomach, of usually less than 10 mEq/hour. It takes food to stimulate the secretion of gastric fluid, and then the HCl is only 0.5 to 1% of it. And acidifying sodium chlorite does not produce chlorine dioxide as the first step. It produces chlorous acid, HClO2. [HCl + NaClO2 = HClO2 + NaCl] HClO2 is unstable, and breaks down into chlorine dioxide and hydrochloric acid. [5 HClO2 decomposes to 4 ClO2 + HCl + 2 H2O] Furthermore, at a pH in the range of 2.3 - 3.2, only about 30% chlorous acid is produced from the acidification. That leaves about 70% leftover sodium chlorite. Citric acid is a weak acid, and only produces about 10% chlorine dioxide. And citric acid can have the taste problem. Luckily, the leftover sodium chlorite is also a disinfectant, although it is much harsher than chlorine dioxide, and not as selective. With exact concentrations and conditions, HCl can produce nearly 100% chlorine dioxide. Also, the acidification of 1.3M sodium chlorite with 10% acetic acid yielded almost entirely chlorine dioxide as the major product of the disproportionation. Acidified Sodium Chlorite is used by many food processing companies, and the short-lived chlorous acid is also a disinfectant.

Sodium chlorite is a different animal. I have brushed my teeth with less than one ounce of 80% sodium chlorite solution. Afterwards, one corner of my lips hurt, and my gums were red and sore, with a small amount of bleeding when brushed. This took several days to heal. A single dose of 105 mg/kg weight will kill half of rats tested. That's called the LD50, lethal dose. For a 150 lb person, that's a little over 7 grams. In another test, with cats, a single dose of 1.5 mg/kg caused as much as 32% methemoglobin. That's losing about 1/3 of your blood oxygen supply. This loss does reverse back into normal hemoglobin over time. A 90 day study on rats found a No Adverse Effect Level at 1 mg/kg. Another 13 week study found very serious consequences at the highest doses; death, increased spleen and adrenal weights, ulceration, chronic inflammation and edema in the stomach. In a 90 day study, red blood cell glutathione levels, in a high dose group, were 40% below those of controls. MMS with citric acid has about 90% sodium chlorite leftover. So it's safer to use only chlorine dioxide alone.

Under some circumstances, calcium hypochlorite, MMS2, solutions can decompose to form some chlorate. In water it reacts to form hypochlorous acid and calcium hydroxide. This is the same chemistry as Clorox, sodium hypochlorite. The hydroxide part is caustic. It eats into body tissue. It's well known that these pool chemicals can irritate the eyes, if you swim a long time. He notes that hypochlorous acid is formed in the body. Yes. However it is formed inside white blood cells when they find an invading micro-organism, and only then. So it works only on the invader. Normal mammalian body cells, as well as bacteria, do not have a catalytically active detoxifying mechanism for it. So the hypochlorous acid can destroy body tissue as well as invaders. And ingesting it puts it in your bloodstream and body. Also, it's not as effective as chlorine dioxide. So it offers nothing new. No one should ingest MMS2, calcium hypochlorite, in any way. Swallowing a capsule containing solid calcium hypochlorite must surely "burn" the stomach. Also, calcium hypochlorite reacts with hydrochloric acid, stomach acid, to produce chlorine gas. Chlorine gas is the worst of all types of chlorine compounds.

Here's a quote from one of Jim's books: "Actually my friend next door in the Nevada desert, Bill Boynton, came over one day and said that calcium hypochlorite killed germs in swimming pools and it might just be another MMS. He suggested that we try taking small amounts and see what happens. I figured if he was game to do it, I was too. We made up some gel capsules with calcium hypochlorite in them and started taking them and when they didn't kill us, we had some friends take them. ... I decided to use the gel caps and started sending it out to people in the gel cap form. It's something a doctor could never do. He has the Hippocratic Oath and AMA and FDA looking over his shoulder. But I am an inventor and never took that oath." p.112.

Stabilized Oxygen, as sodium chlorite, is known by some people as a biocide for killing parasites. And at first, this is what Jim used, alone, to cure malaria. It's not clear who started selling Stabilized Oxygen, or why the mistaken name was used. It goes back far enough that the ingredient was not listed, leading to confusion. In 1929, Dr. Moisés de Guevarra was selling a dry powder named "stabilized oxygen". In 1971, Dr. La Mar was the first to use a solution with "stabilized oxygen" to increase blood oxygen level. Evidently, it's unknown if either of these was sodium chlorite. E.D. Goodloe, 1971, sold "aerobic stabilized oxygen", produced in a 2-month-long production process in 14 stages. The oxygen is in association with sodium chloride, not sodium chlorite. Sodium chlorite could be used alone, as long as doses are below the vomiting threshold. Making up a new name, for Stabilized Oxygen (sodium chlorite), is what commercial companies do to sell a product. And changing the wording, of MMS, only causes confusion. Health newsletters simply use the names of the chemicals.

Getting sick, with Jim's method, is not a herxheimer reaction. The herxheimer reaction (Jarrisch and Herxheimer) is a phenomena originally observed in the treatment of syphilis. In general terms, it is described as a temporary increase of symptoms when antibiotics are administered. This effect happens with only a few diseases. Similar reactions have been found to occur in two kinds of borreliosis (Lyme disease and relapsing fever), brucellosis, Q fever, and trypanosomiasis. Herxheimer can occur within days to weeks after the onset of antibiotic therapy. The most common effects include: increased joint or muscle pain, headaches, chills, fever (usually low-grade), drop in blood pressure, hives and rash. Lyme is the main one, now, to have this problem. The extremely large doses of pure chlorine dioxide, that I took, caused no nausea, vomiting or diarrhea. In fact I felt high until the next morning. I've also swallowed a half eye-dropper of the 80% liquid sodium chlorite alone in water. It caused a vomit stomach spasm reaction within 30 minutes. Chlorous acid is evidently the one that causes liquid diarrhea. I got that with my first use of MMS with lime juice. The vomiting and diarrhea are the body's attempt to get rid of what you ingested. They are not a die-off or Herxheimer effect.

We owe Jim for making this subject public, and his other work. But I discovered, from being on the Genesis II Church Forum, that everyone was extremely closed minded about saying anything that

disagreed with Jim. They even ban people who disagree with anything, even a chemist. So I have to conclude that Jim's history, with NASA or otherwise, has made him somewhat arrogant. I don't like to criticize people, but he's created an atmosphere that he is perfect, and knows more. That's the kind of problem in cults. Chlorine dioxide, and acidified sodium chlorite, are not new. There's been plenty of official health research, and patents, long before Jim found that "stabilized oxygen" (sodium chlorite) kills the malaria parasite. And some of his protocols may have too much sodium chlorite per day. He's so unprofessional that he doesn't give dosages per pound of weight of the patient. Obviously Jim has done no stomach sample tests, or blood tests to prove his claims. Chlorine dioxide has been said, by a chemist society, to be the best anti-pathogen. But do your own research.

I'm not trying to scare you away from MMS. As long as you stay within the No Adverse Effect Levels, it's usable. If I had a deadly disease, I would use it even at somewhat damaging levels. For recommended dose levels of the sodium chlorite part, see Dr. Hesselink's table below. One benefit of these chlorine oxidants is that, in low doses, they can stimulate white blood cells to produce cytokines which stimulate other white blood cells, activating the immune system.

There's a great Patent, from 1990's work, with very exacting biochemical research. The test studies showed that sodium chlorite alone is successful at treating autoimmune diseases, which may include diabetes-1, Parkinson, MS, hepatitis, etc. [Use of a chemically-stabilized chlorite solution for inhibiting an antigen-specific immune response]

Lab Tests with Chlorine Dioxide

Disinfection examples include bacteria, yeast, fungi, mold, algae, spores, protozoans, cryptosporidia, actinomycetes, cysts, giardia and larval eggs (mosquito, tse tse fly), insect eggs and larvae (agricultural pests, fruit fly, floricultural and horticultural insects), problematic veligers (zebra mussels, quagga mussels), fish and shellfish diseases (VHS, KHS, ISA) and many others.

Unlike chlorine, ClO2 has the ability to kill water-borne viruses such as legionella, cholera, dengue, hepatitis and typhoid. ClO2 also kills airborne viruses when misted into air. Airborne viruses include anthrax, influenza, SARS, smallpox, chickenpox and avian flu. ClO2 kills all known bacteria, including coliform, salmonella, E-coli, listeria and cinobacteria. ClO2 eliminates microbial slime (biofilm).

Hospital Infection Research Laboratory UK, Institute de Recherche Microbiologique France, Micropathology UK, Biotech-Germande France, Bluscientific UK, PHLS UK

Spores: Bacillus cereus, Bacillus subtilis, Bacillus subtilis var niger, Anthrax [used to disinfect the DC anthrax attack]
Mycobacteria: Mycobacterium avium-intracellulare, Mycobacterium chelonae, Mycobacterium fortuitum, Mycobacterium terrae, Mycobacterium tuberculosis, Mycobacterium tuberculosis Poli-R
Viruses: Canine Parvovirus, Coxsackivirus B3, Hepatitis A, Hepatitis B, Hepatitis C, Herpes simplex virus Type 1, HIV Type 1 , Human Norovirus, Influenza virus Type A2, Poliovirus Type 1, Poliovirus Type 2, SARS,
Fungi: Aspergillus niger, Candida albicans
Bacteria: Acetinobacter baumannii, Clostridium difficile [C. diff], Enterococcus faecium (vancomycin resistant), Enterococcus hirae, Escherichia coli [E. coli], Pseudomonas aeruginosa, Pseudomonas aeruginosa (gentamicin resistant), Staphylococcus aureus, Staphylococcus aureus (methicillin resistant) [MRSA], Salmonella, Campylobacter, and Listeria monocytogenes

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USE OF A CHEMICALLY-STABILIZED CHLORITE SOLUTION FOR INHIBITING AN ANTIGEN-SPECIFIC IMMUNE RESPONSE

Inventor(s): KUEHNE FRIEDRICH-W , et al.

Methods of using a stabilized chlorite solution to inhibit antigen-specific immune responses are disclosed. The stabilized chlorite solution, when administered to a mammal in need thereof, can prevent the presentation of antigens by antigen presenting cells. The stabilized chlorite solution therefore is useful in treating, inter alia, auto-immune diseases, treating diseases caused by an inappropriate immune response, treating lymphoproliferative disease and in inhibiting rejection in transplant patients.

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application is a Continuation of U.S. patent application Ser. No. 12/132,761, filed Jun. 4, 2008, which is a Continuation of U.S. patent application Ser. No. 10/895,941, filed Jul. 22, 2004, which is a Continuation of U.S. patent application Ser. No. 09/166,969, filed Oct. 6, 1998 (abandoned); which claims priority to U.S. Provisional Patent Application No. 60/060,953 filed Oct. 6, 1997, the entire specification, claims, and drawings of which are incorporated herewith by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to the use of a stabilized chlorite solution to inhibit antigen-specific immune responses. The stabilized chlorite solution inhibits antigen-specific immune responses by impeding antigen presentation by antigen presenting cells. The stabilized chlorite solution therefore is useful in treating diseases caused by or associated with unwanted or inappropriate antigen-specific immune responses including, for example, auto-immune diseases, hepatitis B and C, chronic hepatitis, chronic obstructive pulmonary disease, systemic lupus erythemotosus and in preventing rejection in organ transplant and graft patients (graft versus host disease). The stabilized chlorite solution also is useful in treating lymphoma, specifically, follicular non-Hodgkin's lymphoma.

BACKGROUND OF THE INVENTION

[0003] A feature common to an immune response is the recognition of an antigen (either foreign or self, but perceived as foreign), and subsequent processing by the immune system. Typically, antigen is enzymatically degraded in the cytoplasm, endoplasmic reticulum (ER) and lysosomes of cells, (usually macrophages, dendritic cells and other antigen presenting cells (APCs)), or in serum. The degraded antigen is presented on the surface of the APC by MHC class I or II molecules. This presentation of the antigenic epitope by the MHC molecule, and subsequent binding to the T cell receptor (TCR) of a T cell is known as antigen presentation. See, for example: Rodgers et al., CLINICAL IMMUNOLOGY, PRINCIPLES AND PRACTICE (RICH): “Antigens and antigen presentation,” Chpt. 7, pp 114-131, Mosby, St. Louis, Mo. (1996); Roitt, ESSENTIAL IMMUNOLOGY, Blackwell Science, Oxford, England (1997).

[0004] T cells circulating in the body recognize and bind to an antigenic epitope (antigen) presented by the MHC (Class I or II) molecule through the TCRs on the surface of the T cell. Successful binding of the TCR to the presented antigenic epitope results in a cascade of events. For example, when T cells encounter antigen bound to MHC molecules on the surface of an APC, they

can undergo profound phenotypic changes characterized by changes in gene expression, effector functions, secretion of lymphokines, and, under appropriate circumstances, cell proliferation. Inappropriate immune responses occur in a similar manner, however, and can lead to undesirable T cell proliferation, unwanted lymphokine secretion, and a state of autoimmunity.

[0005] In the course of a normal immune response the TCR must first be capable of recognizing and binding to the antigen presented. It is believed, however, that more than a simple binding of antigen is needed to bring about the cascade of events described above. Thus, it is thought that a ligand present on the APC must react with a costimulatory receptor on the T cell to bring about lymphocyte activation. Specifically, the B7 molecule on the surface of the APC interacts with its counterreceptor on the T cell, CD28, a molecule which forms a part of the TCR. Siegel, et al., CLINICAL IMMUNOLOGY, PRINCIPLES AND PRACTICE (RICH): "Signal Transduction and T lymphocyte activation," Chpt. 12, pp 192-216, Mosby, St. Louis, Mo. (1996). See also Roitt, supra at pp. 169-170.

[0006] One of the strongest immune responses is termed an allogeneic response, which involves the immune system reacting against non-self MHC alloantigens. This type of reactivity is observed, for example, in rejection of non-self grafts, such as transplanted organs, and clearly is undesirable in such situations. Reported mechanisms of immunosuppression that act by interfering with allorecognition (i.e., by depletion of graft antigen, inhibition of APC function, blockade of surface receptor/co-receptor molecules, etc.) are ineffective for preventing or reducing the severity of an allogeneic response, however, because of their toxic side effects and their short-term activity. RICH supra., at "Concepts and challenges in solid organ transplantation," Chpt. 104, pp. 1593-1607. In addition, there are no reported treatment regimens that are effective in blocking the B7/CD28 co-stimulatory interaction.

[0007] The immune system of most mammals is capable of recognizing and responding to self and foreign antigens in an appropriate manner. The phenomenon where the immune system does not respond to self-antigens is termed immunological tolerance. Triplett, J. Immunol. 86: 505-510, (1962). Tolerance to self antigens sometimes breaks down, however, causing autoimmunity, where T or B cells (or both), as well as various cytokines of a mammal, react against and destroy the antigens in the mammal's own tissues. In addition, mammals frequently show inappropriate immune responses to foreign antigens, causing an overstimulation or overactivation of the immune system that results in damage to normal, healthy tissue.

[0008] These autoimmune responses and inappropriate immune responses are responsible for a number of systemic immune diseases, including myasthenia gravis, systemic lupus erythematosus, serum disease, type I diabetes, rheumatoid arthritis, juvenile rheumatoid arthritis, rheumatic fever, Sjörgen syndrome, systemic sclerosis, spondylarthropathies, Lyme disease, sarcoidosis, autoimmune hemolysis, autoimmune hepatitis, autoimmune neutropenia, autoimmune polyglandular disease, autoimmune thyroid disease, multiple sclerosis, inflammatory bowel disease, colitis, Crohn's disease, chronic fatigue syndrome, and the like.

[0009] An important factor in autoimmune diseases is the presence of T cells directed against self tissue or antigens. When an antigen (or self-antigen) is presented by an APC, the T cells that possess these anti-self receptors bind to the presented antigenic epitope, and begin to differentiate and proliferate to eventually destroy the antigen (or self-antigen). Davis, Anna. Rev. Biochem., 59:475 (1990). Several mechanisms have been proposed to prevent anti-self T cells from differentiating. One mechanism is clonal anergy, which is the functional inactivation of a T cell. Schwartz in Rich, supra, "Mechanisms of Autoimmunity," Chpt. 69, pp 1053-61. The anergic T cell is unable to express IL-2, a cytokine necessary for T-cell proliferation. Accordingly, the T-cell cannot proliferate and is unable to cause symptoms of autoimmune disease.

[0010] Conventional methods of combatting autoimmune responses down-regulate the immune response by preventing or inhibiting T cell proliferation after antigen presentation. These methods attempt to inhibit formation and expansion of cytotoxic T cells after antigen presentation and release of cytokines (IL-1, IL-2, TNF, etc.). For example, cyclosporin A is known to prevent proliferation of T cells after antigen presentation by blocking production of IL-2. Methods of modulating the immune response that attempt to interfere with the production of stimulated T cells after antigen presentation characteristically require administration of a large quantity of therapeutic agent, which can cause undesirable toxic side effects.

[0011] Moreover, while expansion of anti-self T cells are necessary for some autoimmune diseases, their presence alone is not sufficient to cause all autoimmune responses. Schwartz, supra., at 1055. For example, polyclonal B cell activation is a common feature of systemic lupus erythematosus. Klinman, et al., J. Exp. Med., 165:1755 (1987). In addition, the presence of autoantibodies is not uncommon in organ-specific autoimmune diseases. Bernard et al., Diabetes, 41:40 (1992). Thus, preventing anti-self T cell proliferation alone may be ineffective in treating many autoimmune diseases.

[0012] There are instances other than autoimmune diseases where an immune response is not needed, or where it is desirable to suppress to some extent the immune response. Allergic responses to antigens and excessive inflammation are examples where the immune system has initiated an inappropriate immune response. Chronic viral infection with a hepatitis virus, such as hepatitis B or C is an example where excessive immunologic reactive inflammation causes end stage liver dysfunction and diseases such as cirrhosis and hepatoma. Rejection of transplanted organs and grafted tissue is another example. In addition, the transplanted organ or graft can sometimes elicit a graft vs. host response where the cells of the graft or organ mediate an immune response against healthy host cells.

[0013] In the case of organ transplants and tissue grafting, it is not advantageous to initiate an immune response to the foreign antigens of the transplanted or grafted organ. In these cases, the immune system must develop an immunological tolerance to the foreign antigens. In a similar manner, the immune system of the transplanted organ or graft also must develop a tolerance to host antigens. In the field of organ transplantation and grafting, the recipient's cellular immune response to the foreign graft can be depressed with cytotoxic agents that affect the lymphoid and other parts of the hematopoietic system. Graft acceptance is limited, however, by the tolerance of the recipient to these cytotoxic chemicals, many of which are similar to anticancer (antiproliferative) agents. Likewise, when using cytotoxic antimicrobial agents, particularly antiviral drugs, or when using cytotoxic drugs for autoimmune disease therapy, e.g., in treatment of systemic lupus erythematosis, one serious limitation is the toxic effects to the bone marrow and the hematopoietic cells of the body. A further limitation is the inability of the cytotoxic agents to induce an immunological tolerance to the foreign antigens.

[0014] Toxic side effects to normal tissues and cells also can limit the efficacy of most forms of nonsurgical cancer therapy, such as external irradiation and chemotherapy, because of the limited specificity of these treatment modalities for cancer cells. This limitation is also of importance when anti-cancer antibodies are used for targeting toxic agents, such as isotopes, drugs, and toxins, to cancer sites, because, as, systemic agents, the antibodies also circulate to sensitive cellular compartments such as the bone marrow. In acute radiation injury, there is destruction of lymphoid and hematopoietic compartments which is a major factor in the development of septicemia and subsequent death.

[0015] Many different approaches have been undertaken to protect an organism from the side effects of radiation or toxic chemicals. One approach is to replace bone marrow cells after toxicity has developed. Another is to inject a chemical blocker which competes for the site of action of the

toxic drug.

[0016] Neta et al. (J. Immunol. 136:2483-2485, 1986) showed that pre-treatment with recombinant interleukin-1 (IL-1) protects mice in a dose-dependent manner from the lethal effects of external beam irradiation, when the IL-1 was given 20 hr before irradiation. Other studies have shown the use of other cytokines in ameliorating the toxic side effects of radiation therapy and chemotherapy. Preventing secretion of cytokines and/or inhibiting antigen presentation in antigen presenting cells (macrophages, dendritic cells, etc.), however, has not been reported as useful (or not useful) in ameliorating these side effects.

[0017] Conventional immunosuppression also is ineffective in treating organ transplant and graft rejection. First, most immunosuppressive agents, such as antiproliferative and corticosteroids, display a low immunosuppressive efficacy. Second, excessive amounts of immunosuppressive agents, such as the monoclonal antibody OKT3, may produce toxic effects on T and B cells, leading to emergence of occult viral infections in, or neoplastic diseases of, lymphoid cells., Third, toxic effects on organs not belonging to the immune system result from administration of large doses of immunosuppressive agents such as cyclosporine.

[0018] Antigen presentation on APCs also has the effect of stimulating T helper cells to “help” B cells undergo proliferation and subsequent differentiation. After each division, B cells that bind antigen with higher affinity are allowed to divide again; those B cells whose immunoglobulin remain unmodified or have a lower affinity are allowed to die. B cells therefore initially proliferate, and then differentiate into plasma cells that secrete immunoglobulin as noted by the Ig subclasses. Typically, B cells secrete IgM first, followed by IgG, IgA and IgE. If B-cells continue to proliferate, but fail to differentiate, they could give rise to a lymphoproliferative disease, such as lymphoma. Gause, in Rich, supra, Ch. 113, pp 1745-1767.

[0019] Non-Hodgkin's follicular lymphoma (non-HIV) is one of the most common lymphomas in the United States. Approximately 40,000 new cases of lymphocytic lymphomas are diagnosed annually, with an estimated mortality of 19,000. Ries, et al., Cancer Statistics Review 1973-1988, National Institutes of Health Publ 91-2789, Washington, D.C., 1991, National Cancer Institute. Follicular lymphoma progresses relatively slowly over time and requires little therapy, except when it causes the patient discomfort or develops a life-threatening complication. Although falling in the low grade category of lymphoma, follicular lymphoma can not be cured given current therapeutic considerations, and is ultimately universally fatal.

[0020] In 1981, the first treatment of a patient with anti-idiotypic antibody made from the patient's own B cell lymphoma was undertaken. Miller et al., N. Engl. J. Med., 306:517 (1982). More than 10 years ago, researchers used monoclonal anti-idiotypic antibodies for treatment of follicular lymphoma. This research found that lymphomas responded to anti-idiotype therapy in direct relationship to the proportion of T cells that co-existed within the lymphoma. These findings suggested that the malignant B cells somehow interacted with T cells and that the anti-idiotypic antibodies somehow changed either the growth conditions of the lymphoma cells or the T cell immune response against the B cells. Anti-idiotypic therapy has not been adopted, however, because, since the anti-idiotypic antibodies are made from, the patient's own B cells (which have the inherent capacity to modify their structure), the B cell tumors also have the ability to somatically mutate their antigen binding site (i.e., idiotype) thus making them impervious to anti-idiotypic therapy. Gause, supra at Chpt. 113, pp 1745-1767).

[0021] More recently, dendritic cells incubated with lymphoma idiotypic-type (tumor-specific immunoglobulin) have been used to immunize patients against their own follicular lymphoma. Here, blood dendritic cells were removed from patients, incubated with their own tumor-specific antibody, and injected back into the patient. A substantial number of patients responded by

shrinkage of their tumors after injection thereby indicating that the dendritic cells induced a T cell response against the malignant B cells. These observations suggest that follicular lymphoma may be amenable to immunologic manipulation.

[0022] One of the pathogenic lesions within the follicular lymphoma process involves macrophage antigen processing and/or presentation. Despite the numerous treatment regimens for follicular lymphoma, and despite the recent advancements in cancer biotherapy trials, there have been no significant improvements in the management of lymphomas. Id., at 1763. Moreover, it has heretofore been unknown to treat lymphoma by regulating antigen presentation in APC.

[0023] Inhibiting an inappropriate immune response and inhibiting and/or preventing antigen presentation, while advantageous in ameliorating autoimmune disorders, allergic responses, transplant rejections, etc., has the disadvantage of reducing the immune system's ability to fight off infections. Thus, known therapies for immunosuppression often are carried out in connection with administration of agents that stimulate phagocytic activity of phagocytic cells like macrophages, monocytes and polymorphomononuclear cells (PMNs) to fight off other infections. There are no known therapies capable of inhibiting an antigen-specific immune response, while at the same time stimulating phagocytic activity.

[0024] It has recently been postulated that an important component in the body's ability to control the duration and severity of the inflammatory response that accompanies macrophage activation during an immune response is the presence of macrophages that are “alternatively activated.” Stein et al., (J. Exp. Med. 176:287 (1992)). Unlike “classical” macrophage activation, which is induced by interferon-?, TNF-a, IL-12, or bacterial lipopolysaccharide, the alternative pathway is induced by IL-4, IL-10, or IL-13, and is characterized by expression of the AMAC-1 gene, producing MIP-4 protein (macrophage inflammatory protein-4) and reduced secretion of proinflammatory cytokines. See Kodelja et al., J. Immunol. 160:1411 (1998); Schebesch et al., Immunology 92:478 (1997). Alternatively activated macrophages have been shown to actively inhibit mitogen-mediated lymphocyte proliferation. As such, the alternative pathway of macrophage activation is thought to act as an important modulator of the proinflammatory macrophage response. Indeed, it has been postulated that alternatively activated macrophages might play a key role in reducing inflammation in allergic and autoimmune diseases.

[0025] Aqueous solutions of a chemically stabilized chlorite solution that are capable of intravenous administration are known. Other chlorine-containing solutions also are known to have reported medicinal uses. For example, U.S. Pat. No. 5,019,402 discloses a solution containing chlorine dioxide or a chlorine dioxide-liberating mixture of a chlorite, a weakly acidic buffer and a heat-activated saccharide which can be used for the sterilization ex vivo of stored blood components. Notably, however, the method is unsuitable for use with blood products containing red blood corpuscles, i.e., of leukocytes, blood platelets, coagulation factors and globulins. In whole blood, a corresponding disinfecting action does not occur, presumably because the red blood corpuscles are attacked more quickly by the chlorine dioxide than the targeted micro-organisms.

[0026] DE-OS 32 13 389, U.S. Pat. No. 4,507,285 and U.S. Pat. No. 4,296,103, describe chemically-stabilized chlorite matrices that are suitable for external or oral therapeutic use. Besides various bacterial infections, the external treatment of virus infections, such as herpes simplex and herpes zoster, may be possible in this manner. However, these documents do not report the use of these chlorite matrices for intravenous administration for inhibiting an antigen-specific immune response.

[0027] European Patent EP 0 200 157 and U.S. Pat. No. 4,725,437 further describe solutions of a chemically-stabilized chlorite solution for intravenous and perioperative administration. The agent has proved to be effective in the treatment of Candida albicans infections. From EP 0 200 157, it is

known to use such stabilized chlorite matrices for intravenous and/or local administration in cases of infectious conditions brought about by parasites, fungi, bacteria, viruses and/or mycoplasts. The action is thought to occur via phagocyte stimulation which is achieved by a single effective administration of the chlorite complex shortly after the infection. Down-regulation of an immune response and inhibition of antigen-specific immune responses are not described in these publications; rather, the postulated principle of action via phagocyte stimulation would lead to the opposite prediction.

[0028] It is apparent, therefore, that new methods of modifying the immune response are greatly to be desired. In particular, it is highly desirable to identify new methods of treating diseases associated with inappropriate antigen presentation, such as autoimmune disease, transplant rejection, and systemic lupus erythemotosus, and of treating diseases having symptoms of chronic inflammation due to inappropriate macrophage activation, such as hepatitis B and C, chronic hepatitis, and chronic obstructive pulmonary disease. It also is apparent that methods of treating lymphoproliferative diseases by preventing antigen presentation are desirable.

SUMMARY OF THE INVENTION

[0029] There exists a need to develop a method of inhibiting an antigen-specific immune response by inhibiting or preventing antigen presentation, while at the same time, stimulating phagocytic activity. It is therefore an object of the invention to provide a method of inhibiting an immune response by partially or completely blocking antigen presentation on antigen presenting cells. It is also an object of the present invention to inhibit the release of cytokines and proliferation of stimulated T cells by partially or completely blocking antigen presentation on antigen presenting cells. It is an additional object of the invention to provide a method of inhibiting an antigen-specific immune response, while at the same time stimulating phagocytic activity.

[0030] In accordance with these and other objects of the invention, there is provided a method of inhibiting an immune response comprising administering an inhibition effective amount of a stabilized chlorite solution containing an isotonic solution of 5 to 100 mMol of ClO_2 per liter of solution. The method causes a partial or complete blockage of antigen presentation on antigen presenting cells including, inter alfa, dendritic cells and macrophages.

[0031] In accordance with an additional object of the present invention, there is provided a method of inhibiting an inappropriate immune response comprising administering an inhibition effective amount of a chlorite solution containing an isotonic solution of 5 to 100 mMol of ClO_2 per liter of solution. In accordance with yet another object of the invention, there is provided a method of treating an autoimmune disease comprising inhibiting antigen presentation in antigen presenting cells. This object can be achieved by administering to a mammal in need thereof, an inhibition effective amount of a chlorite solution containing an isotonic solution of 5 to 100 mMol of ClO_2 per liter of solution.

[0032] In particular, there are provided methods of treating a disease selected from the group consisting of myasthenia gravis, systemic lupus erythematosus, serum disease, type I diabetes, rheumatoid arthritis, juvenile rheumatoid arthritis, rheumatic fever, Sjörgen syndrome, systemic sclerosis, spondylarthropathies, Lyme disease, sarcoidosis, autoimmune hemolysis, autoimmune hepatitis, autoimmune neutropenia, autoimmune polyglandular disease, autoimmune thyroid disease, multiple sclerosis, inflammatory bowel disease, colitis, Crohn's disease, and chronic fatigue syndrome.

[0033] In accordance with an additional object of the invention, there is provided a method of inhibiting transplant organ and graft rejection in a mammal, comprising inhibiting antigen presentation in antigen presenting cells. This object can be achieved by administering to a mammal

in need thereof, an inhibition effective amount of a chlorite solution containing an isotonic solution of 5 to 100 mMol of ClO2 per liter of solution.

[0034] In accordance with another aspect of the invention there are provided methods of treating a disease selected from the group consisting of lymphoproliferative disease, hepatitis B, hepatitis C, chronic hepatitis, and chronic obstructive pulmonary disease, by administering to a patient suffering from the disease a therapeutically effective amount of an aqueous solution of a stabilized chlorite solution.

[0035] Other objects, features and advantages of the present invention will become apparent from the following detailed description. It should be understood, however, that the detailed description and the specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0036] FIG. 1 illustrates the mechanism by which antigen presenting cells present antigens to activate T-cells and elicit an immune response or fail to present antigen resulting in an anergic response.

[0037] FIG. 2 illustrates the effect of the chlorite solution of the invention in inhibiting proliferation of T cells from dendritic cells stimulated with allogeneic mixed leukocyte reaction.

[0038] FIG. 3 illustrates the effect of the chlorite solution of the invention in inhibiting proliferation of T cells from monocytes stimulated with allogeneic mixed leukocyte reaction.

[0039] FIG. 4 illustrates the effect of the chlorite solution of the invention in inhibiting soluble antigen-induced proliferation of T cells from dendritic cells.

[0040] FIG. 5 illustrates the effect of the chlorite solution of the invention in inhibiting soluble antigen-induced proliferation of T cells from monocytes.

[0041] FIG. 6 illustrates the relationship between the number of CD14<+>/CD69<+> cells/µl over time in patients subjected to administration of WF-10.

[0042] FIG. 7 illustrates the relationship between the number of CD14<+>/TNF cells/µl over time in patients subjected to administration of WF-10.

[0043] FIG. 8 illustrates the relationship between the number of CD3<+>/CD8<+>/CD28<-> cells/µl over time in patients subjected to administration of WF-10.

[0044] FIG. 9 illustrates the relationship between the number of CD3<+>/CD8<+> cells/µl over time in patients subjected to administration of WF-10.

[0045] FIG. 10 illustrates the relationship between the phagocyte index in number of cells/µl over time in patients subjected to administration of WF-10.

[0046] FIG. 11 illustrates the relationship between the CD14<+>/DR<+> cells/µl over time in patients subjected to administration of WF-10.

[0047] FIG. 12 illustrates the decline in antibody against double stranded DNA after

treatment with WF-10 in a patient suffering from systemic lupus erythemotosus.

DETAILED DESCRIPTION OF THE INVENTION

[0048] The present invention provides methods of inhibiting antigen presentation in patients suffering from clinical conditions associated with inappropriate or excessive antigen presentation. The methods involve administering to the patient a therapeutically effective amount of a stabilized chlorite solution sufficient to inhibit antigen presentation and to alleviate symptoms associated with the clinical conditions. In particular, the methods of the invention are useful for preventing transplant rejection, and for treating autoimmune disease, systemic lupus erythematosus, lymphoproliferative disease such as lymphoma, and diseases associated with chronic inflammation. Diseases associated with chronic inflammation include chronic hepatitis, hepatitis B and C, chronic obstructive pulmonary disease, and all inflammation in mucosal disease (e.g. Crohn's disease and colitis).

[0049] The dosage of the stabilized chlorite preparation that is administered to a patient to achieve a desired therapeutic result will depend upon various factors, including the body weight and gender of the patient. Methods of adjusting dosage regimens to take body weight, gender, and other metabolic factors into account are well known in the art. The particular therapeutic endpoint that is to be achieved will vary depending upon the particular pathology and symptoms of the disease that is being treated, but these endpoints are well known in the art. For example, both hepatitis B and chronic persistent hepatitis are associated with laboratory findings of markedly elevated levels of transaminase activity. Efficacy of treatment using the chlorite preparation may be estimated by measuring levels of transaminase activity both before and after treatment. Similarly, patients suffering from systemic lupus erythemotosus display a high titer of antibodies against double-stranded DNA, and a reduction in this titer following treatment is one indication of the efficacy of the treatment. The skilled artisan readily will appreciate, however, that clinical benefit often may readily be ascertained by observing general improvement in the symptoms reported by a patient, without the need for a quantitative measurement of clinical response. Similarly, absence of a measurable response in certain laboratory findings does not of itself preclude the existence of clinically significant benefit.

[0050] In the context of the present invention, those skilled in the art will appreciate that the term “an inhibition effective amount” indicates an amount of solution which, when administered in vivo to a subject, will bring about an inhibition of the antigen presentation, and consequently, an inhibition of the proliferation of T cells. A therapeutically effective amount of the solution is that amount that produces a therapeutically significant reduction in one or more symptoms of the disease under treatment, or that produces a statistically significant improvement in a recognized clinical marker of the disease. Typically, an inhibition effective amount of the chlorite solution will vary between about 0.1 ml/kg to about 1.5 ml/kg, preferably, about 0.5 ml/kg of body weight and at a concentration of about 40 to about 80 mMol ClO_2 per liter, preferably about 60 mMol ClO_2 per liter, respectively. Without being bound by any theory, applicants believe that the relationships described above between the effects on antigen presentation and the clinical results achieved in treating certain diseases means that the therapeutically effective amount will be similar or the same as the inhibition effective amount.

[0051] Preferably, the chlorite solution of the invention is administered once daily for anywhere from about three to seven days, preferably five days, followed by a period of rest of from 10 to 20 days, preferably from 14-18 days, and more preferably, 16 days, to constitute one cycle of treatment. Preferably, patients are treated with more than one cycle, more preferably, at least three cycles, and most preferably, at least five cycles. The skilled artisan will recognize, however, that other regimens are possible, and may in fact be preferable. Methods of manipulating such regimens are well known in the art.

[0052] For example, an alternative treatment regimen consists of intravenously administering the stabilized chlorite solution of the invention once daily for a period of five days, followed by two days of rest (e.g., over the weekend), followed by five more consecutive days of administration, followed by a period of rest from anywhere between 1 and 4 weeks to constitute one cycle. Preferably, patients are treated with more than one cycle, more preferably more than three. Skilled artisans are capable of modifying the administration of the stabilized chlorite solution of the invention depending on the disease treated and the size of the patient, using the guidelines provided herein.

[0053] The use of an aqueous solution containing a stabilized chlorite solution for treating wounds and infections is known in the art. U.S. Pat. Nos. 4,507,285 and 4,725,437, the disclosures of which are incorporated by reference herein in their entirety, and EP 0 200 157, the disclosure of which also is incorporated by reference herein in its entirety, describe the use of a stabilized chlorite solution in stimulating the wound healing response in humans, as well as in treating infections caused by parasites, fungi, bacteria, viruses and/or mycoplasma. Kühne et al., European Patent No. 200,156, the disclosure of which is incorporated by reference herein in its entirety, describes the use of a stabilized chlorite solution in conjunction with radiation therapy to aid in repairing damaged irradiated tissue and reducing side effects.

[0054] The mode of action in treating damaged and/or infected tissue is thought to involve amplifying the “oxidative burst” response of phagocytes in the presence of bioactivators, e.g., heme compounds. Wound healing and treatment of the reported infections are believed to be effected via activation of macrophages, which in turn serve to activate fibroblast cells that stimulate the wound healing response. The stabilized chlorite solutions are thought to activate macrophages by complexing with the heme moieties present in the macrophage membrane. Upon activation, the macrophages stimulate the fibroblast cells which in turn generate collagen and endothelial cells that are useful in repairing damaged tissue caused by the wound or by the infections.

[0055] While not intending on being bound by any theory, the present inventors believe that a macrophage is stimulated by the stabilized chlorite solution by the following sequence of events. In the presence of heme compounds (e.g., hemoglobin, myoglobin, peroxidases, cytochromes, etc.), which are present in the serum which also are part of the cell membrane of phagocytic cells like macrophages, the stabilized chlorite solution becomes a secondary oxidant with oxidative properties different from chlorite and hydrogen peroxide. Indeed, the stabilized chlorite solution of the invention has shown significant pharmacological differences when compared to equimolar chlorite solutions.

[0056] The present inventors believe further that the known wound-healing mechanism via macrophage activation of the chlorite solution of the invention also stimulates and enhances the phagocytic activity of the macrophage. Thus, the activated macrophage is primed to ingest, digest and dispose of foreign antigens. The use of a stabilized chlorite solution to render macrophage phagocytic is described in EP 0 200 157.

[0057] Prior to the present invention, however, it was not known that a stabilized chlorite solution also can inhibit an antigen-specific immune response, while at the same time enhance the activity of phagocytes. While not intending to be bound by any theory, the present inventors believe that the stabilized chlorite solution, when administered to a mammal in need thereof, partially or completely impedes the antigen presentation of antigen presenting cells (APCs) by activating the alternative macrophage activation pathway. Throughout this description, the expression, “antigen presenting cells” denotes a cell that is capable of presenting an antigen and eliciting an immune response. Useful antigen presenting cells include macrophages and dendritic cells. Inhibition of antigen presentation upon administration of a stabilized chlorite solution is demonstrated by the in vitro data described in the examples.

[0058] A typical immune response involves stimulating a macrophage, the stimulated macrophages present MHC Class I and II bound antigens on the surface, which, when coupled with the T cell receptor, will stimulate T cells (typically a T cell subset such as CD4 or CD8 cells, and the like) to proliferate and form cytotoxic T-lymphocytes (CTL) cells which in turn kill cells expressing the antigen. After antigen presentation and upon coupling with the T cell receptors, the stimulated APC (macrophage and the like) also secretes various cytokines that can aid in the proliferation of CTLs. Cytokines, or growth factors, are hormone-like peptides produced by diverse cells and are capable of modulating the proliferation, maturation and functional activation of particular cell types. Herein, cytokines refer to a diverse array of growth factors, such as hematopoietic cell growth factors (e.g., erythropoietin, colony stimulating factors and interleukins), nervous system growth factors (e.g., glial growth factor and nerve growth factor), mostly mesenchymal growth factors (e.g., epidermal growth factor), platelet-derived growth factor, and fibroblast growth factor I, II and III, including interferons.

[0059] It will be appreciated that there may be several cytokines that are involved in inducing cell differentiation and maturation, and that cytokines may have other biological functions. In the case of IL-1, there may be several forms, such as IL-1-alpha and IL-1-beta, which nevertheless appear to have a similar spectrum of biological activity. Those cytokines that are primarily associated with induction of cell differentiation and maturation of myeloid and possibly other hematopoietic cells include, inter cilia, IL-1, G-CSF, M-CSF, GM-CSF, Multi-CSF (IL-3), and IL-2 (T-cell growth factor, TCGF). IL-1 appears to have its effect mostly on myeloid cells, IL-2 affects mostly T-cells, IL-3 affects multiple lymphocyte precursors, G-CSF affects mostly granulocytes and myeloid cells, M-CSF affects mostly macrophage cells, GM-CSF affects both granulocytes and macrophage. Other growth factors affect immature platelet (thrombocyte) cells, erythroid cells, and the like.

[0060] As shown in FIG. 1, when an antigen is presented to a patient with a normal, or uncompromised, immune system, the following sequence of events typically takes place. This mechanism can be seen on the left-hand side of FIG. 1 labeled “Immune Response.” The antigen (or foreign body) is enclosed in vesicles in the macrophage which breaks down the foreign matter into smaller antigenic peptides. An MHC class II molecule transports one of the smaller antigenic peptides to the surface of the macrophage, where it is presented to a T cell receptor (TCR). Binding with the cell receptor triggers the release of activating factors and cytokines such as IL-1, TNF, etc., which restores the self-defense of the macrophage and enhances the intracellular killing of the foreign body. If binding does not occur, the activating factors are not released and the macrophage will not break down the foreign matter into smaller peptides. As it is used in this description, the expression “antigen presentation” therefore denotes the process of presentation of a foreign antigen copied to an MHC Class II molecule on the surface of an APC followed by subsequent binding with a TCR.

[0061] As described above, the alternative macrophage activation pathway is thought to act as an important modulator of the proinflammatory macrophage response, and alternatively activated macrophages are thought to play a key role in reducing inflammation in allergic and autoimmune diseases. Without being bound by any theory, the inventors believe that one of the mechanisms by which administration of a stabilized chlorite solution operates to prevent and/or inhibit antigen presentation is by activation of the alternative macrophage activation pathway. Indeed, it is noteworthy that the period of suppression of antigen presentation by a stabilized chlorite solution, which appears to last for periods of days to weeks without the need for further administration of drug, closely parallels the duration of expression of MIP-4 in alternatively activated macrophages, which also remains elevated over an extended period. This extended period of MIP-4 expression indicates that the macrophages also remain activated and can play an anti-inflammatory role over the entire period of activation.

[0062] Previously known therapies for preventing T cell proliferation typically acted on cytotoxic T-cells after cytokine stimulation. For example, cyclosporin A is believed to act on the cytotoxic T-Lymphocyte shown at the bottom left of FIG. 1 to prevent T-cell proliferation. At this point, however, the APC already has released cytokines that might assist CTL proliferation. Accordingly, a significant amount of these drugs must be administered to prevent the CTL proliferation. There are no known methods for impeding an immune response, however, where the APC or TCR are affected in a manner that partially or completely interrupts the antigen presentation interaction between the APC and the T cell.

[0063] Patients suffering from autoimmune diseases and diseases caused by inappropriate immune response such as myasthenia gravis, systemic lupus erythematosus, serum disease, type I diabetes, rheumatoid arthritis, juvenile rheumatoid arthritis, rheumatic fever, Sjörgen syndrome, systemic sclerosis, spondylarthropathies, Lyme disease, sarcoidosis, autoimmune hemolysis, autoimmune hepatitis, autoimmune neutropenia, autoimmune polyglandular disease, autoimmune thyroid disease, multiple sclerosis, inflammatory bowel disease, colitis, Crohn's disease, chronic fatigue syndrome, and the like, do so because the immune response is inappropriate. Chronic obstructive pulmonary disease (COPD) also may have some autoimmune etiology, at least in some patients. In an autoimmune response, the patient's body produces too many CTLs, or other cytokines which turn against the body's own healthy cells and destroy them. In transplant or graft patients, an inappropriate immune response occurs because the immune system recognizes the transplanted organ or graft's antigens as foreign, and hence, destroys them. This results in graft rejection. Likewise, transplant and graft patients can develop a graft vs. host response where the transplanted organ or graft's immune system recognizes the host's antigen as foreign and destroys them. This results in graft vs. host disease. Other inappropriate immune responses are observed in allergic asthma, allergic rhinitis and atopic dermatitis.

[0064] In addition, diseases that produce symptoms of chronic inflammation also involve an inappropriate immune response, characterized by excessive macrophage activation. For example, a healthy response to tissue insult, such as a physical wound, or invasion by pathogenic organisms such as bacteria or viruses, involves activation of macrophages (via the “conventional,” proinflammatory route) and leads to an inflammatory response. However, this response can “overshoot” in an inappropriate manner, leading to chronic inflammation if the proinflammatory immune response cannot be suppressed. Diseases such as hepatitis B and C, chronic hepatitis, and manifestations of COPD such as obstructive bronchitis and emphysema that apparently are caused by prolonged exposure to non-specific bronchial and pulmonary irritants, are characterized by chronic inflammation (of the liver in hepatitis and of the pulmonary tissue in COPD) induced by excessive macrophage activation.

[0065] Conventional therapies for autoimmune diseases such as systemic lupus erythematosus and transplant rejection invoke application of cytotoxic agents, particularly those that affect the lymphoid system (and therein particularly inhibit proliferation of T-lymphocytes). These cytotoxic drugs are similar to those often used in cancer chemotherapy, and have well known myeloid and other hematopoietic side effects. In addition to these drugs, specific antibodies against lymphoid cells, particularly T-cells, have been used as immunosuppressive agents. For example, Uchiyama et al., (J. Immunol. 126:1393 and 1398 (1981)) described an anti-Tac monoclonal antibody that specifically binds the human IL-2 receptor of activated T-cells, and which can be conjugated to cytotoxic agents, such as drugs, toxins or radioisotopes, to effect a relatively select killing of these cells involved in organ rejection. Such antibodies can be conjugated with a ß- or a-emitting radioisotope, and can be administered to a patient prior to undertaking organ transplantation and, if needed, also thereafter. The aqueous solution containing a stabilized chlorite solution can be used in place of the aforementioned agents. Alternatively, stabilized chlorite solution can be used in combination with the conventional immunosuppressive agents.

[0066] Administering an aqueous solution containing a stabilized chlorite solution to a mammal inhibits the antigen-specific immune response without compromising the immune system entirely, because the solution also is effective in enhancing phagocytic activity. Thus, the present invention encompasses methods of treating auto-immune diseases, preventing transplant organ or graft rejection and septic shock as a result thereof, and reducing inappropriate immune responses such as excessive inflammation and allergic reaction. Because other methods already are known to treat these disorders, skilled artisans are capable of modifying the known techniques by administering an inhibition effective amount of an aqueous solution containing a stabilized chlorite solution, using the guidelines provided herein. For example, skilled artisans are capable of designing a treatment regimen to treat any of the aforementioned disorders using the stabilized chlorite solution of the invention by varying the dosage amount, frequency of administration, or mode of administration.

[0067] A preferred embodiment of the treatment of this invention entails administration to a mammal in need thereof, an aqueous solution of a product that has been termed "tetrachlorodecaoxygen anion complex," commonly abbreviated as "TCDO." This substance can be prepared using the procedures described in Example 1 of U.S. Pat. No. 4,507,285 ("the '285 patent"), and is a water clear liquid, miscible with alcohols, and has a melting point of -3° C. The Raman spectrum shows bands of 403, 802 (chlorite) and 1562 cm<-1 >(activated oxygen). The skilled artisan will recognize that any chemically stabilized chlorite solution can be used in the methods of the present invention, and that the scope of the invention is not limited to use of the product described in the '285 patent.

[0068] The present invention, thus generally described, will be understood more readily by reference to the following examples, which are provided by way of illustration and are not intended to be limiting of the present invention. In the examples, "WF10" denotes an aqueous stabilized chlorite solution.

Example 1

[0069] In this example, and the following examples 2-4, details regarding the methods used in performing these examples can be found in Fagnoni et al., Immunology, 85: 467-74 (1995), the disclosure of which is incorporated herein by reference in its entirety. This example, together with the following examples 2-4, elucidate the role of a stabilized chlorite solution in preventing dendritic cell-mediated costimulation.

Effect of WF10 on Dendritic Cell DC Stimulated Allogeneic MLR

[0070] Dendritic cells, T cells and monocytes were obtained in the manner described in Fagnoni et al. To assess the effects of WF10 on DC-dependent T cell activation, freshly isolated CD4<+>-T cells were activated with allogeneic MLR in the presence or absence of WF10 to DC. Purified resting CD4<+> T cells (5-10×10<4>/well) were cultured with irradiated (25 Gy) allogeneic DC in U-bottomed 96-well plates containing 200 μl of complete medium. The cultures were maintained at 37°, 8% CO2 in humidified air for 5 days. Cultures were pulsed with 1 μCi[<3>H]thymidine (6-7 Ci/mm, New England Nuclear, Boston Mass.) 19 hours before harvest. The [<3>H]thymidine incorporation by proliferating cells was measured in a ß-scintillation counter. WF10 was added to DC stimulated allo-MLR DC and incubated at 4° for about 3 minutes before the addition of CD4<+> T cells. The number of proliferated T-cells for samples using no WF10, and for samples using WF10 are shown in FIG. 2. The results in FIG. 2 represent the mean±SEM of quadruplicate cultures, and data are representative of four experiments.

[0071] As shown in FIG. 2, the CD4<+> T cell response to DC stimulated allogenic MLR was inhibited in a dose-dependent manner by WF10. The WF10 was administered by adding WF10 to culture medium at time 0 in doses of 25 μg/ml or 50 μg/ml. As seen in FIG. 2, even as the number

of dendritic cells (DC) per well was increased, the number of CPM+SE (counts per minute+standard error) remained essentially the same, with the greatest degree of inhibition resulting from WF10/1600. The expression WF10/number denotes that dilution of WF10 and designates the amount of WF10 per ml of solution. For example, WF10/1600 denotes a diluted solution of WF10 containing 1 ml of WF10 per 1600 ml of solution.

Example 2

Effect of WF10 on Monocytes Stimulated Allogeneic MLR

[0072] Example 1 was repeated with the exception that adherent monocytes, obtained in accordance with Fagnoni et al. were used instead of DC. The results are shown in FIG. 3, and demonstrate that administration of WF10 was effective in inhibiting proliferation of CD4<+> T-cells from monocyte stimulated MLR. Indeed, with administration of WF1/1600, the stabilized chlorite solution was effective in completely inhibiting proliferation of CD4<+> T-cells from monocytes stimulated with allogeneic MLR, despite increased concentration of monocytes per well.

[0073] The results of examples 1 and 2 therefore show that WF10 is effective in inhibiting proliferation of CD4<+> T cells from DC or monocytes stimulated with allogeneic MLR.

Example 3

[0074] Examples 3 and 4 were carried out to determine the effect of WF10 on the inhibition of antigen-induced proliferation of T cells using various antigens. In this example, purified resting CD4<+> T cells (5-10×10<4>/well) were cultured with irradiated (25 Gy) autologous DC in U-bottomed 96-well plates containing 200 μl of complete medium. The cultures were maintained at 37°, 8% CO2 in humidified air for 6 days. Cultures were pulsed with 1 μCi [<3>H]thymidine (6-7 Ci/mm, New England Nuclear, Boston Mass.) 19 hours before harvest. The [<3>H]thymidine incorporation by proliferating cells was measured in a ß-scintillation counter.

[0075] Soluble keyhole limpet hemocyanin (KLH) and tetanus toxoid (TT) were added to autologous DC. Measurements were taken for no addition of WF10, addition of WF10/200 and WF10/800 (representing administration of WF10 to the culture medium at time 0 of 0, 1 ml/200 ml of solution and 1 ml/800 ml of solution, respectively) to determine the proliferation of CD4<+> T cells when no antigen, TT, KLH25 (25 μg/ml) and KL1450 (50 μg/ml) were presented by DC. The number of proliferated T-cells for samples using no WF10, and for samples using WF10 are shown in FIG. 4. The results in FIG. 4 represent the mean±SEM of quadruplicate cultures, and data are representative of four experiments.

[0076] As shown in FIG. 4, significant proliferation of CD4<+> T cells occurred when DC presented the soluble antigens KLH and TT. Administration of WHO, however, almost completely inhibited the proliferation of CD4<+> T cells when either KLH or TT were presented by DC.

Example 4

[0077] Example 3 was repeated except that monocytes were used instead of DC for antigen presentation. In addition, WF10 was administered in the following increments WF10/200, WF10/400, WF10/800 and WF10/1600. The results are shown in FIG. 5. As shown in FIG. 5, there was significant proliferation of CD4<+> T cells when monocytes presented the soluble antigens KLH and TT. Administration of WF10, however, almost completely inhibited the proliferation of CD4<+> T cells when either KLH or TT were presented by monocytes.

[0078] The results achieved by administration of an aqueous solution containing a stabilized chlorite solution reveal that it is capable of inhibiting an antigen-specific immune response. It has previously been reported that administration of an aqueous solution containing a stabilized chlorite solution is effective in enhancing phagocytic activity. Thus, it now is possible by administering only one medicament to inhibit one type of immune response, (antigen presentation and proliferation of T cells) while at the same time, enhance another type of immune response (phagocytosis).

Example 5

[0079] A phase 2 trial was conducted at San Francisco General Hospital. The study enrolled 18 patients in an open label pathogenesis study of WF-10. Patients received one hour infusions of WF-10 for one week, followed by two weeks of rest. On the third week, the patients again received one hour infusions of WF-10 daily for one week followed by two weeks of rest. Parameters studied included measures of macrophage activation/function immunologic activation and HIV viral load. RBC hemolysis evaluation studies included 51 Cr-RBC survival studies compared with changes in hemoglobin, haptoglobin and reticulocyte values.

[0080] There were no side effects noted in any of the 18 patients. Data on eight of the patients were gathered and the results are tabulated below, and depicted in FIGS. 6-13. There appeared to be acute increases in the following parameters as measured by flow cytometry (FACSCAN as recommended by, for example, Becton-Dickinson) in relation to drug administration, changes that generally returned close to baseline within 2 weeks of drug administration: CD-4, CD-8, CD14<+>/CD69<+>, CD14<+> side scatter, CD20/DR<+> cells. Several values seemed to generally increase through the study, showing no clear downward trend by the end of the study and may represent long-term changes induced by WF-10. These include an increase in macrophage phagocytosis index and an increase in the CD3<+>/CD8<+>/CD28<-> subset of T-cells.

[0081] Potential downward trends were noted in the following categories: macrophage intracellular TNF-a secretion, and a decrease in the number of circulating CD14<+>/DR<+> cells. It has been reported that immune paralysis results when the number of circulating CD14<+>/DR<+> cells decreases to such an extent as to reach a threshold value. No obvious changes were noted in T-cell PHA activation values or HIV load as measured by the HIV bDNA assay (most of the patients had no detectable HIV thoughout the study). Results of the RBC survival studies showed no evidence for hemolysis in response to the treatment.

[0082] As shown in FIG. 6, administration of WF10 results in an increase in CD14<+>/CD69<+> cells, with dramatic increases immediately following infusion. FIG. 7 shows a decrease in CD14<+>/TNF secretion after administration of WF10, thereby indicating that a stabilized chlorite solution is effective in decreasing secretion of the tumor necrosis factor cytokine.

[0083] FIGS. 8 and 9 show that administration of WF10 to patients in vivo results in a steady increase in the number of CD3<+>/CD8<+>, as well as a steady increase in the number of CD3<+>/CD8<+>/CD28? T cells. The in vitro data above show inhibition of antigen presentation using CD4<+> T cells, and FIGS. 8 and 9 show an increase in the number of circulating CD28<-> T cells (CD3<+> T cells).

[0084] FIG. 10 illustrates an increase in phagocytosis index upon administration of WF10. FIG. 11 shows a decrease in immune function upon administration of WF10 by virtue of the decrease in CD14<+>/DR<+> cells. The inventors therefore believe that the stabilized chlorite solution of the invention is capable of up-regulating phagocytosis, while at the same time, down-regulating or suppressing the cell-mediated and humoral immune response.

[0085] The results tabulated below summarize the data from 15 patients and show the changes in various measured parameters between the 8thday and the 47thday of treatment. The 8thday represents the first day of WF10 administration because the first 7 days of treatment are devoted to patient evaluation.

[0000]
Parameter Measured p-value* Direction
CD3<+>, CD8<+>, CD28<->
0.027 increaseCD14<+>, TNF<->
0.017 decreaseCD14<+>, DR<+>
0.032 decreaseCD3<+>, CD4<+>, CD38<+ >
(MF CD38 Antigen) 0.021 decreaseCD3<+>, CD8<+>, CD28<+ >
(MF CD28 Antigen) 0.010 decreaseCD20<+>, DR<+ >
(MF DR Antigen) 0.014 decreaseAll CD14<+>
0.037 Decrease
*One-tailed p-value. Sample size of 15 patients using Wilcoxon rank statistic.

[0086] These data show that administration of WF10 in vivo to humans shows an increase in the production of CD28<-> subset of CD8<+> T-cells. The data also show an increase in macrophage activation leading to phagocytosis. The data further show no evidence of RBC hemolysis. When coupled with the in vitro studies showing the inhibition of antigen presentation for CD4<+> cells, it is believed that administration of WF-10 in vivo will result in inhibition and/or prevention of antigen presentation in APC, as well as stimulate macrophage activation resulting in increased phagocytosis.

Example 6

[0087] Based on the in vivo data above, administration of WF10 has shown a consistent down regulation of CD14<+>/DR<+> cells achieving statistical significance. In addition, WF10 administration in vivo has shown overall reduction of CD3<+>/CD8<+>/CD28<+> cells, and significant increased levels of CD3<+>/CD8<+>/CD28<-> cells of long-term duration. The in vitro data above also show that WF10 is effective in inhibiting and/or preventing antigen presentation. This reduced antigen presentation may be critical in inhibiting lymphoproliferative disease, and in particular in inhibiting B-cell lymphoma and thus, it is expected that WHO therapy will be effective for treatment of lymphoma. In accordance with this expectation, in the case of a single patient suffering from B-cell lymphoma, the patient responded to WF10 therapy with a notable reduction of tumor size with no recurrence to date.

[0088] Adult patients having low grade follicular lymphoma are selected based on their lack of enrollment in current therapy regimens. Fifteen patients having lymph nodes >1 cm in diameter at baseline confirmed by CT scan will be enrolled in an open-label, single arm, single center study. Patients will receive periodic 0.5 ml/kg infusions of WF10 from days 1-5 (week 1) and days 8-12 (week 2). After screening evaluations are completed (about 14 days), eligible patients will attend pre-study visit in week 0 to acquire the baseline data.

[0089] Screening criteria include the following:

male or female patients greater than 18 years of age;
histologically confirmed follicular lymphoma;
measurable disease defined as having lymph nodes >1 cm in diameter as measured by CT;
adequate renal function documented by a serum creatinine <2 times in institution's ULN;
adequate liver function documented by a serum bilirubin less than or equal to 1.5 mg/dl and SGOT (AST) or SGPT (ALT) <5 times the institutional upper limit of normal;

written informed consent to participate in this study and a willingness to comply with all procedures and scheduled visits; hemoglobin >9.0 g/dl for woman and >10.0 g/dl for men; platelet count >75,000/mm<2>; and absolute neutrophil count >750/mm<2>.

[0099] WF10 will be applied at a dose of 0.5 ml per kg of body weight diluted into 250 to 500 ml normal saline administered by intravenous infusion of 1 hour duration. CT measurements will be taken to determine tumor size at week 0, on day 15, day 30 and day 45. Follow-up period will last for a duration of 3 months with final CT measurements on day 90.

[0100] CT measurements reveal that administration of WF10 results in a reduction of lymph node size. Patients also exhibit an increase in CD3<+>/CD8<+>/CD28<->, an increase in CD14<+>/DR<+> and an increase in CD40 T cell subsets.

[0101] While the invention has been described in detail with reference to the examples and particularly preferred embodiments, those skilled in the art will appreciate that various modifications can be made to the invention without departing from the spirit and scope thereof. All documents referred to above are incorporated by reference. The specification of U.S. Provisional Application 60/060,953, filed Oct. 6, 1997, for which benefit under 35 USC §119 is claimed, is expressly incorporated by reference in its entirety.

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http://www.miraclemineral.org

SODIUM CHLORITE

The Miracle Mineral Solution (MMS)

By Walter Last

Sodium chlorite is presently being promoted as a miracle mineral supplement or MMS with superior antimicrobial activity. You can appreciate its power from a statement by the discoverer of this remedy that all 75,000 individuals with malaria that have been treated were cured within a day, with 98% being cured within 4 hours (1).This obviously has great ramifications not only for self-healing but also for the drug industry and medicine. In the following I want to comment on these issues.

Conventional Use of Sodium Chlorite

Acidified sodium chlorite is being used in many countries, including Australia and the USA, as an antimicrobial treatment in the food industry, for water purification, and for sterilizing hospital and clinic rooms and equipment. In hospitals it has been used as a disinfectant for a hundred years and in the US meat industry for about 50 years. Health-conscious countries and municipalities are increasingly replacing the health-damaging chlorine for the harmless chlorine dioxide in treating public water supplies (2).

In solution sodium chlorite ($NaClO_2$) is very alkaline and stable but when acidified it forms the gas chlorine dioxide (ClO_2) which smells the same as chlorine and probably is the strongest all-round antimicrobial and parasite remedy. While it destroys all anaerobic microbes and parasites, it does not damage the beneficial lactobacteria of out intestinal flora. The only residue left in water, food, or in the body after treatment with MMS is a small amount of table salt or sodium chloride ($NaCl$).

In 2003 the Australia New Zealand Food Standards Code was changed to permit the use of sodium chlorite acidified with citric acid or other food acids for antimicrobial surface treatment of meat, poultry, fish, fruit and vegetables (3). The time between mixing and application is less than 5

minutes, and chlorine dioxide levels do not exceed 3 ppm. The safety assessment report concluded that if properly used no residues would be detected in the raw foods following treatment and prior to sale, and therefore there would be no toxicological concerns.

In solid form sodium chlorite is unstable and commonly mixed with about 20% sodium chloride. Commercially it is produced and shipped in Australia as a 31% solution in water. For end users in the food and agricultural industries it is available as a 5% solution called Vibrex. In the US and the UK it is also available as tablets that release chlorine dioxide (e.g. releasing 4 ppm per1 liter or per 30 liter of water). In Germany and Italy chlorine dioxide is the main treatment chemical for public water supplies.

Curiously, stabilized sodium chlorite that does not generate chlorine dioxide has been patented for intravenous use in the treatment of autoimmune diseases, hepatitis and lymph cancers. It supposedly prevents or reduces antigen activity and autoimmune responses (4).

The Discovery of MMS, the Miracle Mineral Supplement

Jim Humble, a chemist and metallurgist accidentally discovered the MMS by using a whole bottle of Stabilized Electrolytes of Oxygen (S.E.O.) to immediately cure a companion of malaria during a jungle expedition. S.E.O. contains about 3 % sodium chlorite.

Humble gradually realized that S.E.O. is too weak and that it does not work by releasing oxygen but rather that it must be acidified to release chlorine dioxide as the active ingredient. This is also how it has been used as a hospital disinfectant. The problem was to find a safe dose and procedure that allowed this most effective antimicrobial to be used for people. Humble ended up using a nominally **28% solution which, because of a nearly 20% sodium chloride content, actually contains only 22.4% sodium chlorite**. Because of its miraculous effect in supporting the immune system against invading microbes and parasites Humble called his sodium chlorite the Miracle Mineral Supplement. However, I prefer to call it Miracle Mineral Solution, as supplements require the approval of health authorities, while a solution for treating water does not need to be registered.

Using this at a maximum dose of up to 3 x 15 drops he writes: ”MMS is producing some of the quickest results that I have seen with people's health, including cancer, diabetes, arthritis, shingles, warts going hard and dropping off, and many more.” Also AIDS patients in debilitated conditions went back to work without any further signs of disease (1).

Basically all diseases associated with microbes and immune reactions respond very well, and that includes not only infections and autoimmune diseases but most of our diseases. Chlorine dioxide was used to kill Anthrax during the 2001 Anthrax attack. Even most diseases that are not known to be associated with microbes and the immune system reportedly have improved (1).

As an example of the unexpected results of using MMS, Humble relates the following incident: a teenage girl, overweight with depression and failure to develop breasts, was given MMS. The next day her breasts started to grow. After another dose 4 days later she had the first period after 6-months, her breasts were fully developed, her depression lifted, and she started losing weight (1). My interpretation of this is that all her problems were caused by Candida.

Because of its strong oxidizing ability, chlorine dioxide seems to inactivate many poisons, may help with toothache, and makes stored heavy metals soluble so that they can more easily be expelled. Another advantage of chlorine dioxide as compared to chlorine is that it does not react with organic matter, such as food, body cells or even our “good” intestinal bacteria, but is specific in destroying pathogenic microbes. However, it does react with vitamin C and possibly other reactive antioxidants.

If this treatment option would become widely known and used by the general population that would be devastating for the medical-pharmaceutical complex. The FDA has a long history of jailing and otherwise neutralizing inventors of effective natural remedies and therapies that harm the drug industry, and Humble, as an American, tries to protect himself by remaining in hiding in Africa or Central America.

Usage Instructions

It should be stressed that MMS is not used to treat people but rather to purify water. We can then drink the purified water and receive a boost to our immune system as a consequence. The common recommendation is to start with 1 or 2 drops of MMS and gradually increase up to 15 drops three times a day. Mix the MMS with an acid activator. Most recommended is a 10% solution of citric acid in water which you may make yourself by dissolving 1 spoonful of citric acid crystals in 9 parts of water. Citric acid tends to be available from supermarkets as an ingredient for baking. Acid activation releases chlorine dioxide.

Lemon juice, lime juice or vinegar have been used as activator before it was found that 10% citric acid is much more effective. Cider vinegar may aggravate fungal problems but white vinegar is suitable. The usual recommendation is to add 5 times more acid than MMS. Drops from a standard glass eye dropper should be multiplied by 1.5 to equal the number of drops from the standard MMS bottle. However, different types of eye droppers, pipettes and bottle tops have different drop sizes, and you may standardize your dropper by counting how many drops from the MMS bottle and how many from your eye dropper are needed to fill a teaspoon or another suitable measure. One millilitre or ml of MMS contains 17 standard drops. A level teaspoon of MMS, lemon juice or 10% citric acid solution has about 80 drops. So a quarter teaspoon has about 20 drops.

Therefore, for easier use the drops of the acid do not need to be counted, provided you make sure that you take more rather than less acid. When taking 15 drops of MMS you can mix it with a full teaspoon of acid, when taking 6 or 7 drops of MMS mix with half a teaspoon of acid, and generally take more or less acid according to the amount of MMS. Furthermore, 10% citric acid is about 5 times stronger than the other acids. Therefore to achieve the same results you may use more of the other acids compared to citric acid. The stronger the acid, the more chlorine dioxide is released within a short period. Therefore the chlorine dioxide smell is much stronger after acidifying with 10% citric acid, and equally the destructive effect on microbes and parasites is much higher. Therefore, difficult conditions, such as Lyme disease (caused by a virus transmitted by ticks) responded to 15 drops of MMS acidified with 10% citric acid but not if the other acids had been used.

Generally you do not need to be too concerned with the mentioned numbers and sizes of drops. The general idea is to keep slowly increasing the amount of MMS until you have overcome your immune-related problem.

Three minutes after adding the acid dilute with half a glass of water and additional herb tea, or juice without added vitamin C, e.g. apple or grape juice but not orange juice. Also cinnamon, on its own or with some honey stirred into the water, helps to disguise any unpleasant taste of the solution. The initial strong smell is now reduced as the chlorine dioxide remains dissolved in water rather than escaping into the air. Do not take any antioxidant supplements close to MMS. If it tastes too acid for you, then neutralize the liquid with sodium bicarbonate shortly before drinking.

Drink the diluted MMS all at once or possibly spaced out in sips over an hour or two to minimize nausea. It acts best on an empty stomach but that also easily causes nausea. If that happens temporarily reduce the dose or have some food in the stomach. Alternatively you may take a dose, say 6 drops, and another 6 drops an hour later. Such a double dose seems to be more effective than a single dose two or three times during the day. The highest double dose would be with two times

15 drops, but few will be able to take this without vomiting.

It may be best to take MMS just before going to bed. MMS works very fast, and people often become sleepy after taking a dose of MMS. Also, it is easier to cope with nausea if you can fall asleep. If you take MMS twice a day, take one of the doses in the evening before going to bed. However, some individuals experience the opposite effect and have difficulty falling asleep after taking MMS.

Humble believes it is safe to give children MMS as needed for infections. The maximum dose for children, underweight or overweight individuals, is stated as 3 drops per 11.4 kg or 25 pounds of body weight. I would instead use 2-3 drops per 12 kg as a maximum dose.

For most conditions Humble regards the intensive MMS treatment as completed after taking 15 drops two or three times daily for one week. If you cannot reach this level then just remain somewhat longer at the highest dose that you can use. Following this Humble recommends a maintenance intake for older individuals of 6 drops daily and for younger individuals of 6 drops twice weekly.

My own preference is for a relatively high intake for several weeks twice a year or when indicated by a developing infection, and not using it for the rest of the time. However, this also depends on body conditions. For instance if someone has root canal fillings, bio-films on surgical implants or other microbe factories that cannot be immediately sanitised, then I would recommend several drops of MMS daily until the condition is rectified. Also if a sufficiently high dose cannot be reached to cleanse the body of harmful microbes and spores of microbes, then it may be preferable to remain for longer periods on a sufficiently low dose that does not cause discomfort.

Different Conditions

With serious acute infections or poisonings, such as with malaria Humble recommends giving immediately 15 drops followed an hour later by another 15 drops. While most conditions tend to improve with a medium-dose taken over a long period, some parasitic and viral conditions seem to require at least one high double dose to get results. It seems that with life-threatening acute conditions a high double dose can be more easily handled than with chronic conditions.

For chronic or long-standing conditions always increase the number of drops very slowly over a period of weeks. it is best to increase by 1 drop each day until you feel some nausea. The next day drop back by 2 drops and stay at this level for several days until increasing again by 1 drop a day. In this way you gradually work your way higher, reducing and then increasing again to keep nausea under control. You may reduce problems by dividing the daily dose into a morning and a bedtime portion, but after some time always try to edge higher until you start feeling the nausea. If you continue to encounter nausea whenever you raise the dose then just remain for a long time on a level that does not cause problems. Eventually nausea with vomiting or diarrhea may catch up with you anyway but it is better if that is at a high rather than a low level of MMS.

With an acute infection you may start with 3 or 4 drops and increase quite rapidly, even if this means nausea, vomiting and diarrhoea. With severe parasite problems, such as malaria attack, or if one had taken a poison, or has food poisoning, or with snake bites, a high double dose of MMS will often help.

For abscessed teeth, infected gums, and pyorrhea use 6 drops of acidified and diluted MMS and rinse for several minutes, for a sore throat gargle frequently. Finally you can add more water, tea or juice and drink it; experiment to find the dose that works for you.

With sinus infections you may mix a drop with acid and several times sniff up the chlorine dioxide,

first through one nostril and then through the other. However, this can be rather irritating to the mucous membranes. Therefore do this only very carefully.

For inflammatory and infective skin conditions you may bathe or wash the affected area with suitably diluted acidified MMS. I have been told of a case where psoriasis went away after a few weeks of topical treatment. I would also use it internally as well as externally for all autoimmune diseases, including scleroderma, leukoderma/vitiligo and alopecia or autoimmune-related baldness.

For burns Humble advises to squirt the MMS full strength straight out of the bottle all over the burn. Do not use the acid in this case. Very lightly with the tips of the fingers spread it completely over the burn. Let is remain there for only 30 seconds to a minute. The acidic chemical in the burn is neutralized by the alkaline solution of the MMS. The pain stops immediately, within seconds. Wash the MMS off with water. You absolutely must wash it off or the burn will become worse. If you do this correctly, the burn will heal in about ¼ the usual time for a similar untreated burn. For sunburns he advises leaving the MMS on for 15 to 30 seconds and then rinse off with water.

To reduce nausea, but also with bowel cancer or inflammatory bowel conditions you my try using it activated in half a liter of water as a retention enema. Use another enema beforehand to clean the bowels, or use a laxative to clean out. With cancer of the uterus/cervix/ovaries you may also try inserting the activated solution in a non-irritating concentration.

With colds the MMS kills the virus but does not stop the beneficial mucus release. This can be stopped with the Sugar Cure: Keep a teaspoon of fine sugar in the mouth until it is dissolved, then spit out and take another teaspoonful. Continue with this for one or two hours and repeat on subsequent days as required. The sugar draws mucus combined with lymph fluid from the lymph glands and so gradually clears the headspaces.

Side Effects and Problems

Individuals may find it difficult to continue with the MMS program because of frequent nausea. This is especially a problem with advanced cancer and other long-term conditions. Therefore I generally recommend a program of intestinal sanitation and antimicrobial therapy with milder agents before starting MMS therapy. This will remove most of the toxic load with less discomfort than by starting immediately with MMS. As part of this preliminary program I recommend a 3-week course of Lugol's solution or a less concentrated form of aqueous iodine, and finally a course of water that has been purified with MMS. For instructions see the Ultimate Cleanse at www.health-science-spirit.com/ultimatecleanse.html.

Some individuals with advanced degenerative diseases become very weak on MMS seemingly unrelated to die-back reactions. I believe that this is due to antioxidant deficiency, and especially to lack of glutathione. In this case take 1 gram of N-Acetyl Cysteine daily to stimulate glutathione production. This also helps to expel toxic minerals.

Commonly nausea, vomiting and diarrhoea will occur sooner or later and are beneficial for cleaning out. Sometimes also other reactions, such as inflammations may temporarily occur. To stop nausea you may take 1000 mg or more of vitamin C, but this also stops the antimicrobial activity. Other methods that may help against nausea are vitamin B6, ginger, pressing 2-3 cm below the wrist in the middle of the underarm, and also reflexology: pressing the foot reflex for the stomach - just below the joint of the big toes, press against a pointed stone/rock, step or corner of some furniture.

Furthermore, I found that much of the nausea can be relieved by cleaning out the bowels before taking the drops or immediately when nausea starts. This may be done with an enema or colonic, or by taking a suitable laxative before the nausea starts. In addition with bowel cancer or

inflammatory bowel conditions you may try using activated MMS in half a liter of water as a retention enema. Use another enema beforehand to clean the bowels, or use a laxative to clean out. With cancer of the uterus/cervix/ovaries you may also try inserting the activated solution in a non-irritating concentration.

In the case of cardiovascular diseases and arteriosclerosis it has been suggested that with MMS therapy cholesterol deposits may be removed too fast and lead to a weakening of the affected blood vessels. To avoid or minimize problems Dr Matthias Rath recommends taking high amounts of vitamin C, up to 10 g daily in divided doses, for several weeks before starting MMS therapy. This is to strengthen the blood vessels and make them more elastic. Some other nutrients to improve elasticity are lemon juice, green juices, copper salicylate, magnesium chloride, MSM, and N-Acetylglucosamine. In the case of cancer I also recommend using additional therapies as recommended by natural therapists, for example see the 8-part program in www.health-science-spirit.com/diseases.html.

Oxidants versus Antioxidants

Besides nausea also inflammations may arise as a side effect of MMS therapy. To understand this effect we need to have a look at the function of inflammation and the role of oxidants and antioxidants in this process. Inflammations increase blood and nutrient supply to an area and are essential for the immune system to work and for healing of damaged organs and tissue to occur. If the immune system is not strong enough to eliminate invading microbes and diseased body cells, originally healing immune inflammations become destructive chronic inflammations, and this is a symptom of our present epidemic of chronic diseases.

Oxidants support the immune system by killing microbes outright and by giving the immune system more firepower. This results in increased inflammation when using strong oxidants such as chlorine dioxide. Therefore as during any real health improvement various healing reactions, including temporary inflammations, may develop during MMS treatment. This is beneficial for healing in the long-term even if uncomfortable in the short-term. For a more detailed explanation of this process called a healing crisis or healing reaction see www.health-science-spirit.com/healingcrisis.html.

The reverse of this process, the suppression of inflammation, can be seen in the conventional medical approach of using anti-inflammatory steroids in the treatment of autoimmune diseases. It is my experience that such diseases may be overcome within weeks or months using natural approaches, but when steroidal drugs are used at the same time, it is much more difficult to make headway. In this case any increased immune activity that results in increased inflammation is blocked by steroidal drugs. However, it is not advisable to greatly reduce any anti-inflammatory drugs until the intestines and infected teeth have been sanitized, and until after antimicrobial therapy.

Antioxidants have the opposite role to oxidants. They protect our body cells and functions from being oxidized. Oxidation needs to take place only in well established and protected pathways to generate energy or to eliminate invaders and harmful agents. If we step up the intake of oxidants, we also need to increase the intake of antioxidants otherwise we may get unnecessary inflammations due to irritation of tissues and other degenerative changes. An example of this is deteriorating eyesight that may occur when using high doses of MMS for more than a few days.

Antioxidant deficiency is common with chronic diseases and advancing age. High intake or prolonged use of MMS will make this situation worse. Therefore it is important to increase antioxidant intake when using MMS. However, oxidants and antioxidants should be separated during the day or they may neutralize each other. For instance you may be using MMS before breakfast and at bedtime and antioxidants from mid-morning to the evening meal.

This does not only apply to antioxidants in supplement form, such as vitamin C and E, B-complex, coenzyme Q10 or grapeseed extract, but also to food high in antioxidants, such as purple berries and juices, fresh fruit, polyunsaturated oils, turmeric, black or green tea, cocoa and others. Because chlorine dioxide reacts especially well with vitamin C, it is advisable to take 1 gram or more when on a high dose of MMS for more than a few days to protect oxidation-sensitive structures, such as heart, brain and eyes.

Overdose of sodium chlorite: Anyone who has consumed more than ½ teaspoon of the miracle mineral solution should immediately begin drinking water, as much as possible. It is best to add ½ teaspoon each of bicarbonate of soda and sodium ascorbate to each glass of water or whichever is available. After drinking plenty of water you may also try to induce vomiting.

Before using MMS, especially in case of serious health problems, you may also look for the latest updates and technical instructions (1). For distributors see the Internet; in the US visit www.globallight.net/Mms_86.html, in Canada www.health4allinfo.ca, and inAustralia www.strideintohealth.com. Keep MMS protected from direct sunlight.

REFERENCES

(1) **http://miraclemineral.org and http://www.miraclemineral.org/techupdates.php**

(2) http://www.epa.gov/safewater/mdbp/pdf/alter/chapt_4.pdf

(3) FINAL ASSESSMENT REPORT APPLICATION A476 (12/03: 8 October 2003)
http://www.foodstandards.gov.au/_srcfiles/A476_Chlorite_Final_Assessment_Report.pdf

(4) USE OF A CHEMICALLY-STABILIZED CHLORITE SOLUTION FOR INHIBITING AN ANTIGEN-SPECIFIC IMMUNE RESPONSE (WO/1999/017787)

MMS Protocol

1. Telling if MMS will help the cancer -- and MMS cancer protocol

Here is something your doctor will never tell you, there has been a medical test for cancer that is 99% effective for more than 25 years. It is more effective, less dangerous and cheaper than all other medical cancer tests. It’s called AMAS cancer test. You don’t have to go to a doctor; the test is available on the Internet. The cost is $165. The kit is free, you take a smear of your own blood and send it in and pay when the results are ready. The test is for specific cancer antibodies that will be present. Go to www.oncolabinc.com. I have no financial interest what so ever.

You can get an idea if the MMS will handle the problem by evaluating the nausea. That is, if you start out at say one drop or even 1/2 drop and it does not make you nauseous and then you begin to increase the drops twice a day once in the morning and once in the evening. That is if 1/2 drop doesn't make you nauseous in the morning, then in the evening or late afternoon try one full drop. Then the next morning take two drops and in the evening 3 drops. Sooner or later the number of drops is going to make you nauseous. You then take a drop or two less the next dose for a time or two and continue to increase the drops. You are always looking for the nauseous point, taking less for a time or two and attempting to take more.

You will be able to know if it is going to help you if you can continue to pass the nausea point and increase the drops. What is happening is that when nausea hits, some of the cancer has been

destroyed and it is now a poison that the body can clear out. Being able to clear out this poison is a part of it. The body can clear this poison out but it might generate some nausea in the process, or diarrhea or even vomiting. That’s not bad. The idea is that as the cancer is destroyed the body must clean out the poisons. As the cancer is destroyed the body can tolerate more and more drops. That’s the indicator, is the body being able to tolerate more and more drops? If you find that you finally can increase the drops without getting nauseous it is an indicator that the body is doing it's job.

In the case of cancer, you have got to work at it. You start out slowly but increase quickly. At first you might just take the drops twice a day, but as you find you can do it twice a day without nausea, then increase to three times a day, and then four, and even as much as five times a day.

What would indicate that you are not getting well is if the body got nauseous every time you take a dose no matter what amount of dose it is, and the body never seems to be able to increase the doses without nausea. If you can take say two drops at a time without nausea and you get nausea when you go to three drops, you may have to tolerate the nausea for a short time, but if the nausea always occurs when you take three drops, it shows that you are not gaining on the cancer. That can happen if the cancer is growing faster than the MMS is killing it. There is, however, always hope. One way would be instead of increasing the number of drops, increase the number of times that you take drops during the day. Read below. There are other items that can help. Never, however, in any case stop taking the MMS.

So if there is an indication that one is not improving, then I suggest the following direction. Purchase some Indian Herb from Kathleen in texas. It costs $60 a vial and that is plenty. Phone 806 647?1741 She has a thousand letters from people who have been helped. She and her father have been selling the Indian herb for over 60 years. When you get this herb use it with the MMS to get the best results.

The AMAS cancer test listed above gives anyone a fantastic advantage. One can do a test, use the MMS for several weeks or a month and then do a second test to see how much improvement has taken place or to see if any improvement has happened at all.

When I mention drops of MMS I always mean add 5 times that many drops of lemon, lime, or citric acid solution, wait three minutes and then add 1/3 to 2/3 glass of water or juice and drink. Never use MMS without the addition of lemon, lime, or citric acid or in an emergency if you have no citric acids, use vinegar. Use only apple, grape, or pineapple juice without added vitamin C or ascorbic acid or see #6 below for overcoming the taste.

2. The Standard MMS Protocol

Note: When following the instructions below, keep this paragraph in mind. Always activate the MMS drops with one of the food acids, either lemon juice drops, or lime juice drops, or citric acid solution drops (to make citric acid solution add 1 level tablespoon of citric acid and 9 tablespoons of water. Store it in a bottle with a lid.) Always use 5 drops of one of these food acids to each one drop of MMS, mix in a empty dry glass and wait at least 3 minutes, then add 1/3 to 2/3 glass of water or juice and drink. (You can expand the 3 minutes out to 10 minutes, and after adding the juice or water you can wait up to an hour before drinking.)

1. All protocol for taking MMS in the Americas starts with one or two drops. Never start with more than one or two drops. People who are very sick and/or sensitive should start with ½ drop. Activate the drops as given above.

2. If you do OK and do not notice nausea on the first dose, increase by one drop for the second dose. If you notice nausea reduce the amount of MMS for the next dose. Do two doses a day, one in

the morning and one in the evening. Continue to increase by one drop each time you take a new dose. When you notice nausea, reduce the dose by one drop, or bad diarrhea reduce by 2 or 3 drops. Usually reduce for one or two times before going back the amount that it took to make you nauseous.

Note: If you notice diarrhea, or even vomiting that is not a bad sign. The body is simply throwing off poisons and cleaning itself out. Everyone says that they feel much better after the diarrhea. You do not have to take any medicine for the diarrhea. It will go away as fast as it came. It will not last. It is not real diarrhea as the body is just cleaning out, and it is not caused by bacteria or virus. When the poison is gone, the diarrhea is gone.

3. Continue to follow the procedure given in 2 above. Until you reach 15 drops twice a day without nausea. At that point increase to 3 times a day. Stay at 3 times a day for at least one week and then reduce the drops to 4 to 6 drops a day for older people and 4 to 6 drops twice a week for younger people.

Note: Once you have completed step 3 above most of the viral, bacteria, mold, and yeast load will be gone from your body. Your body will be clean. You no longer have to worry about feeding the microorganism load. You can base you diet on nutrition, rather than not feeding the load. The diabetes will be gone, thus you no longer need to worry about sugar. You won't have to worry about the pancreas over reacting thus giving you a shock of insulin. Instead it will give you just enough insulin to knock the blood sugar lever to the right level (You won't feel sleepy after eating a candy bar). Your body will then be able to easily adsorb vitamins and minerals and many other nutrients it might have been missing up to this time. You should feel better as time goes by. Do not quit taking the MMS.

For Children: The protocol for children is essentially the same. One should usually start at 1/2 drop. Just make a one drop drink and pour out 1/2 of the drink before giving it to the child. Then increase from 1 to 2 to 3 drops as given above, but do not go beyond 3 drops for each 25 pounds (11.4 kg) of body weight. With a baby start with 1/2 drop and increase to one drop up to 2 drops, but no more. So if you give 1/2 drop in the morning wait until the afternoon before giving 1 drop and then the next morning for 2 drops. It the baby or child should become nauseous wait an extra hour or two before giving another dose and also give a smaller dose. Give smaller doses until the baby or child can tolerate more, but do not stop giving doses.

3. Clara's 6 and 6 Protocol

For people who have pain, flu, colds, pneumonia, or other diseases that are <u>not</u> generally considered incurable. When people are very sick and in bed they should use the standard protocol #2 above and start out with a tiny dose.

I've named this new protocol Clara's because she was the first to really apply it consistently. You may have read the last chapter in the second edition of the book *The Miracle Mineral Supplement of the 21st Century* for sale on this Web Site (miraclemineral.org) You will recall that there were a number of success stories about Clara treating people in her home. Since then I have rented an office from Clara and her mother and I have seen quite a few more people come in. Last night 12/14/07 a lady about 65 years old and her husband arrived to buy some MMS and Clara always gives them a 6 drop dose, has them wait one hour, and then she has them mix the next dose to make sure that they have it right. Then she has them wait a few minutes up to an hour before they leave.

Both the right hand and the right foot of the lady that came in last night was completely paralyzed. She came in with a walker but she could not hold on to the walker so her husband had to hold her to the walker. It was a chore getting in the door. Clara gave her a 6 drop dose with 30 drops of citric acid as the activator, she waited the 3 minutes as always and then added 1/2 glass of water and

handed it to the lady. The lady lifted the glass with with some difficultly to her mouth with her left hand as her sciatica (lower back pain) was also paining her. Within 40 minutes she was starting to feel a reduction of pain in her back and some tingling in her hand. At 60 minutes she could slightly move several fingers. Clara handed her another 6 drop identical drink. As we waited for the second hour to pass, Clara called me in from the office. The lady was exercising her hand. She had complete mobility in her hand and she had her shoe off and was exercising her toes. In fact she was exercising her entire foot and she could move her toes and other muscles better than most people I know. When she left, she was still using the walker, but her husband didn't have to help her and her lower back pain was gone. I could see that she would be walking without that walker in a few days. This is not unusual. It happens around here all the time.

So this is "Clara's 6 and 6 protocol" for MMS. It is simple. It's for most conditions.

Step No. 1. Put 6 drops of MMS in a glass and add 30 drops of 10% solution of citric acid, or 30 drops of lemon juice, or 30 drops of lime juice. Shake the glass so that the acid and MMS are mixed and wait at least 3 minutes. A little longer is OK in case you walked away and forgot. 10 or 15 minutes would be OK as the solution remains at about the same strength. Then add about 1/2 glass of water to the solution and drink. You can also use a juice that does not have added vitamin C. Use apple juice, grape juice, pineapple juice, or cranberry juice.

Step No. 2. Wait one hour and do exactly the same thing as in step No. 1. Normally the person will experience some relief within two hours of taking the first dose especially if he goes ahead and takes the second dose. Of course, here is no guarantee. If the person does or does not experience relief he should go to 7 and 7 that is a 7 drop dose and in one hour a second 7 drop dose, but he should do this only if he did not get sick. By getting sick I'd mean that he was nauseous for more than 10 minutes or he vomited, or he had diarrhea. In the case he did get sick you should not increase to 7 and 7, but rather again do 6 and 6. If he was very sick it would be best to drop back more, such as 3 and 3, but that seldom happens. Normally do 6 and 6 until one can tolerate it without being nauseous, and then begin increasing to 7 and 7, etc.

In all cases one should begin increasing towards 15 and 15 or he could revert to the Standard protocol as given above and increase as quickly as reasonable to 15 drops and then increase to 15 drops twice a day or 3 times a day for one week as explained below.

The general goal of the number of drops that anyone should take is 15 drops 2 or 3 times a day and of course, less for children. For children normally it would be 3 drops for each 25 pounds (11.4 KG) of body weight. This number of drops, 15, would be OK **twice** a day for a grown up that weighed 150 pounds (68.1 KG) or less and 15 drops **three** times a day for a grown up weighing over 150 pounds. **This number of drops pretty well ensures that one's body is completely free of pathogenic microorganisms and heavy metals.** Once one has reached this goal for a week, he should drop back to a maintenance level of one 6 drop dose twice a week. (In all cases when drops of MMS are mentioned we also mean that 5 drops of lemon, or lime, or citric solution is added for each 1 drop of MMS and one then waits 3 minutes before adding water or juice and consuming it.)

Of course, the goal of it all is not being sick. So take 6 drops twice a week. If you feel the flu coming on, then do the Clara 6 and 6 protocol as described above. You will have the flu for no more that 12 to 24 hours and usually less than 6 hours after taking your 2nd dose. That's not enough power to do you harm. The 6 drops twice a week keeps your immune system strong and the pathogens weak. You probably remember from school that there are always pathogens in your body. The 6 drops keeps them at bay.

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(Photoshopped : note woman's head)

Jim HUMBLE

About The Author

Jim Humble discovered a simple health drink cure for malaria in South America during a prospecting venture. When he returned from the prospecting trip he worked on the health drink formula for several years sending it to friends in Africa who were able to use it in the field. Eventually a missionary group invited him to Africa where he personally treated over 2000 malaria victims and those he trained while there treated over 75,000 malaria cases.

The formula was a simple health drink that had already been used for years for other reasons. Jim

drastically improved the effectiveness by adding a few drops of vinegar to the drink. Since that time thousands of cases of many different diseases have been treated with complete success.

Jim brought the treatment to the world. His book not only gives complete details of his work, but it also has a chapter, written by Dr. Hesselink, listing over 160 scientific papers describing more than 100,000 scientific tests using essentially the same formula that Jim used and still uses. These tests verify all of Jim's basic concepts covering mostly data concerning malaria.

Jim started his career in the Aerospace industry where he quickly became a research engineer. He worked on the first intercontinental missile, the moon vehicle, wrote instruction manuals for the first vacuum tube computers, set up experiments for A-bomb explosions, worked on secret radio control electronics, set up experiments in electrical generation by magneto hydro dynamics, complete wired the first machine to be controlled by computers at Hughes aircraft company and invented the first automatic garage door opener.

In the mining field he wrote 4 books updating older technology and improving the health hazards for those involved. He first overcome the hazards of mercury and then he invented ways of eliminating mercury from mining altogether. His technology including methods of eliminating chemical leaching finally using nothing but water for the recovery of gold.

Jim's immediate goal is to return to Africa to eliminate all of the malaria in a single African nation in order to prove to the world that it is possible.

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http://www.sott.net/articles/show/207643-Down-the-Rabbit-Hole-The-Assassination-of-JFK-Bishop-Jim-Humble-And-The-Nexus-Conference

In early 2008 Nexus published an article about the discovery by Jim Humble that the proper use of chlorine dioxide could lead to a malaria cure. It triggered an phenomenal level of interest, which resulted in large-scale reader experimentation. The reported results from readers and users across the world were of amazing successes with a huge range of diseases and conditions. (See Nexus, volume 15, number 2). A year later we updated the article with yet more health information, and again received a flood of testimonies from happy readers. In other words, the stuff works folks. Simple as that...

The Drama:

It was a long weekend, I had a bad night's sleep. Even though it was a public holiday I went to work to check the email. An email from Herman in Holland was advising that Laura Knight-Jadzyck had pulled out of the conference, was accusing Jim Humble of being a conman, fraud and hoaxer, and was accusing Nexus Magazine of being a cointelpro outfit. These public slanders were appearing on the SOTT website, on their Focus page; and on her Facebook page. I hit the roof and vented my rage on her Facebook page. Not a very mature thing to do, nor is what I said very polite or mature. But stuff it, I was being attacked by someone I had considered an ally. I had ignored the rumours that she was a fraud, and if anything, tended to think the rumours were evidence she was doing a good job. Ditto with Jim Humble...

Laura and Joe have distorted many pieces of key information about what happened regarding the Nexus Conference fiasco, and their mindless followers have lapped it up. I am now seen as the aggressor in all this, and my actions are being used as evidence that Laura is under attack from cointelpro forces - and thus by default, Laura must be 'right' and is a 'threat' to the system.

I surrender guys - you cannot argue with the deliberate distortions of the SOTT leaders, nor with

their mindless followers.

To any 'normal' people reading this - I'm only human, I had a bad day and called Laura nasty names (like: fatso, freak lard-arse, mindless and more). I confess I was so pissed off that I couldn't even type properly. My bad day will be used by SOTT forever as evidence that I am a cointelpro operation, that MMS is dangerous and needs to be removed from the market, and that Jim Humble is an evil conman. Go figure!

If I were to apologise to anyone, it would not be to Laura, or her followers, it would be to the people out there like Roy (Roysta) - ie people who know I am capable of behaving better, and were let down.

Duncan Roads
Nexus Magazine
www.nexusmagazine.com

&c &c &c...

dangerous allopathic drug
By: navegante
navegante

The analogy of a chemotherapeutic drug hits the nail on the head. The way MMS is promoted in the alternative health area is quite irresponsible, it is clearly not a natural solution!

"Death in Paradise":

"People who drink MMS are consuming chlorine dioxide, a bleach added to drinking water and swimming pools and used to prepare some foods, such as flour. Because it is highly explosive, it must be mixed by adding citric acid to sodium chlorite from an MMS kit on site, before it is imbibed.

The product's American creator, Jim Humble, describes himself variously as a scientist, prospector and saviour of the human race who discovered the substance's powers while looking for gold in a South American rainforest in 1996.

In 2007, says the promotional blurb, "this man heroically stepped out of the shadows to make this information and natural solution freely available to all humanity".

"He believes the long-term availability of this substance … may soon be heavily controlled by 'the powers that be'." At $US20 a bottle, Humble claims 200,000 Americans are now using it to cure everything from cancer to HIV to swine flu.

Nash, meanwhile, has spent his months in Vanuatu warning the world about Humble's elixir.

His letter to friends was published by a US magazine and on alternative health websites, sparking a cyberspace barney. Devotees swore by its healing powers. Critics linked it to other deaths."

Symptoms of Chemical poisoning -- Chlorine Dioxide: [Link]
Added: Thu, 29 Apr 2010 10:37 EDT

http://www.wrongdiagnosis.com/c/chemical_poisoning_chlorine_dioxide/symptoms.htm

Mr. Roads!
By: Anna
Anna

The fact of the matter is that MMS is VERY DANGEROUS. It may have helped some people, but is essentially poison to the human organism and kills the good with the bad. It can be likened to chemotherapy in this respect. Also, like chemotherapy, MMS is considered an option by many already very ill and weakened individuals. The difference is that MMS, unlike chemotherapy, is recommended to almost anyone with even a case of the cold and these people are advised NOT to talk with their doctors about the treatment.

&c &c &c

The list of signs and symptoms mentioned in various sources for Chemical poisoning -- Chlorine Dioxide includes the 16 symptoms listed below:

* Conjunctivitis
* Eye irritation
* Nose irritation
* Bronchitis
* Wheezing
* Fluid in the lungs
* Throat irritation
* Headache
* Cough
* Breathing difficulty
* Bronchospasm
* Runny nose
* Leukocytosis
* Rapid heart rate
* Skin irritation
* Nausea

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http://www.prnewswire.com/news-releases/fda-warns-consumers-of-serious-harm-from-drinking-miracle-mineral-solution-mms-99656679.html

FDA Warns Consumers of Serious Harm from Drinking Miracle Mineral Solution (MMS)

Product contains industrial strength bleach

SILVER SPRING, Md., July 30 /PRNewswire-USNewswire/ -- The U.S. Food and Drug Administration is warning consumers not to take Miracle Mineral Solution, an oral liquid solution also known as "Miracle Mineral Supplement" or "MMS." The product, when used as directed, produces an industrial bleach that can cause serious harm to health.

The FDA has received several reports of health injuries from consumers using this product, including severe nausea, vomiting, and life-threatening low blood pressure from dehydration.

Consumers who have MMS should stop using it immediately and throw it away.

MMS is distributed on Internet sites and online auctions by multiple independent distributors. Although the products share the MMS name, the look of the labeling may vary.

The product instructs consumers to mix the 28 percent sodium chlorite solution with an acid such as citrus juice. This mixture produces chlorine dioxide, a potent bleach used for stripping textiles and industrial water treatment. High oral doses of this bleach, such as those recommended in the labeling, can cause nausea, vomiting, diarrhea, and symptoms of severe dehydration.

MMS claims to treat multiple unrelated diseases, including HIV, hepatitis, the H1N1 flu virus, common colds, acne, cancer, and other conditions. The FDA is not aware of any research that MMS is effective in treating any of these conditions. MMS also poses a significant health risk to consumers who may choose to use this product for self-treatment instead of seeking FDA-approved treatments for these conditions.

The FDA continues to investigate and may pursue civil or criminal enforcement actions as appropriate to protect the public from this potentially dangerous product.

The FDA advises consumers who have experienced any negative side effects from MMS to consult a health care professional as soon as possible and to discard the product. Consumers and health care professionals should report adverse events to the FDA's MedWatch program at 800-FDA-1088 or online at www.fda.gov/medwatch/report.htm.

Media Inquiries: Elaine Gansz Bobo, 301-796-7567,

Consumer Inquiries: 888-INFO-FDA
http://www.fda.gov/

Comment: To learn more about MMS and the background of the snake-oil salesman peddling this dangerous substance, check out the following SOTT.net articles:

Another Fraud Of Alternative Medicine: M.M.S.
http://www.sott.net/articles/show/207489-Another-Fraud-Of-Alternative-Medicine-M-M-S-

Snake Oil Humbles Nexus Conference
Down the Rabbit Hole - The Assassination of JFK, Bishop Jim Humble And The Nexus Conference
http://www.sott.net/articles/show/207531-Snake-Oil-Humbles-Nexus-Conference

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The Debate between HealthWyze.org and Jim Humble about whether M.M.S. is a Fraud
by
Sarah Cain

6 August 2010

Introduction

On the 30th of July, I browsed through my e-mail messages to make a startling discovery. We had received a message from none other than Jim "MMS" Humble. After a brief moment of eye rubbing, to ensure that I had not been hallucinating, I eagerly read his message and then shared it

with Thomas. Humble was upset about the unflattering findings that our research uncovered about his cash cow, which I chronicled in the article, Another Fraud Of Alternative Medicine: M.M.S..

His message thusly began:

Thomas and Sarahlcain,

In looking this site over I find quite a lot of useful information. Thus I wondered if you might be interested in opening a dialogue concerning what I am doing since there is a lot of inaccuracies in you information about my stuff, MMS, that is if you know who I am.

I have no animosity towards those of you who talk as you do. Possibly we could have an amiable dialogue.

up to you

Jim Humble

Thomas replied with:

Mr. Humble,

Yes, we did plenty of research into M.M.S., so we are familiar with you. There are two possibilities that I see here: 1. You really believe in what you are doing or 2. you have real guts. It is possibly both.

We take our work very seriously. Seeking the truth is one of our highest objectives: just behind 'first do no harm'. We would never print anything that we were not absolutely certain was true. Not only are there moral issues at play; but moreover, our credibility is always on the line.

If you would like a chance to debate us, in order to demonstrate that we have been wrong, then I suggest we do it out in the open. Let's not debate privately in the shadows, because complete openness and honesty are principals that we value, and because this issue has the potential to have a massive impact on the lives of our readers. We normally would not make such an offer to someone who we so strongly feel is harming people, but I get the overwhelming impression that you sincerely believe in what you are doing. Your noble intentions have earned you some karma in my opinion.

If an open and public debate seems agreeable to you, then we will need to agree to some basic rules, like how long our debate should last, and how long the replies may be. I will do no editing on your replies, unless you want me to. Perhaps I could use a picture of us and a picture of you at the top, if that's okay. Readers really like that sort of personal touch, and it draws them into the story.

-- Thomas Corriher

Jim Humble accepted the challenge, so here we are with the debate for all to see. We play no games and have very few secrets here. Unfortunately, Mr. Humble did not do the same. Immediately after accepting our challenge, we suddenly and coincidentally began getting flooded with pro-MMS e-mails and article comments from people pretending to be concerned average Joes and regular readers of The Health Wyze Report. Mr. Humble and his sock puppet partners apparently believe that we are as naïve as M.M.S. customers are, despite the work that we have already done in exposing him. This MMS brigade has flooded countless online forums with

deceptive astroturf messages in an attempt to convince everyone that M.M.S. is a legitimate medicine, and that people all over the world are using it safely every day to cure any and every ailment. Some of these posts even claim that it is doctor recommended by phantom doctors who do not seem to exist, even though it is not approved for human consumption (much less medicine) in any country in the world. Until we began getting such messages recently, a part of me wanted to believe that he meant well, and might actually conduct himself in an honorable manner. Further aggravation was caused by the fact that I have a personal problem with anyone who makes a habit of insulting our intelligence; especially concerning those who have not the intellectual resources to do it. Yes, that's a personal problem, and now all of you know that it is one of my buttons.

I suppose that we should have expected the behavior that he demonstrated from his well known reputation as a con artist; but whenever someone writes that he wants to begin a peaceful and friendly relationship, then a part of me really wants to believe it. I want people to be good and to do the right things, and it breaks my heart that it is so rare. In regard to Humble's infamous reputation, just look him up on the Internet for yourself. Readers will notice that he, and his business partners, are all over flooding forums with dishonest astroturf messages in an attempt to convince us that M.M.S. is legitimate medicine. The number of messages from people clearly hiding their identities and their exaggerated claims grow every time that we look. The usual pattern is that you don't need anything except M.M.S., because it does everything from cancer to AIDS, and it even makes a person stronger than Popeye. The M.M.S. claims are flabbergasting, but they barely compare to Humble's claims about himself.

Did you know that Humble is single-handedly wiping out malaria in Africa? All the Africans had to do was drink his bleach-like 'miracle' solution, and suddenly their malaria symptoms were not so noticeable anymore. Isn't that like hitting oneself on the toe with a hammer in order to forget a tooth ache? Now that's what we call 'medical progress' at HealthWyze. We are still waiting for the proof of Humble's 'miracles', but that data is just too suppressed to ever get out; according to Humble, that is. Convenient, isn't it? In the meantime, we'll just have to bank on Humble's integrity.

Believe it or not, that's not all that Humble has accomplished. According to one of his marketing sites, "Jim" is a former aerospace engineer. We figure he builds full scale space shuttles in his back yard, but that's not all! He also helped the moon missions by designing the lunar rovers. This just the beginning of Jim's glory. He helped design the first atomic bombs too, so he was likely personal friends with Albert Einstein. I must wonder if he constantly insulted Einstein's intelligence too. He also made the first satellite remote control digital logic circuits at Huges Aerospace Corp., and then he innovated analog electronics too, by documenting how forgone vacuum tube based computers work. He did that last task for the less gifted, little people.

On the topic of his MMS websites, there are some unique patterns to them. All of them pretend to be made by independent 3rd parties, yet virtually all of them are hosted with Bluehost. That's just a coincidence, of course. If that were not enough of a coincidence, then how about the fact that each of these sites hides the person who registered their DNS (dot.com name) by using the anonymous Domains By Proxy service? Indeed, the 'Miracle Mineral Solution' web sites' network 'whois' (Who Is ....) information is entirely unavailable for any of the main MMS sites, because all of their registrations are being hidden via Domains By Proxy. A person could get the impression that all those "independent" sites were produced, and paid for by a single person, who is trying to hide his identity.

When he's not building spacecraft for N.A.S.A., one of Humble's favorite hobbies is Photo Shop editing photographs to make it appear as if he has done things that he has not really done, or been to places that he has not really been. Closely inspect these forgeries from his sites.

In these photos, he's playing doctor again, and he is even sporting improperly fitting lab coats. Notice the glow around the guy's head in the yellow shirt, and around the two ladies' heads on the right? That isn't The Force we're seeing. These are remnants of cut and paste operations from photo editing software. Jim may be the world's best aeronautical engineer, computer engineer, and atomic weapons expert, but his Photo Shop skills leave much to be desired. Click on the right image to get a better view of Jim's lackluster photo fabrications. Less informed people might get the impression that Jim is not a completely honest person, but of course, we know that these photos actually show him saving Africa from malaria.

Anyway, Thomas specified the rules of my debate with Humble. The rules specified a 500 word limit for each side's replies, and a single argument per day, which was to last for a period of 2 weeks. Of course, Mr. Humble did not abide by the rules. He pretended like he was too confused to understand our previously agreed upon rules of conduct, once he began sending us his tirades. Considering his supposed past intellectual accomplishments, we found his sudden confusion to be rather intriguing, and it is what we would expect from a sociopathic manipulator. We have seen Humble's type of arrogance before, and we studied Humble's modus operandi enough to anticipate that he would flood us with overwhelmingly lengthy, circular arguments, in an attempt to wear us down. The confirmation of our predictions about him told us that Mr. Humble had no comprehension whatsoever of what, or who he was up against. We were okay with that. He was welcome to make a noose and insert his head inside. So be it.

Round 1

The first mistake that you enter into your Criticism of MMS is that you think that Chlorine Dioxide and Chlorine are the same thing and that they would thus have the same result in the human body. So let me address that point first.

The fact is, there is no available chlorine in chlorine dioxide. It’s sort of like table salt, there is no available chlorine in table salt, if there were, you would have been dead long ago. Do you see? Table salt is made of chlorine and sodium. Yet it doesn’t kill you. The same situation exists with chlorine dioxide.

Let me suggest a little bit of chemical technology reading. Lenntech a Corporation that sells many kinds of chlorine for various purification purposes has published a technical article on chlorine dioxide that is quoted in many Colleges and Universities around the world. The name of the article is "Disinfectants Chlorine Dioxide." Let me quote just a couple sentences in the paragraph labeled Chlorine Dioxide as an oxidizer: "As an oxidizer chlorine dioxide is very selective. It has this ability due to unique one-electron exchange mechanisms. Chlorine dioxide attacks the electron-rich centers of organic molecules. (I hope everyone understands that pathogens are made of organic molecules) "First, chlorine dioxide takes up a single electron and this causes it to reduce to chlorite: The chlorite ion is oxidized and becomes a chloride ion and that during this reaction it accepts 5 electrons. The chlorine atom remains, until stable chloride is formed from it." I hope you understand what that means. It means that no chlorite or chlorine is formed. It turns to chlorite first, but only for milliseconds and then to chloride (which is table salt.)

To explain those quotes a little bit if it is too technical, the "Chloride" that is mentioned that is formed is table salt (sodium chloride). The chlorine atom remains until chloride is formed. No free chlorine ever becomes available from the chlorine dioxide. The Lenntech.org article goes on to explain that chlorine dioxide has a very low oxidation potential (under .95 volts), much lower than chlorine which is (over 1.4 volts), or oxygen which is (about 1.3 volts), or hydrogen peroxide which is (1.8 volts) and thus cannot oxidize many of the microorganisms in water supplies and other plants where selective oxidizers are needed. And to then explain that in terms of MMS, chlorine dioxide in very low concentrates cannot kill some of the beneficial organisms located in

the stomach and intestines that are required for digestion.

This data is available from many different educational sources in the world. Don't take it from me. Look it up for yourself. You may not be aware of the fact that sodium chlorite has been sold in Health food stores for 80 years in the US and was brought to America from Germany about 1930. Only the name was different it is called stabilized oxygen. Hundreds of thousands... [Word count rule exceeded]

Thank you for not getting "too technical" for our feeble minds. We appreciate your concern for us.

Mr. Humble, it has been you who has been intentionally blurring and confusing the lines between the different compounds that chlorine can form. On one hand, you claim MMS is as harmless as salt, while on the other hand, you speak of how powerfully reactive the chlorine is, which supposedly enables it to "kill everything". By the way, we actually agree on that last part. So which is it? Is the chlorine neutralized, so your customers are buying glorified table salt, or is it the powerful reactive chlorine that is well known for its toxicity? Either way, it's called "fraud". You cannot have it both ways, but nice try.

Just so you know, table salt is not harmless either, as I'm sure a great world-changing engineer like yourself knows. The only salt that is almost harmless is sea salt, because it contains minerals that counteract the toxic effects of the chloride. Table salt is well known for its toxic effects, so even if your safety claims were true, you would still be arguing from an eroded position. You also recommend M.M.S. for people with heart disease and high blood pressure, so if your product is safe "like salt", then you are part of their health problems.

As far as its safety, first let us state that your chlorine dioxide is identical to that used for pool decontaminations, and the effects of intentionally consuming it are well known. For one thing, it is an E.P.A. registered pesticide. According to the E.P.A., "Chlorine dioxide is an antimicrobial pesticide recognized for its disinfectant properties since the early 1900s. Chlorine dioxide kills microorganisms by disrupting transport of nutrients across the cell wall."

We already looked it up, and that's why we wrote the original article. The burden of proof is upon you to prove us wrong, if you can.

There is no chlorine dioxide in stabilized oxygen. There is a small amount of table salt inside it. Nice try, but we're well-versed in your slight-of-hand tricks.

I'm standing here with Thomas' electronics multimeter, with its probes inside some hydrogen peroxide, and frankly, I'm just not getting any voltage reading from it. Should we recalibrate the meter? We are a little slow, after all. Seriously, we can talk about your atomic theories all you want, and go into as many circles with those as you want, but the fact that matters is that the effects of your product upon the human body are already well known, and the electrons really don't care. Let's stick with the real issues here, and you can impress us with your fancy-smancy nuclear knowledge later.

Round 2

In the criticism of MMS the writer continues to confuse the technologies of chlorine and chlorine dioxide not realizing that there is a life and death difference in the two technologies. So let me use the same heading on my article as is used in a section of the Critical article on MMS.

The effects of Chlorine on the Body.

In reading the Healthwyze write up concerning this subject I notice that the problems concerning ingestion of chlorine seemed to be pretty much according to the research of the literature that I also found. Chlorine is an oxidizer and in order to destroy most any compound found in the body, it must in the process of oxidation combine with that compound forming a totally new compound and these new compounds are often carcinogenic in nature. This kind of oxidation is known as chlorination. This is one of the main reasons that most new water purification plants employ chlorine dioxide. It does not combine with the item being oxidized, but rather it steals the electrons that hold the item being oxidized together. With the electrons being removed the item, pathogen or heavy metal or other poison, flies apart into its compounds which can be neutral or a poison. The electrons then change the chlorine dioxide components into a chloride which is the basis of table salt, sodium chloride. There is no chlorine dioxide in Clorox or any of the chlorine bleaches, only chlorine.

You may remember in my last article I mentioned that chlorine dioxide actually has no chlorine available at any time during the chemical oxidation cycle and that includes the degeneration cycle into chloride. The chemical oxidation cycle with any pathogen and chlorine dioxide consists of the chlorine dioxide stealing 5 electrons from the cell walls of the pathogen. The sequence goes like this. First a single electron is drawn off of the cell wall and onto the chlorine dioxide ion changing it to a sodium chlorite ion, but that only lasts for a millisecond or two. Then the newly formed sodium chlorite ion exerts a much heavier attraction and thus 4 more electrons are instantly drawn off. No other ion in pathogen chemistry has this unique sequence. The chlorine dioxide doesn't have the power until it converts to a chlorite and then it blows a hole in the side of the pathogen and thus killing it.

In the case of chlorine dioxide there are a number of conditions that the pathogen must meet in order to be destroyed. The most important condition is the ORP (Oxidation Reduction Potential) voltage of the cell walls of the pathogen. It must match the voltage of the chlorine dioxide in the proper way to be destroyed. Chlorine kills (oxidizes) everything in its path, but as mentioned above, by chlorination, but chlorine dioxide is very selective. It does not combine; it destroys by disassembling the biological components of the cell walls of the pathogen by removing the electrons that hold it together.... [Word count rule exceeded]

Stealing electrons? That is some bad, bad, naughty chlorine.

Maybe we could get back on topic now. We answered most of this in our previous rebuttal. All of your irrelevant atomic theory smoke screens will continue to get ignored. You may discuss those at a physics or chemistry site. Perhaps they'll even be impressed. We're not. We're concerned only with the health implications of M.M.S., and your attempts to distract our readers away from that topic will fail.

We agree that chlorine kills everything in its path, and so does chlorine dioxide. There is nothing "selective" about either. When your product is used as an E.P.A. registered pesticide, for instance, it does not merely kill the bad pathogens inside termites. It kills them. All of them. A poison in small doses is still a poison, regardless of whatever the electrons are doing. It is also worth noting that we, as humans, have cell walls too, so chlorine is also bad for us. What's worse is those scientific studies, like the one below.

Meggs et al. (1996) examined 13 individuals (1 man and 12 women) 5 years after they were occupationally exposed to chlorine dioxide from a leak in a water purification system pipe. The long-term effects of the accident included development of sensitivity to respiratory irritants (13 subjects), disability with loss of employment (11 subjects), and chronic fatigue (11 subjects). Nasal abnormalities (including injection, telangectasia, paleness, cobblestoning, edema, and thick mucus) were found in all 13 individuals. Nasal biopsies taken from the subjects revealed chronic

inflammation, with lymphocytes and plasma cells present within the lamina propria in 11 of the 13 subjects; the inflammation was graded as mild in 2 subjects, moderate in 8 subjects, and severe in 1 subject.

I really liked this statement, "The chlorine dioxide doesn't have the power until it converts to a chlorite and then it blows a hole in the side of the pathogen and thus killing it." Wow, that must be impressive. Could you give us a peer-reviewed, 3rd party, independent study that proves this is exactly what your product does, while not harming human tissues and blood? I mean, I'm sure your contentions are backed with credible scientific evidence, after all. Otherwise, you would just be pulling this stuff out of your butt.

You actually state in one of your movies that your product kills only the weaker cancer cells, which would put your formula in the same category as chemotherapy; if this were indeed true. Didn't you also claim that your product would not harm human tissues (like chemotherapy does)? Aren't the cancer tumors made from human tissues? Oh, I forgot: it's "selective". I suppose the moral here is to never underestimate the intelligence of chlorine, at least not atomically, and always underestimate the intelligence of the Health Wyze Report Staff.

Round 3

It would seem only fair that someone being sarcastically critical of someone else's work should at least know their chemistry so that they can adequately explain the mistakes that persons is making. So let me correct their writing about how pathogens are killed so that later you the reader will be able to understand what really happens to diseases if you should take a drink of MMS.

My critic says, "Bleach kills the pathogens by poisoning them, and then corroding them." But you see that really isn't the chemical process at all. Actually the chlorine in the bleach actually attracts the electrons that hold the pathogen together and the pathogen and chlorine mix together to form a new compound and the pathogen is killed in the process of forming a compound with the chlorine. But although wrong, that really isn't important to us as MMS uses chlorine dioxide and no chlorine is available. Chlorine dioxide kills in a different way. As I already explained the chlorine dioxide removes the electrons that hold it together and it flies apart or at least part of it does.

Then the critical writer asks for a list of bleach resistant good bacteria, and then he says we know that they do not exist and of course I have to agree. But then again I am not talking about bleach and chlorine. I am talking about chlorine dioxide a substance as different from chlorine as is table salt.

The next paragraph the critical writer mixes chlorine bleach and sterilization and chlorine dioxide sterilization so thoroughly together that I cannot explain what he is saying. They are not the same thing. They are not used in industry for the same thing except on occasion Yes chlorine is poisonous to most everything, but there is no chlorine in chlorine dioxide. This is confusing because it has that same word in it "Chlorine," but a chemist quickly comes to understand that they are not the same. If they were the same, then table salt would kill you.

So last year 975 thousand people in the US died after taking a dose of one drug or the other ALL OF WHICH WERE FDA APPROVED. During that same time more than one million people used MMS and not a single one died and many reported getting better quickly. More than 5 million people have downloaded my free MMS book. I have personally given more than 5000 sick people drinks of MMS. Most of them became well in a few hours. I make no money from the sales of MMS. I don't manufacture it, or sell it, or receive royalties from the sale of it. I am just trying to make Earth a better place to live.

We really don't care about your Chemistry 101 homework. Likewise, none of our readers care whether you believe that an electron moves this way, or that. Some people believe gremlins are under their beds, but that has nothing to do with the health effects of chlorine dioxide, or the price of eggs in China.

As far as nobody dying from M.M.S., perhaps you should review the news articles at: http://www.smh.com.au/national/death-in-paradise-20100108-lyxv.html and http://www.smh.com.au/national/deadly-chemical-being-sold-as-miracle-cure-20100108-lyvl.html .

You already knew about Silvia's death, because you publicly attacked her grieving husband for telling the press about the horrific details of her death.

Most people won't immediately die from M.M.S., but from long term secondary conditions such as cancers, which will be difficult to trace to their real causes. It usually takes a large amount to die quickly, so most M.M.S. deaths will be conveniently blamed elsewhere.

O.S.H.A. has this to report about chlorine dioxide:

"Chlorine dioxide is a very unstable material even at room temperatures and will explode on impact, when exposed to sparks or sunlight, or when heated rapidly to degrees C (212 degrees F). Airborne concentrations greater than 10 percent may explode... Chlorine dioxide reacts with water or steam to form toxic and corrosive fumes of hydrochloric acid... Chlorine dioxide is a severe respiratory and eye irritant in experimental animals... Chlorine dioxide dissolves in water to produce chlorate and chlorite ions. Chlorite has been shown to produce methemoglobin in rats and cats"

Methemoglobin, a particular type of hemoglobin is useless for carrying oxygen to tissues. Since hemoglobin is the key carrier of oxygen in the blood, its wholesale replacement by methemoglobin can cause cyanosis (a slate gray-blueness) due to suffocation.

The National Institutes of Health reported, "The results indicated that CIO2 may have central neurotoxic potential." (May?)

One of the material data sheets from a chlorine dioxide manufacturer states that chloride dioxide is:

"CORROSIVE to the eyes and skin. Can cause damage to vegetation. Inhalation: Severe respiratory irritant. May cause bronchospasm and pulmonary edema, which may be delayed in onset. May also cause severe headaches. All symptoms may be delayed and long lasting. Long term exposure may cause chronic bronchitis. An LC50 value of 500 ppm/15m3 (rat) is quoted in the literature. Skin Absorption: May be absorbed, causing tissue and blood cell damage. Ingestion: Not applicable except for solutions, in which case the symptoms would be expected to parallel those for inhalation. Hazardous Combustion Products: Chlorine, oxygen, and hydrochloric acid."

Pay attention to: "Ingestion: Not applicable except for solutions, in which case the symptoms would be expected to parallel those for inhalation." Thus, interested parties should investigate the identical inhalation results. (Your own work says its gas is released during product preparation.) We hope those electrons don't mind.

Closing Arguments

Instead of believing you guys are chemists and especially you Sarah, you should spend a little money with a professor of chemistry at a university. You guys are not chemists. You haven't a slightest clue as to the facts here. You are sailing along in la la land. You should have read that

paper I suggested.

More than 5 million people have downloaded my basic free book. My total book is printed in 15 different languages. I have done lectures to hundreds of people all over Europe and other parts of the world with many actual chemists in the Audiences. Again you don't have a clue as to the chemistry. I have personally treated 5000 people and another 5000 over the internet all free of charge. More than a hundred thousand malaria victims were treated by people I trained and they were OK in less than 4 hours. Normally 400 out of that many would have died, but there were no deaths. I have seen more people cured of more diseases than any other person on Earth, you you guys are denying thousands of people the chance to overcome their suffering or to live a longer healthier life.

Please tell me why would I do this. I don't sell MMS. I get no income from anyone who does sell MMS. Why would I spend the time in the jungle. Can you possible believe that I just want to stand up in front of people and lie to them for no reason?

I am sorry. I was merely trying to help. All I have gotten out of you is sarcasm and hate. I am going to have to let you poor that out on someone else as I am not going to even bother reading the rest of your rebuttal. The last paragraph I have read is where you have laughingly tried to measure the oxidation voltage of hydrogen peroxide (Round 1). That is so dumb I can't believe you expert chemists could possible prepare the formula for an apple pie. You all have less knowledge of chemistry than a 6th grader and you then you call me names with sarcasm and hate. Frankly I don't see why you don't apply for a nice job at the FDA as you all have the same mentality. Here is a guy trying to help mankind so lets just see if we can make him look like shit. And you can, for a little while, then you will find that you were wrong about everything. I offered to help you and you just treated me worse that a cow.

I must not understand me. Maybe you can help. Why am I spending 18 hours a day doing all this for no income for the last 14 years. People didn't listen at all for the first 10 years, just the last 4 years. I spent all my retirement money and sold everything I own and gave my house trailer away to one of those homeless girls... [Word limit Reached]

Firstly, chemistry is not the solution to the diseases that plague our society. It's the cause.

Your success statistics are only available from you: an uncredible and self-serving source of information. We have given you chance after chance to provide real evidence that M.M.S. has some benefit, and that it is indeed safer than the bleach that it is. With thousands of purported 'miracle' cures worldwide, we would expect for at least one credible, independent, verifiable, 3rd party somewhere to actually document it.

If we ever decide to begin a business of poisoning already sick people (for instance with bleach), then we'll accept your advice about getting proper chemistry degrees. Until then, we'll make due with our inferior educations and intellects.

Unlike yourself, real saints do not boast about their own greatness, stroke themselves publicly, or falsify information. You're far from the altruistic, selfless saint that you have consistently paraded yourself as being. It is unnecessary for truly righteous people to tell us of their greatness, and real saints have no desire to brag about themselves. You are hurting people, and you have willfully chosen to continue hurting people indefinitely. That is the opposite of saintly, as far as we are concerned.

Your allegation of not making money from your M.M.S. scam is cunning. You know that the one thing that we cannot verify is your financial records, and therefore we cannot prove that you are

lying about this. Be aware that this will quickly change if you are ever prosecuted in the U.S. for your crimes, because the incriminating evidence would become public records. You can count on us to be one of the first to publish it. We noticed you moved to Mexico, which is a smart move for staying out of prison. I likewise noticed that you said elsewhere, "I live in Mexico, just in case." Would a saint cowardly flee to another country, and would he even have a reason to?

Your personality closely matches a sociopathic boyfriend from when I was age 14. He was a convict and a pedophile in his middle thirties. This boyfriend followed the familiar sociopathic pattern of first reigning me in with fantastic fabrications about his history that made him appear heroic and saintly. Later, when he felt that his position and power had diminished somewhat, he began beating my spirit down by telling me about how inferior I was morally, and about how intellectually crippled I was. We know people like that, don't we, Mr. Humble? Finally, when all else failed, and he had become really desperate from his manipulation failures, he appealed to my conscience with guilt games about how I was hurting a modern day messiah. Sounds really familiar, doesn't it?

You are too arrogant to realize that you were beaten long ago, Mr. Humble, and you're too prideful to ever admit that we read you like a book from the very beginning. I hope this stands as a testament of your modus operandi, so that others will not be taken in by your slick games in the future.

Mr. Humble, you are in ours and many others' opinion, an inherently evil man.

May we call you "Jim"?
