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# Alcohol Disinfection Liquid Vaporization and Inhalation Applied in Vivo Antiseptic and Sterilization Treatment Method

By Huang Zhenqiang

*Fujian Chemical Geological Exploration Institute*

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# Alcohol Disinfection Liquid Vaporization and Inhalation Applied in Vivo Antiseptic and Sterilization Treatment Method

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## I. INTRODUCTION

For patients with various respiratory and digestive tract infections caused by bacterial viruses, it has a new method of non-toxic side effects and broad-spectrum in vivo disinfection and sterilization.

Existing domestic and foreign health and epidemic prevention systems are available. For a variety of patients with respiratory and digestive tract infections caused by bacterial viruses, there is no complete set of simple, general and rapid treatment methods. A variety of broad-spectrum antibiotics and anti-inflammatory and antipyretic drugs or targeted antibiotics or specific drugs are mainly used to treat various infectious diseases infected by bacteria. A variety of targeted vaccines or specific drugs are used to treat various infectious diseases infected by the virus. For various infectious diseases infected by bacteria, due to the long-term use of various antibiotics in the medical community, the resistance of many bacteria has gradually increased, and the efficacy has decreased. For infectious diseases infected by the virus, the development and production of various targeted vaccines and specific drugs, including animal experiments and clinical tests, require a lot of time and human and material resources. As a result, the ability of all humans to prevent and control newly-infected viral infectious diseases is seriously lagging behind, and the near-expensive vaccines or potent drugs also make patients sick. Therefore, for a sudden new large-scale acute infectious disease with a high

mortality, such as SARS virus in the past ten years is a coronavirus, it should be transmitted to humans through an animal host, which is highly toxic. MERS, which occurred in the Middle East, is the second most coronavirus, and this time Wuhan's new coronavirus is the third. Both cause regional or global panic.

Aiming at the existing human treatment methods for patients with various respiratory and digestive tract bacterial and viral infections. All have the disadvantages of poor curative effect, long time and high cost. The alcohol disinfection solution of the present invention is directly vaporized and mixed with air (and oxygen) to prepare a therapeutic mixture gas containing an appropriate ethanol concentration. The treatment method applied to the internal suction respiratory tract and digestive tract for direct contact anti-virus sterilization may have the advantages of good curative effect, short time, low cost, and easy popularization. This will be described in further detail below.

## II. PRINCIPLES OF VAPORIZATION AND INTERNAL ABSORPTION OF ALCOHOL DISINFECTANT APPLIED TO IN VIVO ANTISEPTIC AND STERILIZATION TREATMENT

First, the pneumonia epidemic caused by the new coronavirus infection in Wuhan has exploded and formed a sudden global public health event. What is worth looking forward to: The National Health and Medical Commission's "New Coronavirus Infected Pneumonia Diagnosis and Treatment Program" clearly states that "new coronavirus is sensitive to ultraviolet and heat, 56 ° C for 30 minutes, ether, 75% ethanol, chlorine-containing disinfectant, per oxygen Lipid solvents such as acetic acid and chloroform can effectively inactivate the virus, and chlorhexidine cannot effectively inactivate the virus."

**Author:** Fujian Chemical Geological Exploration Institute, China Chemical Geology and Mining Bureau, Fuzhou.  
e-mail: kexuetansuoze@126.com

**Table 1:** Experimental results of the action time required for different concentrations of alcohol to kill bacteria

酒精浓度 Alcohol concentration	大肠杆菌 Escherichia coli	金黄色葡萄球菌 Staphylococcus aureus	绿脓杆菌 Pseudomonas aeruginosa	溶血性链球菌 hemolytic streptococcus
100%	24 小时 hour	7 天 Day	2 小时 hour	15 分钟 minute
90%	15 小时 hour	30 分钟 minute	5 分钟 minute	5 分钟 minute
80%	1 小时 hour	2 分钟 minute	2 分钟 minute	10 秒 second
70%	30 秒 second	5 分钟 minute	1 分钟 minute	10 秒 second
60%	20 秒 second	30 分钟 minute	30 秒 second	10 秒 second
50%	20 秒 second	30 分钟 minute	30 秒 second	20 秒 second
40%	22 分钟 minute	4 小时 hour	2 分钟 minute	2 分钟 minute
30%	2 分钟 minute	4 小时 hour	30 分钟 minute	30 分钟 minute
20%			24 小时 hour	24 小时 hour

Further analysis of the sterilization and disinfection mechanism of 75% ethanol disinfectant, we searched the following results from the Internet:

Alcohol can kill the virus because it can dissolve the "lipid envelope" of the virus, so it must be a virus with an envelope (including a protein shell) like "coronavirus" in order for alcohol to be effective to play a role. 75% alcohol can absorb the water in the protein of bacteria and virus shell, make it dehydrate, denature and solidify, so as to achieve the purpose of killing bacteria and viruses. If a higher concentration of alcohol is used, the bacterial virus protein is dehydrated too quickly, so that the surface protein of the bacterial virus is denatured and coagulated first, forming a solid envelope, but the alcohol cannot penetrate into the inside of the bacterial virus well, which will affect its killing bacteria The ability of the virus. 75% alcohol is close to the osmotic pressure of the bacterial virus. It can gradually infiltrate into the bacterial vision before the surface protein of the bacterial virus is not denatured, so that all proteins of the bacterial virus are dehydrated, denatured and coagulated, and eventually kill the bacteria and virus. Below 75%, the ability to kill bacteria and viruses is also affected due to reduced permeability. Many scholars have done comparative experiments in this regard, and the results are shown in Table 1.

From the experimental results in Table 1, it can be seen that for different bacteria, the alcohol concentration is different, and the time required to kill the bacteria is also different. However, the general trend is that the alcohol concentration of 50% to 80% can kill all kinds of bacteria as quickly as possible. Therefore, the theoretical basis for the effective treatment of the new coronary pneumonia epidemic designed by the present invention can be summarized as follows: The National Health and Medical Commission's "Pneumonitis Diagnosis and Treatment Program for New Coronavirus Infection" has confirmed that 75% alcohol disinfectant can kill the new coronary virus.

### III. DETAILED DESCRIPTION

According to Table 1 of the above experimental results, we can preliminarily imagine that if the 75% alcohol disinfectant is directly vaporized and then mixed with air (and oxygen) to prepare a therapeutic mixture with an appropriate ethanol concentration, it will be applied to the inhaled internal respiratory and digestive Internally, as the therapeutic gas mixture spreads, it is a new treatment method that directly contacts the inner wall of the organ for disinfection and sterilization. As long as viruses such as "coronavirus" have a "lipid envelope" and all proteins containing protein most bacteria, viruses ... can be effectively disinfected within seconds to minutes.

There are about 50 trillion cells in our body, and the total amount of microorganisms parasitizing in our body should be incompletely estimated to be more than 10 times the number of human cells, at least 500 trillion. The total number of genes of these microorganisms is about 200 times that of human genes, and the number of genes in the human genome is about 20,000. Please note: Microbial cells are usually small, only one-tenth to one-hundredth of the cell size of human organs and tissues. However, due to their large number, their total weight is only about one-third of the adult's weight.

Distribution of microorganisms (bacteria) in the human body. The gastrointestinal tract bacteria associated with this article vary by site. Due to the bactericidal effect of gastric acid, the stomach and jejunum of healthy people are generally free of bacteria. If infected by a bacterial virus, related viral bacteria and inflammation will occur. If gastric dysfunction, such as reduced gastric acid secretion, especially in gastric cancer, sarcoma, lactobacilli, bacillus ... Adults have few or even aseptic bacteria in the upper jejunum and ileum, and bacteria in the lower intestine gradually increase. The large intestine accumulates food residues, and has a suitable acidity, suitable for bacterial reproduction,

and the amount of bacteria accounts for about 1/3 of feces. There are many types of microorganisms in the large intestine, mainly including *E. coli*, *Bacteroides fragilis*, *Bifidobacterium*, anaerobic cocci, etc. Others include *Lactobacillus*, *Staphylococcus*, *Pseudomonas aeruginosa*, *Proteus*, fungi, etc.

Bacteria in the respiratory tract, *staphylococcus*, diphtheria... On the throat and tonsil mucosa, *Streptococcus aureus* and catarrhal is predominate. In addition, there are often potentially pathogenic microorganisms such as pneumococcus, influenza, streptococcus... The bronchi and alveoli of normal people are sterile. Of course, if the respiratory tract is infected with related bacteria or viruses, the related bacteria or viruses and various corresponding inflammations or lesions will naturally occur.

The main ingredient of human daily drinking beverages is water alcohol with different concentrations. According to statistics, the average lethal dose of ethanol for adults is 250 to 500 grams. Even drunks who are drunk because of greed and anger, most of them will vomit out excessive alcohol and food in time to save their lives through the natural emergency response of the body. After ethanol enters the body, 70% is absorbed through the stomach, 25% is absorbed through the duodenum, and a small amount is absorbed in the remaining small intestine. When there is no content in the stomach, the alcohol in the blood reaches its peak within 30 to 90 minutes. Acute toxicity toxicology experiments show: LD50 7060mg / kg (rat oral); 7340 mg / kg (rabbit percutaneous); LC50 37620 mg / m<sup>3</sup>, 10 hours (rat inhalation); human inhalation 4.3 mg / L L (the same below) × 50 minutes, head and face fever, cold limbs, headache; human inhalation 2.6 mg / L × 39 minutes, headache, no after effects.

Further, we can imagine that if a human inhales 2.6 mg / L × 39 minutes, headache and no after-effect are the upper limit of the medicinal dose safety. Then, when the inhalation time is shortened by about 40 times, the ethanol concentration can be increased by about 40 times! Reached 0.1g / L \* 1 minute! Alternatively, reduce the concentration and dose by half and take 0.05g / L \* 2 minutes as the reference dose for inhalation and disinfection in general adults. As for the specific time for inhalation, it can be based on the type of infectious disease and the actual needs of the patient. It usually takes 20 seconds to 2 minutes. If the effect is insufficient, you can continue after proper rest.

Because the air comes with some moisture, expressed as humidity. At normal temperature, it is about 0.01g / L. The inner wall of the human's respiratory tract and digestive tract naturally also has a layer of moisture-protective film. Therefore, it is recommended to directly use the micro-boiling method of anhydrous alcohol to modulate the therapeutic mixture. When the therapeutic mixture is inhaled into the human's respiratory tract or digestive tract, the vaporous

ethanol molecules rapidly diffuse and dissolve into the aqueous protective film on the inner surface of the organ. With continuous breathing, the ethanol concentration in the aqueous film gradually increases... When the ethanol concentration reaches 50% to 80%, the virus bacteria and the infected cells that adhere to the inner wall of the organ will naturally perform a rapid and efficient anti-virus sterilization. As the water and bacteria in the inner wall of the organ and proteins in infected human cells continue to be absorbed, the ethanol concentration gradually decreases. At this time, the ethanol concentration in the aqueous membrane is replenished by continuous breathing, thereby maintaining the concentration balance and the function of disinfection and disinfection.

The density of ethanol liquid is 0.789g / cm<sup>3</sup>, the density of ethanol gas is 1.59g / L, and the boiling point is 78.2 ° C. Body temperature of healthy people is 36 ~ 37 ° C, fever is 37 ~ 41 ° C. Under standard conditions (25 ° C, one atmosphere), the density of air is 1.29kg / m<sup>3</sup> = 1.29g / L. It is about 25 times as much as a therapeutic gas mixture that can be safely used with an ethanol concentration of <0.05g / L! Therefore, the temperature of the prepared mixed gas is close to that of air.

Please note: The microbial cells in the human body are bacteria, and they are generally 0.2 to 100 microns in size, which is only one-tenth to one-hundredth the size of the cells of human organs and tissues. Most viruses are generally 2 nanometers to 100 nanometers in size, and they are only about one to one thousandth of the size of bacteria. Compared with the experimental results in Table 1, the general bacteria can be killed within seconds to minutes in a concentration of 50% to 80% alcohol disinfectant. Then, a virus that is only about one-thousandth to one-thousandth of the size of a bacterium can be killed in seconds.

From the comparison of the size of human cells, bacteria and viruses, it can be known that the therapeutic gas mixed with the ethanol gas with a concentration of 0.05g/L and air (or a certain percentage of oxygen) is cytotoxic to human organs and tissues. And killing effects are small. Even if some cells on the inner surface of each organ are killed by bacterial virus infection, they can still be repaired quickly by the automatic response system of each organ and cell's own emergency response system.

According to the distribution characteristics of bacterial viruses in the respiratory tract and digestive tract of healthy people and patients infected with bacterial viruses. You can directly let the patient selectively inhale the therapeutic mixture into the respiratory tract or fasting digestive tract, and breathe at a smaller (or half) frequency than normal breathing. Each treatment lasts from 20 seconds to 2 minutes. The surface layer and the superficial layer of the inner wall tissue of the organ infected by the bacterial virus are

disinfected by direct contact with the gas diffusion in the body of the treatment mixed gas. Such a therapeutic mixture will not only have negligible toxic and side effects on the human body, but may also have an immediate antibacterial and sterilizing effect on the surface and superficial layers of tissues and cells in the inner wall of the respiratory or digestive system of the patient. That is to say, the relatively cheap alcohol disinfectant commonly used in the medical field is prepared by treating the mixed gas with the method of gas diffusion inside the body and directly contacting the method of disinfection and sterilization. It may become a new method to treat almost all respiratory and digestive tracts of all human beings caused by bacterial and viral infections, and all of them have good efficacy, short time, low cost, and very easy to popularize. .

The current situation of epidemic prevention and control is grim, and saving people is like fighting fire. It is recommended that the medical community choose a suitable model from the existing ventilator, and then ration the vaporized anhydrous alcohol gas into the air intake. Experts are invited to conduct clinical trials as soon as possible to evaluate the efficacy.

#### IV. IN SUMMARY

We can conclude that the use of ethanol has low toxicity, is almost harmless to the human body, and has the characteristics of rapidly absorbing water in the proteins of viruses and bacteria, dehydrating and solidifying proteins, resulting in rapid death of viruses and bacteria. The treatment method is to directly vaporize anhydrous ethanol and mix it with air to prepare a therapeutic gas mixture with an appropriate concentration to allow patients to inhale the respiratory tract or fasting digestive tract to directly perform anti-virus and sterilization. The methods used to treat all respiratory or digestive tract infections caused by viral and bacterial infections containing protein structures are worthy of clinical examination.

If clinical trials prove effective, they can be expanded further. The use of ethanol has low toxicity, is almost harmless to the human body, and has the characteristics of quickly absorbing the water in the proteins of viruses and bacteria, dehydrating and solidifying the proteins, leading to the rapid death of viruses and bacteria. For other viral and bacterial infectious diseases of the non-respiratory and digestive tracts, an appropriate concentration of ethanol solution can be used to directly perform a needle-injection anti-virus sterilization treatment method for viral and bacterial infections in various organs inside the body or tumor masses Worth clinical examination.

Father, like son. Traditional Chinese medicine can effectively cure new coronary pneumonia, but the effect is still slow. Western medicine does not currently have related vaccines and specific drugs. Experts and

patients are waiting for the pricey vaccines or special effects that monkeys can only get when they do not know the monkeys and monkeys, watching death step by step, it's better to try this straightforward, simple and feasible method that is likely to be efficient and fast and low-cost cure?

If patients are eager to seek medical treatment, they can conduct simple clinical trials by themselves. The design scheme is as follows: 1. Use a glass bottle or glass test tube with a capacity of about 100 ~ 200 ml, punch two holes in the lid, one hole is connected with a two-way knob switch, and one hole is connected with a plastic tube; 2. Pour the white wine into the height 5 ~ 10 ml, put it in the hot water cup, the hot water temperature must be higher than the boiling point of alcohol (78.2 °C); 3. Hold the plastic tube with the mouth, adjust the knob switch, adjust the mixing ratio of alcohol vapor and air, and change the alcohol vapor Modified with a proper amount of air to cure the mixed gas, just breathe in the respiratory tract or digestive tract; 4. The proportion of mixed gas and the inhalation time are completely controlled by your own feelings, and gradually recommended to the patients after the test. Once the test is successful, you will immediately become an expert with real talents.