

A More Effective Way to Treat Infectious Diseases than Antibiotics, BERT, a Physical Technology to Treat Infectious Diseases

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I. Backgrounds

Driving for non-antibiotics to treat infectious diseases?

Infectious diseases are caused by bacteria infection, and using antibiotics is currently the only way to treat. It has been over 70 years since the discovery and application of the first antibiotics⁽¹⁾. Due to large-scale application of antibiotics, some bacteria have built up their resistance to antibiotics, causing a number of bacteria infected diseases unable to be cured, especially skin infections such as acne, etc⁽¹⁾. As the antibiotic resistance develops, the chance of killing bacteria declines, also the chance to treat infectious diseases is gradually decreasing. Therefore, humans are facing a more severe bacterial disaster. Hence, there are abundant reasons driving us to seek for non-antibiotics techniques.

Is there another cause for infectious diseases except bacteria?

So far, since there is no drug or technique that can replace antibiotics clinically, is any physical technology possibly considered to be antibacterial? It is truly understood that bacterial infections are determined by two factors: one factor is an open (damaged) edematous tissues, and the second factor is the growth of bacteria (Fig.1). The prerequisite of bacterial infections is an open edema occurring in human tissues. In other words, when there is edema and it gets broken, proteins will leak out from cells and/or from blood vessels, those leaked proteins might lose their activities which are the medium for bacteria to parasite and grow. Reversely, the growth of bacteria causes the edema to expand.

Therefore, there should be two approaches to treat infections in correspondence to the two main causes respectively (Fig.1), so far, killing bacteria using antibiotics is the only technology used. It is an unfortunate that scientists have never investigated on controlling or killing edemas to ease the growth of bacteria.

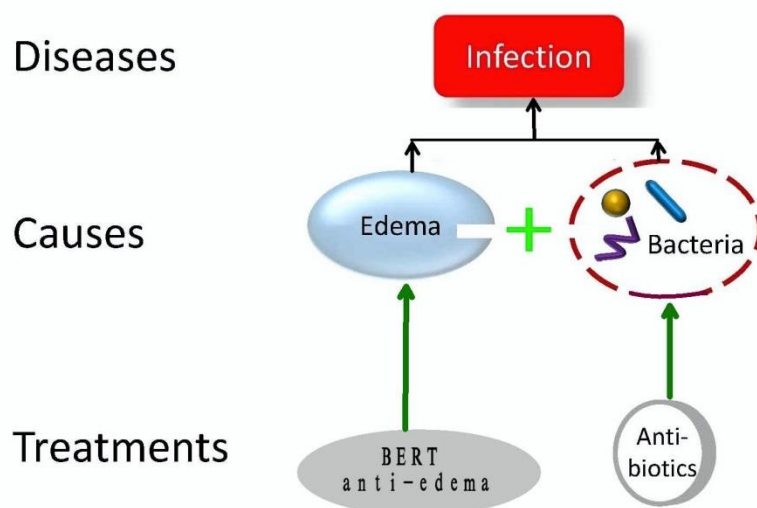


Fig. 1. The relationship between infections, edema and bacteria

Proposal for anti-edema as a new way to treat infection

In this study, we first propose that the best way to treat infectious diseases might be controlling the edema, as infection is upon the present of bacteria and/or virus in the edema tissues. Once the edema is under control, the parasitic bacteria will die due to the decompose of their living environment. The advantage of this approach is its non-selectiveness, which should kill all kind bacteria without considering their difference. Therefore, if the treatment technology of edemas is worked (Fig.1), the infection will be completely cured.

II. Materials and methods

Introduction to a Physical Technology, BERT

Bioelectricity Resonance Technology (BERT)^(2,3,4,5,6,7,8,9,10) is proven a physical technology to control edemas. BERT is a technology that can resonance the bioelectricity at holistic level, organ level and cell levels, like the blood vessels is composed of smooth cells which can contract and relax, the elasticity, to achieve the function of blood vessels to move the blood to travel along the vessels.

Dr. Wang has proposed that the mechanism of edema⁽⁴⁾ is a decreasing of the elasticity of capillary walls, water as well as small proteins molecules leak out from the capillary, leading

to edemas of the matrix between cells, in long run, water will penetrate into cells and proteins from cells will again leak out to the matrix between cells. Infections hence develop upon the present of bacteria and/or virus.

In this clinical study, we treat edemas and infected diseases with the BERT, observe its effectiveness, and investigate the mechanism of this antibiotics free technology, BERT, a physical technology.

Group of patients and treatment methods

1. Patient selection: chose outpatients from Beijing Shengkang Natural Hospital and other cooperative institutions (from July 18th, 2014 to April 1st, 2016). The chosen patients were clearly diagnosed without any restriction about age or gender. They did not wear cardiac pacemakers, or have severe heart diseases or acute bleeding symptoms. Before and during the treatment, the patients did not take any antibiotic drugs or any other therapies.
2. Randomly selected 85 outpatients described above with edemas and treated with BERT for 20 to 40 min every time and observed the size of edema.
3. Randomly selected 80 outpatients described with infection diseases and treated with the BERT for 20 to 40 min every time and observed the degree of maturation.
4. Contraindications: patients who wear cardiac pacemakers, or have severe heart diseases or acute bleeding symptoms are not allowed to take the treatment.

Effectiveness evaluations

1. Criteria of effectiveness for edemas: shrinkage of the swelling perimeters by more than 1 cm is defined as effective; complete removal of swelling is considered cured.
2. Criteria of effectiveness for infections: shrinkage of the swelling perimeters by more than 1 cm is defined as effective; complete removal of bacteria infected plaques is considered cured.

III. Effectiveness statistical analysis

General analysis

1. General situation of edema group: 85 patients were aged between 7-80 years (average

39). The edematous diseases include: knee joint effusion, synovitis, lower extremity edema, wrist edema, right knee edema, meniscus injury, right wrist pain, left knee pain, acute sprains, joint effusion, pleural effusion, leg posttraumatic swelling, left hand traumatic edema, ankle edema, left knee edema, lower limb edema, hydrothorax, orthopedic postoperative wound edema and nonunion, etc.

2. General situation of infection group: 80 patients were aged between 3-80 years (average 38). The infection diseases include: facial pustules, acute otitis media, acute suppurative tonsillitis, acute suppurative gingivitis perianal abscess, carbuncle ear, nose carbuncle, pustule head, eyelid abscess, perianal abscess, suppurative paronychia, pyogenic mastitis, palm traumatic fester, jaw abscess, tooth root abscess, diabetic foot fester, etc.

Effectiveness analysis for edema diseases

We proposed the way to treat edemas is to restore the elasticity of capillary walls. We treat the edema group with the BERT and list the statistical result in Table 1. Within the total 85 patients studied, 80 cases were completely cured and except for 5 cases only showed effective outcomes, reaching a cure rate of 94%. A representative case is shown in Figure 2, where an edema caused by an orthopedic surgery shirked and eventually disappeared after 10 time treatment. The wound healed completely in 30 days. The results support our hypothesis that with the BERT treatment the capillary wall becomes robust again, not only ceasing the continued growth of edema but also reabsorbing water back to the blood circulation.

Tab.1. Statistical results of effectiveness on edema diseases

	Total	Cured	Effective
Number of patients	85	80	5
Percentage		94%	6%

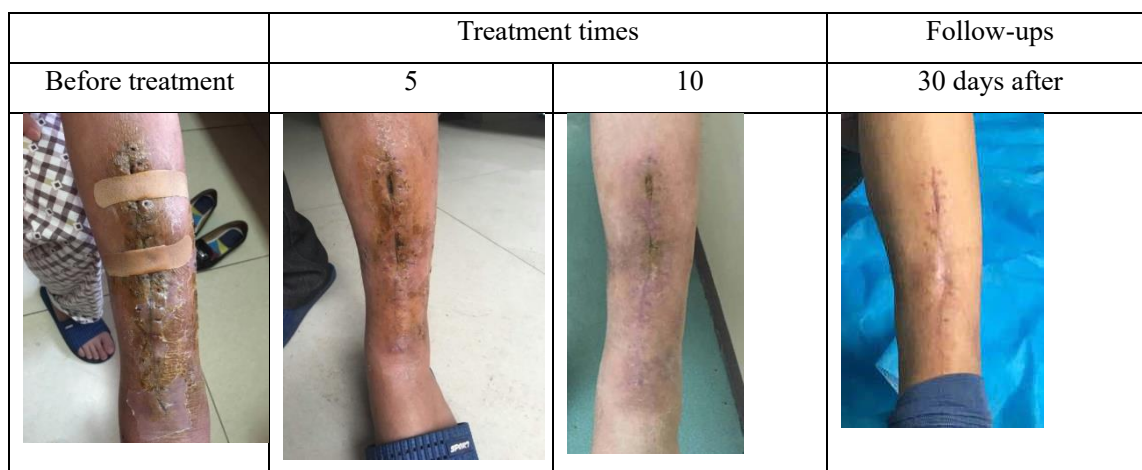


Fig.2. A representative edema disease caused by a surgery wound heals with the BERT treatment time

Effectiveness analysis for infection diseases

In order to study the effectiveness on infectious diseases, 80 patients with infectious diseases were treated by BERT and the statistic result is showed in Table 2. There were 77 patients cured completely by the treatment and the rest 3 cases also showed effectiveness. A cure rate is as high as 96% indicating that the BERT is effective to infections. Four representative cases are shown in Figure 4 so as to compare the recovery process before and after the treatment.

Tab.2. Statistical results of effectiveness on infection diseases

	Total	Cured	Effective
Number of patients	80	77	3
Percentage		96%	4%


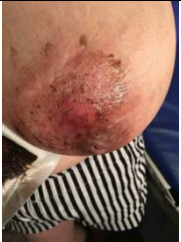






	Decubitus	Mastitis	Boils	Chronic skin ulcer
Before treatment				
After the treatment				

Fig.3. Representative infection diseases before and after the BERT treatment

IV. Discussion

Edema is caused by decreased elasticity of the blood vessels

Based on the clinical observation, we again proved that the hypothesis of edemas is right that is the edema is caused by the decreased elasticity of capillary walls (Figure 4a). BERT is able to rapidly restore it (Figure 4c,d) and the capillary reabsorb water to reduce swelling.

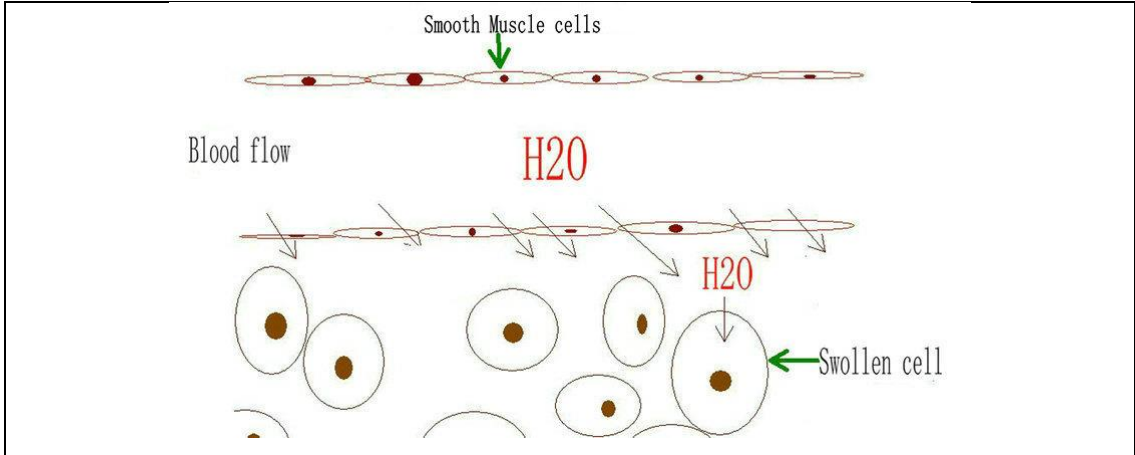


Fig.4a, water leaked out when the smooth cell losing elasticity

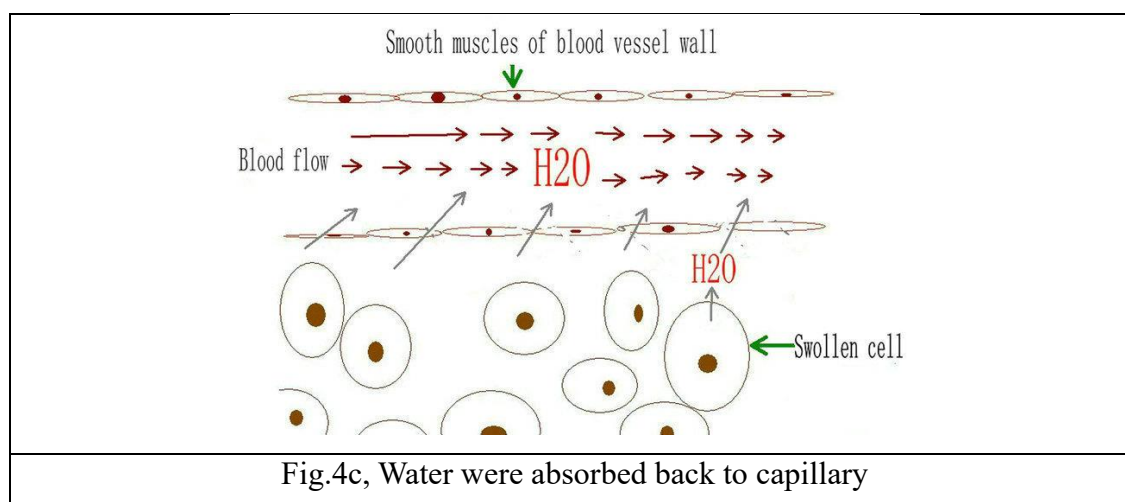


Fig.4. The mechanism of edema and its recovery

To treat the edema is a new way to cure infectious diseases

As proposed above, the edema is a prerequisite for bacterial infections. In the clinical experiment, all the patients in the infection group showed cured within 10 time treatments, indicating the BERT is antibacterial through suppression of edemas.

What is the devised problem in Alexander Fleming's experiment?

Why for last 70 years, we scientists never think of other ways to treat infectious disease? We put our all hope to the discovery of penicillin by Alexander Fleming⁽¹¹⁾. In his famous experiment in 1928, bacteria colonies were found destroyed in one of the cultures contaminated by a fungus (Table 3, culture dish 2 without cover), while colonies in other cultures grew normally (Table 3, culture dish 1 with cover). However, in this experiment, there should be an control dish clean without culture media (Table 3, culture 3 control missing). In fact, this experiment omitted the existence of culture media, a control group. We believe in that neither bacteria nor fungi should grow in this control dish. Just this missing control could have told us that the bacteria cannot survive without culture media. Likewise, to treat edemas is more effective than using antibiotics.

Tab.3. Supplementary control groups to Alexander Fleming's experiment

	Dish 1 (dish with cover)	Dish 2 (dish without cover)	Dish 3 (missing control)
Culture media (water +protein)	Yes	Yes	No
<i>Related situation</i>	<i>Open Edemas</i>	<i>Open Edemas</i>	<i>No edema</i>
Bacteria	Yes	Yes	Yes (if yes)
Bacteria growth	Yes	Reduced	No
<i>Related situation</i>	<i>Infection</i>	<i>Reduced infection</i>	<i>Non infection</i>
Penicillin	No	Yes	No
Results	Bacteria growth	Bacteria killed by Penicillin	No bacteria growth
<i>Related situation</i>	<i>No antibiotics</i>	<i>Antibiotics</i>	<i>No antibiotics</i>
Treatment technologies		Antibiotics	Non-antibiotic technology (BERT)

V. Conclusions

- 1、 Infectious diseases can be easily cured with BERT technology, the mechanism is reduces and removes tissue edemas rapidly by restoring the elasticity of capillary walls. Since edemas culture bacteria, bacterial infections can be controlled and cured through suppression of edemas. The significant clinical effectiveness of the BERT on edema and infections supports our hypothesis.
- 2、 The physical technology, the BERT contains no side effects of antibiotic drugs both to human bodies and the environment, making it a promising antibacterial alternative.
- 3、 Our results indicate that any diseases with edema can be cured with BERT like hepatitis, bone fractures, kidney failure, and many diseases involving tissues with blood vessels.

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