

## Lyme disease as the cause, concomitant cause or predisposing factor of many diseases

The in-depth analysis of Lyme disease correlating discoveries and recent points of view leads to hypothesizing a pandemic that can give rise to an extraordinary number of diseases and a huge range of symptoms.

The number, the type of infectious agents that cause Lyme disease and the diagnostic difficulty, together with the tendency to underestimate the severity of chronic infections, renders it difficult to make the medical community aware of the reality of an epidemic that worsens daily. Today's doctors only trust analysis and images, better if computerized, while this "real" health scourge, to be identified and cured needs to rediscover the old forgotten clinical diagnosis. Dr. Richard Horowitz, an American with an American medical education, who has been dealing with Lyme's for about thirty years, asserts that it is the clinical diagnosis that makes the difference in this pathology.

Is Lyme disease much more common than one thinks? Is it a predisposing factor, a concomitant cause or the main cause of many serious illnesses? This is what we must be ready to investigate.

I will try to give a simple explanation of what I call Lyme diseases because I am convinced that the bacteria that cause it produce a set of diverse clinical symptoms and manifestations.

The bacteria that trigger it are *Borrelia* and *Bartonella*, I have already talked about their characteristics previously, but now the time has come to make the subject more accessible to everyone.

In order to survive these germs need a living being to host them, animal or human, and their goal is to make the host survive as long as possible despite being colonized.

However they have to organize a system of coexistence and the first thing to do is evade the police, represented by the immune system. So, like a mafia-style criminal association, they try to tame the "police" by corrupting and making them less powerful. They use all ways known to them to debilitate the immune system and when this is weakened they can generate other new infectious agents to join their criminal association. So to evade the police they prefer areas where the immune system is less efficient, the central nervous system and the eye, that have a privileged immune system beyond the respective blood barriers. When it happens that these germs become too aggressive in the central nervous system and in the eye, the organism defends itself by breaking the respective protection barriers making the normal immune system intervene which often ends up not recognizing some structures of the nervous system and the eye considering them to be foreign to that organism thereby triggering autoimmune diseases.

As we said the two suspected germs are *Borrelia* and *Bartonella* and according to the American doctor Horowitz the Lyme diseases that do not involve both bacteria are rare.

But what has changed in recent years? Why have many diseases that we correlate to these infections increased? Why is Lyme disease more aggressive?

On the one hand it is true that we have recently become aware of its vastness and gravity, but other factors can explain the transformation from a niche pathology to an epidemic or even a pandemic. When we talk about *Borrelia* we think of a bacterium, but there are dozens and dozens of pathogenic *Borrelia* for humans and at least 17 for *Bartonella*. These bacteria populate different parts of the world, are transmitted by ectoparasites to animals and men moving around the world much faster than even a few years ago, enabling new bacteria cocktails to be activated. Also if we presume that man had decided to make a bacteriological weapon by artificially producing new cocktails of these increasingly deadly germs and therefore the possible number of different bacteria associations lies in the tens of thousands and this explains the enormous variability of symptoms and pathogenicity. It should also be considered that each individual is different from the other, on average lives longer than some years ago and resides in different more or less predisposing environments.

Therefore this mafia organization (*Lyme disease*) has created new gangs (greater number of associated *Borrelia* and *Bartonella*) becoming increasingly more dangerous and having the possibility of infiltrating itself into gambling, prostitution, drug dealing etc., meaning in every weak part of the organism acting from on the skin to the parenchyma of the main organs, to the brain, the eyes, etc...

They have then created sub-groups managed by other babesiosis "spoilers", mycoplasmas, viruses, parasites, etc.

If indeed this hypothesis is real, even vaccinating at the same time for different diseases, as happens with the polyvalent vaccines, would direct the immune system to activate itself against many virtual pathologies, stripping even more the defences used to control the activation of silent germs and diseases related to these. That is sometimes why sclerosis and other diseases are triggered after a vaccination.

As part of their strategy these bacteria have also organized antibiotic-proof shelters. These shelters are biofilms, formed mainly from calcium, iron, heavy metals and magnesium. Therefore, to build their bunker, they activate some functions: they inhibit the elimination of heavy metals and increase vitamin D elimination, that is a calcium fixative so as to procure the calcium to be used for their "nest". Calcium and heavy metals, such as magnesium, are used to form the protective structure. Therefore magnesium is used to build the shelter, so the affected individual shows a lack of it, but an integration of this element, such as iron and calcium, can be contraindicated because it reinforces the structure that protects the bacteria, while the integration of Vit. D is essential to counteract the formation of biofilms because among other things it directs calcium to the bones. For example, multiple sclerosis, often linked to these bacterial forms protected by biofilm, manifests itself less in the areas around the equator where more vitamin D is produced due to greater sun exposure and it has also been seen that relapses are less in recurrent multiple sclerosis patients having higher vitamin D. Chelation for heavy metals, another biofilm component, also makes sense in the treatment of diseases like this.

But before establishing a therapeutic strategy one must be convinced that we are facing a large-scale, underhand and lethal infection, the *Lyme disease* pandemic and, as I have told you, we could find a clue in vitamin D deficiency that is common to many pathologies, including cancer.

Many Lyme diseases can be asymptomatic throughout life, others aggressive and others only predisposing to a huge range of diseases. There are triggers that can activate many of the latent Lyme diseases, the most obvious element is old age, that is with the passing of time the vital force and therefore the immune system is no longer as efficient as when one was young so the bacteria find less opposition and become stronger. The fact that the stem cells obtained from the blood are a "recharge" of vital energy and have an anti-age action explains one of the reasons for using these cells in Lyme's syndrome.

Finding increasingly sophisticated analyses that prove contact with these bacteria are useful, but can prove to be a sterile goal because there are both many false negatives and a lot of doctors are unaware that when you contract this disease you live together with it for life with the consequences that this brings. The severity and type of symptoms shown depends on the cocktail of bacteria present and the affected organism's predispositions and its constitutional and occasional weak points.

Laboratory diagnosis:

-ELISA gives different results according to the laboratory, if positive one usually does another test, the Western Blot but one can have up to 50% false negatives

-PCR, which however, in addition to high costs, is not always positive to the presence of Borrelia in the plasma. Good result on synovial fluid. It is not a sensitive test for neuro-borreliosis and Bartonella.

From the new data reported in the Milan Congress of 2018 on Lyme disease in humans, it emerged that there are always multiple infections, diverse from one another, with the most varied symptoms: night sweats, fainting, insomnia, convulsions, typical symptoms of inflammation (fatigue, headache, pain, depression, anxiety, joint pain...), migratory pain and erythema are typical, intestinal dysbiosis, permeable intestine, food allergies, autoimmune diseases (thyroid problems, lupus), endocrine dysfunction (low blood pressure, low adrenaline), recurrent fever, gastro enteric symptoms (Chron's disease), cardiac, pulmonary, haematological, DIC (disseminated intravascular coagulation), stroke, nerve paralysis, hearing loss, polyneuropathies, psychiatric symptoms, meningoencephalitis, skin rash, fibromyalgia, Parkinson's, Alzheimer's, ALS, multiple sclerosis, autism, cluster migraine and other neurodegenerative diseases. It can be said that all diseases can be predisposed by Lyme disease since it inhibits the immune system and creates degeneration in the tissues in which the bacteria insinuates itself.

In association with other bacteria one can have a high fever usually with babesia and brucella, headache with erlichia, myalgia with erlichia and rickettsia, nausea and vomit with erlichia; the association with viruses such as Epstein Barr gives symptoms overlapping with those given by viruses.

Some types of Borrelia:

Borrelia burgdorferi, kurtenbachii, mayonii, bissetti, lansii, etc .. in the USA.

In Europe: b.afzelii, garinii that gives neuroborreliosis, spielmanii, valaisiana, lusitanae, bavariensis, miyamotoi

In Asia: japonica, turditanuki, yangtze

In North America: andersonii

In Southern Usa: americanum

In San Francisco: miyamoto

*Borrelia afzelii*, a chronic cutaneous form studied in Udine and documented in a scientific presentation at the 2018 Milan Congress.

The co-infections are multiple: babesia, Tularemia, *Mycoplasma fermentans* which is found in 30% of patients with Lyme from cognitive fatigue and rheumatic arthritis. *Mycoplasma* increases the inflammatory reaction, rickettsia initially does not give noticeable symptoms then evolves into nausea, vomiting, conjunctivitis, leukopenia, thrombocytopenia, splenomegaly and often skin rash.

Co-infection with an *erlichia*, *anaplasma* and *brucella* can be false negative but they show leukopenia, fever, elevated liver function values. The Candidatus *Neohhrlichia mikurensis* causes pulmonary embolism, fever, muscle and joint pain. Viruses are also involved in tick meningoencephalitis manifesting meningitis, encephalitis, but many cases may be asymptomatic and the virus could remain persistent in the tissue.

Do you realize how many co-infections captured by these two types of bacteria can manifest themselves and the extended symptomatology....

The biggest spreaders are wild migratory birds that carry ticks. In ticks polymicrobial infections are common, including Babesiosis, and *Babesia venatorum* and *divergens* are common in Europe . *Divergens* is an emerging infection and can be fatal if other diseases are present or the patient is immunosuppressed or splenectomized, but often they are asymptomatic and do not cause anemia.

Also some parasites, like the *Filaria* nematode, are involved in the infection.

When Lyme disease is associated with *Babesia* (*Babesia microti* is the most common agent), the symptoms usually occur 1-6 weeks after infection, the onset is gradual with malaria symptoms, fever and night time and day time chills, headache and elevated pain, cough, sore throat, photophobia, pallor, depression, hyperaesthesia. Ecchymosis and petechiae in severe cases. We should not necessarily expect anemia, thrombocytopenia, hepatic and renal changes, sometimes there is cough, unexplainable air hunger and respiratory stress. Possible complications, in addition to renal, hepatic and respiratory failure, are cyto-adherence with micro-vascular obstruction. Parasitemia can last up to 2 years. The fish test is suggested, microscope if the parasitemia is high, while the PCR is still not well standardized in humans.

36 different species of *Bartonella* have been identified and are even more difficult than *Borrelia* to highlight with the classic diagnostic tests. They cause papules, lymphadenopathy, Bart's striae, chronic encephalopathy, demyelination, convulsions, radiculitis, transverse myelitis, vasculitis and also osteolytic arthritis (*Osteomyelitis* lesions similar to *Osteosarcoma* I have seen in dogs several times in areas where Lyme disease is endemic, it is frequent in subjects who are left to run free in woods frequented by deer and react to antibiotic/integrated therapy). Other symptoms related to *Bartonella* are fibromyalgia, chronic fatigue, weight loss, neuropathies, psychiatric symptoms that worsen

(anxiety, psychosis), endocarditis, sometimes there are red granulomas and swelling in the subcutis typical of Bartonella. Bartonella is transmitted not only by ticks, but also by fleas, lice, mites, scorpions and spiders and 17 species seem to be involved in human infections.

Remember that many scholars say that Bartonella and Borrelia are rarely present individually.

## TRANSMISSION

Now we move on to the transmission of bacteria which is another key point in the Lyme disease pandemic. We have already said that the major spreaders are wild migratory birds that carry ticks and mites, but unfortunately the transmission does not happen, as many think, only through ticks, but with transfusions, transplacentally, through sexual intercourse, the bite of hematophage insects other than ticks such as fleas, hematophagous flies and mosquitoes, however, being in contact with pets and keeping them at home increases the possibility of contracting these diseases which also cause nervous conditions such as depression. Do you know that the profession that has the highest number of suicides among its members is veterinary medicine? This is probably due to the close contact of veterinarians with animals, a good example is Bartonellosis (*Bartonella Haensele*) which is also known as cat scratch disease.

In addition to veterinarians, even American Veterans are affected by depression, in fact in the last 10 years there have been many suicides, to be precise 73,000, probably because they are more prone to being stung by hematophagous insects in the countries where they are sent and because, travelling all over the world and being exposed to all kinds of diseases, they are hyper-vaccinated. There are some publications that relate the suicides of veterans to Borrelia and Bartonelle.

Some studies show that Borrelia and Bartonelle are present in many hematophagous insects, but have greater difficulty in being transmitted due to the short meal these insects make compared to the longer one of the ticks that also have a protein that favours their transmission. My colleague Carlotta Gabbiani thinks that at the base of the pandemic there could be hematophagous insects such as mosquitoes that transfer only a few bacteria to the host due to the speed of contact but over longer time, especially if the host is in a situation of immune depression, multiply themselves infecting the host and producing biofilm.

Other sources of suspicious transmission are the exposure to faeces of sick animals with the bacteria possibly contained in parasites, fresh milk and saliva.

If only part of these forms of transmission were real it is normal that we find ourselves facing a pandemic with an extraordinary manifestation of symptoms. Transplacental transmission could suggest that there are many children positive for Lyme disease and this could explain the huge increase in cases of autism and other debilitating childhood diseases related to the increase in mandatory vaccinations that simultaneously direct the immune system towards many virtual pathologies, thereby redirecting it from chronic infections like Lyme.

I realized that Borrelia and Bartonelle are present in many pathologies, they do not always provoke them but aggravate their symptoms. The frequent presence of these germs, especially in serious pathologies such as neurodegenerative ones, has been confirmed by some doctors with whom I

collaborate and who have been using bio-resonance for years, a diagnostic technique that evaluates organ frequencies and those of infectious agents. This technique has established that even traumatic neurological diseases can be exacerbated by the chronic presence of these bacteria. Every pathology creates inflammation in a particular tissue, if in this there are already chronic forms of Lyme disease the symptomatology is exasperated, for example a trauma in a joint can evolve into degenerative arthritis if a cocktail of these bacteria is present in the synovial fluid. Then there is another consideration..... if in the orthopedic pathologies of idiopathic degenerative arthritis, that is with no explanation, Lyme disease is involved in how many other pathologies may it be involved. The biofilms in which *Borrelia* and *Bartonella* are hidden can be adhered to the endothelium of every vessel therefore they can be found in any anatomical district. The more the syndrome is strengthened by the increase in the bacterial types that cause it, the greater the most disparate symptoms really are. In the horse Shiver, Strighault, headshaking, lymphangitis, crib biting, atopic or contact dermatitis, pathological behavioural attitudes, PPID, metabolic syndrome, EMND and others can be related to this syndrome.

I will tell you about some human cases that were reported to me by the team of human doctors with whom I collaborate and contribute my experience in this zoonosis, Lyme disease.

One patient suffered from degenerative coxofemoral arthritis and underwent a prosthesis operation by an excellent surgeon in a super clinic. There was a post-operative infection, the prosthesis was removed and intravenous antibiotic was administered for months, the prosthesis was put back and after six months the patient showed Parkinson's. The correlation was typical, Lyme disease infection, chronic joint infection and secondary Parkinson's due to continued antibiotic use. The doctor told me, however, that *Borrelia* and *Bartonella* did not result in the bio-resonance, not even when the research was located in the central nervous system. He therefore thought Lyme disease was not involved that time. When he explained to the patient what was suspected but not confirmed by the test, the patient told him that he was being treated for Lyme disease for over 20 years, which, in that case, did not result in the bio-resonance. It became clear then that patients with chronic Lyme disease were not only negative to routine tests, but the positivity was not always highlighted with bio-resonance.

Other forms that may be related to Lyme disease are atopic dermatitis and psoriasis. A psoriasis patient has found to be positive for Lyme disease and to have vitamin D deficiency. It is therefore to be hypothesized that the sun improves psoriasis because there is greater Vit.D synthesis which inhibits the formation of biofilm closely related to Lyme disease or to other bacteria that protect themselves with biofilm. Digressing and referring to what I will say later, when the blood stem cells activate the immune system and reduce the biofilm consistency will they cure psoriasis?

A case of atopic dermatitis was re-examined by the doctors with whom I collaborate: a patient had a migrant atopic dermatitis for seven years with intense itching that was treated with cortisones and creams and was positive for *Borrelia* in the bio-resonance test. Re-reading the medical history, it was evident that it all started with a scorpion sting that caused a serious rash that was treated with cortisone for a long time. Probably the patient already had Lyme disease or the *Borrelia* had been transmitted by the scorpion and the long period of immunosuppressive treatment allowed the

formation of biofilm in this case localized in the skin. The specific antibiotic treatment and Vit.D integration finally considerably improved it.

Some human cases that were negative for bio-resonance, but with the characteristic symptoms of chronic Lyme disease and positive in kinesiology tests, improved considerably to treatment, sometimes dramatically so.

But why do these germs survive in many tissues without being eliminated by antibiotics? Why do they sometimes reactivate and why is it difficult to establish their presence through diagnostic tests, including bio-resonance that must be done very accurately?

The answer lies in their ability to hide in the body within particular protections: biofilms.

Lyme disease is linked to the biofilm that we have to study and upon which we must reflect.

The biofilm is formed by a polysaccharide matrix, calcium, magnesium, iron and heavy metals that is processed by some microbial species, including *Borrelia* and *Bartonella*, which nest inside this matrix to defend themselves against the reactions of our immune system, to phagocytosis, to antibiotics, to substances with antimicrobial action and to pH variations. The matrix does not seem to express important antigenic characteristics, so it is tolerated by our immune system, especially when this is weakened.

Calcium, iron and magnesium constitute the biofilm and a deficiency of these elements is normal in individuals with Lyme disease. In this case I repeat that their integration must be done carefully, maybe even avoided, in order to not allow the formation of new biofilms and to not consolidate those already existing favouring the pathogenic species contained in the biofilm.

Some attack strategies against biofilms include the combination of chelation drugs (EDTA, DMSA, DMPS) that weaken the biofilm structure and antibiotics to attack microbial species. It also seems that CD (chlorine dioxide) expresses a significant action: it first oxidizes the metals, iron, calcium and magnesium and once penetrated into the biofilm attacks the pathogenic bacterial species.

From Dr. Ying Zhang's studies the biofilm in vitro is destroyed by some essential oils, that of oregano, cinnamon and cloves and also stevia and bee venom seem to have an effect, but it is not proven that they are effective in vivo. This also applies to ozone that acts on biofilms and infectious agents in the environment, but its action on biofilm has not been tested in vivo.

In the body biofilms produced by *Borrelia* are found in the brain (see association with Alzheimer's), in the heart (dilated cardiomyopathy), kidney, liver, etc ...

Biofilms allow a chronic presence of microbial species that cause Lyme disease giving rise to inflammatory and autoimmune diseases, the awareness and treatment of this pandemic especially when the symptoms are in the early stages can prove decisive for prevention and state of health recovery.

Before tackling the therapy we must understand why the severity of Lyme disease is almost ignored by the medical community despite frequent interactions with very serious diseases such as

Alzheimer's, ALS, multiple sclerosis, psoriasis, arthritis, atopic dermatitis, Parkinson's, senile dementia, cancer, etc... Perhaps the answer is in this sentence by Antoine Bechamp, a contemporary of Louis Pasteur, who asserted that: "what allows the germs to proliferate are not the germs themselves but the environment in which they live. Germs are only harmful when they are in an environment that allows them to cause damage. "

Current medicine has long been established on the belief that the disease is never the fault of the organism, of the host, but only of the microbes that must be destroyed. Bechamp asserted that the germs are pleomorphic, that is able to change according to the environment (Ph, humidity, temperature, etc..) while for Pasteur there was only the monomorphism, the bacteria are equal to themselves and a bacterium causes a disease . So I repeat what Pasteur's contemporary Claude Bernard realized, "the germs are harmful only when they are in an environment that allows them to cause harm" so if the environment of the host is optimal people should not worry about microbes.

The importance of the terrain given by Bechamp and Bernard contrasted with the economic ends of the pharmaceutical industry which was in agreement with Pasteur's theory that aimed to cure the disease exclusively through the use of drugs. If, in fact, the cause of the disease is an external pathogen, medicine can intervene with chemistry, but if the cause is the terrain, chemistry has a much more marginal role.

Over the years the pharmaceutical industry has directed the donations of lobbies to medical institutions exclusively coherent with drug therapy and to diagnostics almost for its own means and ends, this view does not consider the body a network full of interactions and has not allowed medicine to exploit the new discoveries of physics as have done all the other sciences. The system has opposed the "different" medicine (energy, quantum and frequency) and the clinical diagnosis, deciding that the physician who did not adapt to a simplistic, chemical and linear medicine could also be struck off, like those in Italy who opposed a vaccine program proposed by the political authorities. In fact, if decades ago pharmaceutical companies influenced schools and universities, now they have also crept into institutions and governments.

The technique is to create fear with which to control the consciences of the masses, to pass laws that violate any freedom, make a lot of money, etc...

The current medicine paradigm is not interested in Lyme disease because it is destabilized by it, the many infectious agents it is made up of modify the "terrain" to survive and through this modification generate an enormous number of serious diseases that cannot be resolved by directing therapy exclusively towards the destruction of the infectious agents that cause it. Thus straining the basis of the current system and highlighting all the limits of the pharmaceutical and diagnostic system.

The system is flawed because this syndrome does not respond to classical pharmacological therapy, in fact even prolonged exclusively antibiotic therapy over time seems to make the bacteria nastier and they become more dangerous and intensified vaccination programs accentuate their action. It is obvious that classic chemical therapy in Lyme disease should not be ruled out but forced to lose its primary role and must be integrated with another therapeutic system aimed at modifying the terrain where the germs proliferate, moreover the clinical diagnosis is re-evaluated at the expense of



advanced diagnostic technologies put in crisis by the ability of germs to change appearance and camouflage themselves, protected by an environment they have altered themselves. So the paradigm of current medicine should open up to new forms of therapy, but to not deny itself prefers to ignore Lyme disease and address the pathological consequences caused by this, in which the chemical therapies will be long, expensive and often non-conclusive.

In short, the infectious agents, that are the cause, should be treated, first of all directing therapy to the terrain and then to the germs, refuting the validity of the current system, also suspecting and intervening quickly on this syndrome in the early pathological stages through a good clinical diagnosis, patients would end up being healed therefore not needing to be cured.

In the light of this you can begin to understand how blood stem cells, which act on the vital force with their informative energy, can act on the pathological process created by Lyme disease as a whole, then on the "terrain", proposing a new paradigm that would complete the current one.

## THERAPY

With this new information I tried to develop a therapeutic protocol on animals.

I started from the principle that the biofilm is responsible for the ineffective action of antibiotics. The American doctor Horowitz who has been dealing with this disease for 30 years has come to the conclusion that the only or one of the few antibiotics able to penetrate the biofilm of *Borrelia* and *Bartonella* is doxycycline in dosages of 400 mg per day, together with 600 mg of Rifampicin in humans. He completed his protocol by adding another antibiotic, Dapsone previously used for leprosy, toxoplasma, malaria, acne prophylaxis and dermatitis herpetiformis. However, there are many antibiotics used by various doctors around the world to fight Lyme disease and their choice depends on the *Borrellia* and *Bartonelle* cocktail mix, what resistance their biofilms have and what the other co-infections are. When the antibiotic penetrates into the biofilm it succeeds in attacking the bacteria in the most superficial layers of this formation which, dying, produce substances that inform the bacteria in the deepest areas of the biofilm and induce its transformation into resistant forms. I suspect that these forms instead of being freed into the body, even if not protected by biofilm, establish themselves in the tissue in which the biofilm was located and cause problems very serious and difficult to eradicate locally in the "terrain".

In my experience as a veterinarian, but this could only be a sensation, prolonged antibiotic treatment could direct the bacteria action to specific organs causing very serious damage. In the sense that when one carries out a bio-resonance research and one finds these germs at high levels adrift in the body the symptoms manifested are always less serious than patients with bacteria located deeply in certain organs such as the central nervous system and difficult to find even with this technique that uses the germs' frequencies but these cannot be read because located inside the biofilm and also due to the bacteria's anatomical transformation. I myself, unfortunately as many other veterinarians, am positive for Lyme disease and had a high dose of *Borrelia* and *Bartonella* with a relative symptomatology and found a huge improvement with short and repeated antibiotic treatments together with a therapy addressed to the "terrain". Other people who had undergone long antibiotic treatments turned out to be bio-resonance negative or almost to the germs, but showed very serious

symptoms. So the hypothesis could be that the bacteria informed by antibiotics to defend themselves, transform themselves inside the biofilm into new and more resistant forms, acquire a different behaviour and become more active locally. That is they show a local pathological activity different from that carried out by the germs that free from the biofilm colonize the whole organism. The result becomes very different in the case that the biofilm is destroyed leaving the bacteria free, or penetrated by antibiotics with the transformation of these into more resistant forms, by integrating the two approaches the best result can be hypothesized. Naturally it cannot be excluded that the pathological forms with severe symptoms caused by Lyme disease are due to a particularly aggressive bacteria cocktail.

Often, humans with a severe and progressive illness worry about the other pathogenic components that develop in the presence of the immune deficiency caused by Lyme disease, such as babesia, mycoplasmas, etc., and assign them a fundamental role. That is, they direct chemical therapy from one germ to another, modifying it with respect to the characteristics of the pathogenic agent, without considering the terrain. They focus their therapeutic efforts now on one infectious agent, then on another because the symptomatology reoccurs or even worsens, while the goal should be to act on the whole Lyme disease (primary and secondary germs) first of all stimulating the compromised immune system.

Staying with the philosophy of using antibiotics in cycles it is useful to test their efficacy and possible association both with bio-resonance and the applied kinesiology used with the "therapy localization" technique, this practice is not a "magic" technique, but is consistent with modern physics.

Agreeing with the above, the bacteria that have not yet been able to form numerous protective biofilms and move freely in the body are more likely to be attacked by therapies. We must therefore concentrate on implementing a destructive strategy towards the biofilm, but many of these therapies have just been introduced into my veterinary experimentation.

In the protocol that I practice, I activate the immune system with immunostimulants of various types, including those from energy medicine and herbal medicine, so that the immune system becomes as aggressive as possible towards biofilms and do not ignore these formations as insignificant and non-dangerous guests.

One can try using essential oils, which seem to work only in vitro, exploiting water memory. Auto-vaccines specific to each individual should also be active towards the biofilm by activating the individual's immune system, assisted by homeopathic medicine specific for infectious agents, the *Borrelia* and *Bartonella* nosodes

As supplements we should absolutely use vitamin D that by fixing calcium to the bones means less possibility of biofilm formation and maintenance. Chelation also helps in this way by eliminating a biofilm component, heavy metals. Another weapon may be enzyme-based supplements that act on the glycoprotein part of the biofilm. Also ozone should be considered that has an effect on both biofilms and bacteria in the environment.

Another substance used in environments to destroy the biofilm is chlorine dioxide. According to what was written by Kerri Rivera in his book (which describes a protocol for healing autism, but also for many diseases caused by dysbiosis and parasitosis), chlorine dioxide administered orally and rectally (in appropriate low dilutions) has the dual function of destroying the biofilm matrix cohesion and attacking the pathogens that come out of it, but I have yet to try it in my clinical veterinary practice.

In some authors' experiments and in my experience, I repeat that too long a treatment with antibiotics can be counterproductive so it is better to use the antibiotics considered suitable in high doses and for relatively short periods. During the first cycles there can be a strong reaction to the toxins of the bacteria destroyed by therapy and released into the tissues where they were localized

However, Lyme disease depends on the bacterial cocktail and the terrain, so we hold onto antibiotics, but let us take into consideration many other therapies to achieve our goal, healing or at least non-pathological coexistence with Lyme disease.

Now we come to the blood stem cells therapy that I have included in my Lyme disease treatment protocol.

Why use them?

The first point that emerges from my last book "A new paradigm in medicine" is that these are rich in vital energy for which they have an undisputed effect on the general state, they are the first drug addressed to the terrain on which the microbe develops and not on the microbe itself.

In a less generalized way ... if the pathologies caused by Lyme disease have cardiac, neurological, dermatological, orthopedic, etc. manifestations that can be anatomically and functionally improved by blood stem cells therapy, it is obvious that they are beneficial. Apart from the effect on a specific anatomical tissue, blood stem cells have the ability to stimulate the immune system by significantly activating it against the biofilm. If this breaks down, there will be many bacteria that will move freely in the body and will be more easily attacked by antibiotics, if the immune system also counteracts the formation of new biofilms germ survival will be difficult.

An example taken from veterinarian clinical practice may be this. It is well known that many germs lurk in dental plaque protected by biofilms. Many American dental practitioners have often noted the correlation between dental plaque and systemic diseases and, since they are more aware of Lyme disease, they often express the suspicion that even *Borrelia* and *Bartonella* may be present in the plaque biofilms. It has often happened to me that while treating a seriously ill dog with stem cells, the owner told me that, as a secondary effect, the dog had lost a lot of the tartar.

Therefore we can deduce that stem cells can effectively weaken the biofilm that protects every type of germ and therefore it is the case to treat the bacteria released after blood stem cells treatment with the appropriate antibiotics. I would advise every human patient with Lyme disease to undergo dental cleaning every three months to eliminate plaque immediately and therefore the biofilm, even if the dentist states this frequency is not necessary. I tried this out myself and the dentist was surprised by the good state of my gums.

The knowledge of the frequency of these diseases and the therapeutic systems achieved in veterinary medicine are very advanced, but still not satisfactory (the work of the American veterinary Brenda Bishop on bartonellosis in the horse, as seen on the Web).

We have said that ozone acts on the biofilm, but I am unable to evaluate its effect if administered systemically, but when I injected it directly into an articulation affected by bacteria within the biofilm I found that ozone is very effective .

With some other examples from my veterinary practice I can confirm this as I can other hypotheses.

A horse with arthritis localized in the metacarpophalangeal joint, after being infiltrated with cortisone and hyaluronic acid, continued to worsen for a year and a half. The diagnosis was of progressive degenerative arthritis but without suspicion of causality.

As the horse was in Friuli, where Lyme disease is endemic, I suspected it was affected. Since the horse had been treated for 18 months without halting the pathology and I represented the last chance, I immediately started a therapy. I inoculated amikacin into the joint and by local perfusion, moreover, into the same joint, I introduced 20cc of ozone at 20%, plus 3g doxycycline per day for a month and a nosode autovaccine. I then examined the synovial fluid I had taken before starting the treatment, this had a low amount of white blood cells that should have excluded an infection, but the leukocytes found were all lymphocytes, this picture is characteristic of rheumatoid arthritis and borreliosis (which we now call Lyme disease). The serological examination then showed a rise in immunoglobulin due to *Borrelia* confirming the diagnosis.

After a month the horse had improved by 90% and in the previous year and a half he had done all kinds of therapy. In this case we had a chronic infection of bacteria protected by the biofilm. Ozone destroyed the biofilm locally in the joint and the antibiotic together with the ozone bactericidal action did the rest.

New evidence to be taken into consideration is:

-that many horses with chronic progressive arthritis were serologically positive for Lyme disease, - the one with a white blood cell count of more than 4,000 per ml. was considered septic arthritis, in those with a lower number the infectious cause was excluded, but lately joint infections are suspected even though the number of leukocytes is much lower, a horse that has an infectious arthritis is considered to be finished athletically

-that chronic forms have few free bacteria in the synovial fluid, while the most part are contained in the biofilm

-if in this eventuality the biofilm is destroyed without introducing the antibiotic it can trigger an infection due to bacteria being liberated

-to ozone is attributed the chemical ability to destroy the biofilm, but also at the same time a bactericidal activity for this the two actions can be compensated, while the blood stem cells act only on the destruction of the biofilm without having direct action on the released bacteria.

I have also found that the biofilm preferably forms itself in a situation of immune depression; in fact serious cases of Lyme disease occur after the manifestation of a severe skin rash that, if considered only an allergic and non-infectious reaction, is treated with cortisone. If this therapy is prolonged, the secondary immunosuppression produced by the drugs allows the formation of a large number of biofilms and a severe chronic Lyme disease status.

Taking this data into consideration we introduce the effects produced by blood stem cells. In veterinary clinical practice I realized that inoculating the stem cells into the joint in some cases I could have serious reactions and, despite the leukocytes not being high in the synovial fluid, I suspected an infection. Conscious of the sterility of inoculated stem cells and sterilization of the inoculation point, I initially attributed this phenomenon to an immunosuppression caused by stem cells. But I was wrong..... the stem cells acted in an opposite way to my assumption stimulating the immune system and producing an attack on the biofilm with the consequent release of bacteria.

The clinical case that confirmed this to me is this.

A mare serologically positive to Lyme disease had returned from a race with a clear ataxia neurological symptomatology that with the systemic antibiotic and ozone therapy had disappeared within a month. After six months the mare strained the suspensory ligament branch. I inoculated the stem cells around the ligament that is near the metacarpophalangeal joint, so not in the joint. After two months the ligament had returned to normal by ultrasound, but when we began to make the mare work, the lameness had increased. I noticed that the joint was swollen and no one had infiltrated if not a few months ago. My hypothesis was that inoculating the stem cells in the peri-articular tissue I had stimulated the destruction of the biofilm with the activation of the immune system. So I administered ozone and intra-articular antibiotic twice and the mare returned perfectly normal.

My hypothesis is this: if the stem cells activate the immune system it could directly or indirectly destroy the biofilm, this would explain some bacterial complications after inoculating stem cells intra-articularly or inside tendon sheaths. If there is an increase in segmented leucocytes in the synovial fluid it means that the biofilm contains aggressive germs that immediately activate the infection, if the lymphocytes increase we are facing an infection due to Lyme disease.

Stem cells are inhibited by antibiotics, so I avoid associating them, but I associate ozone therapy in the treated joint.

In the suspensory ligament branch case that I treated with stem cells, the infection manifested itself after two months with a low number of lymphocytes in the synovial fluid of the joint.

As I said earlier, I thought that these reactions were due to downward immuno-modulation with greater opportunities for infection, instead it is the opposite.

Summarizing the Lyme disease therapy in veterinary medicine: cycles of antibiotics, homeopathy autovaccine, essential oils, stevia and bee venom administered by taking advantage of water information and memory, systemic ozone therapy, repeated local and small ozone therapy, diet, care

of the microbiota, chelation, vitamin D, etc ... and naturally the blood stem cells used exploiting my decades of experience.

I add one last observation: the bad situation of animals, linked to environmental toxins, inappropriate feeding and relatively polluted drinking water negatively affects the resolution of Lyme disease because it inhibits the immune system and consents a continuous production of new biofilms.

From what I have explained to you, one could make the hypothesis that the animals and people affected by this syndrome with different serious pathological manifestations have reached a very high number, but most of the doctors in front of a serum-positive result state that one is in front of a no longer active pathology.

I have a strong suspicion that men and animals are affected by a pandemic, Lyme disease and the therapeutic means I have told you about should be further refined as should blood stem cells be introduced into human medicine as well.