

Chapter 15

Infectious diseases, nervous system and blood stem cells

MENINGITIS

Meningitis is the most frequent central nervous system disease, generally of infectious origin, characterized by inflammation of the meninges and if brain tissue is involved, it is defined as meningoencephalitis.

It can be caused by bacteria, viruses or other microorganisms, less often has a neoplastic, autoimmune or iatrogenic (by medication) etiology. It can also be classified according to its acute, subacute or chronic development and the severity of a meningitis varies from asymptomatic or subclinical forms to fulminating episodes that immediately endanger life.

The clinical picture of acute meningitis is based on the classic triad consisting of fever, headache and nuchal rigidity; these symptoms are accompanied by symptoms caused by alterations in the state of consciousness, inability to tolerate light and noises, convulsions, ataxia. Symptomatology varies depending on the causal agent, onset rate and patient status.

The diagnosis of meningitis hinges on the chemical-physics and microbiological analysis of cefalorachid fluid, the fluid contained between the meninges and the central nervous system, which can be taken with a lumbar puncture and the insertion of a needle in the vertebral canal. The usual treatment for acute meningitis is the early administration of antibiotics and, sometimes, antiviral drugs. In some situations, it is also possible to resort to corticosteroids to prevent damage caused by the inflammatory response. An untreated bacterial meningitis can be lethal, or lead to serious permanent consequences such as deafness, epilepsy, cognitive deficit, ataxia, un-coordination, etc...

Thus there are forms of infectious meningitis and others called aseptic meningitis in which no bacterial infection can be demonstrated. The latter is usually due to viruses but may also be the result of bacterial infections that have already been treated with the disappearance of bacteria from the meninges, but with persistent inflammatory phenomena. The existence of chronic and subclinic meninges infections with diverse evolution and severity manifestation have been verified, the fact that these can gradually jeopardize the proper functioning of the autonomic nervous system leads to an extremely varied symptomatology. Infectious agents that persist in the meninges may present themselves in a frustrating symptomatology for doctors and patients, I refer to bacteria such as *Borrelia* and *Bradonella*. In short, there are infectious meningitis that must be treated pharmacologically, a pathogenic agent's penetration into the meninges will alter the permeability of the blood-brain barrier, allowing the organism's immune system to penetrate into the central nervous system unbalancing the functioning of the privileged immune system of the central nervous system (CNS). When the agent is still present in the CNS, immunosuppressive therapies may be contraindicated, while being the treatment of choice in aseptic meningitis that almost always involves the privileged immune system of the CNS. However, these therapies become dangerous if they are faced with autoimmune phenomena, but with the bacterium still present, as is sometimes the case with the infectious processes due to *Borrelia* and *Bartonella*. Blood stem cells should not be used in the acute stage of infectious meningitis when the organism has allowed the immune system to penetrate into the central nervous system, giving a strong boost to its privileged immune system to defeat the active bacterium. This is because they have immunomodulatory action and therefore can interfere with the immune system physiologically altered to fight the pathogen. Stem cells do not have immunosuppressive effects, but bring back to normal a hyperactive immune system due to the presence of a foreign agent.

Their immunomodulatory capacity has therapeutic significance when there are bacteria such as *Borrelia* and *Bartonella* in the central nervous system, which in order to survive, must inhibit the function of the privileged immune system of the central nervous system. In this case, the stem cells reactivate the immune system's task of fighting these serious subclinical infections. Stem cells are always useful in aseptic meningitis where the symptoms are only related to privileged immune system alteration. In this case the blood stem cells have two actions, returning the privileged immune system to normal thereby also restoring the blood-brain barrier patency and act directly on the anatomical structure of the central nervous system and/or on functional compensation.

In our case histories we successfully treated aseptic meningitis as neurological consequences of West Nile viral meningitis in the horse and distemper in the dog. A 7-month-old dog with distemper meningitis consequences, where the virus was not active. The puppy had already been inoculated with allogeneic stem cells in the medullary canal with little improvement, while, a few days after blood stem cells inoculation, there was a substantial change. But I will let the owner tell the story:

" I will tell you about Cuore, the little dog with a heart-shaped stain on his back, only two years old, but a story of abandon, dog pounds, a second abandoning due to the initial symptoms of his illness. Post distemper vaccine Encephalitis , autoimmune, degenerative. Luisa saw him in the dog pound, absent eyes, shuffling, lost, destined for suffering and death and decided to try and take him out of that place. The veterinary tour began and she collected their sentences without appeal: " we have no means to help him, it is just a matter of time and he will be paralyzed, he already has serious brain damage, think about euthanasia". But Luisa and Cuore did not give up, did not become discouraged and after a long course of homeopathic remedies and heterologous marrow stem cells that produced little improvement, finally contact with Dr. Marco Poletti, almost by chance, the chance that guides the world's destinies.

One of his videos on Youtube, an e-mail, the doctor who responds promptly and is keen on the case and comes twice to them in Florence. The first to take the sample, the second for inoculation. They are autologous stem cells, it's all simple, no admission, no anesthesia risk, just a simple transfusion. Few days later and the eyes become more conscious, clear, expressive, serene. In the following days his strength begins to increase, finally he puts on weight, shows a long forgotten energy. After about 20 days, a miracle, he tries to run, pushes with the hind legs, he coordinates his movement for racing and more, follows the other dogs, he reacts with his look, the eyes are those of a normal dog.

Cuore was in a world all of his own, destined to progressive paralysis and death, now instead he is coming back! - Luisa Bosco "(photo 45)

Inoculation of cells in acute meningitis should be made after the therapy directed towards the infectious agent. If one is facing a herpes meningitis the official therapy should be combined with oxygen/ozone therapy several times before proceeding with blood stem cells inoculation. When the infectious agent is absent or less active, the blood stem cells action is desirable but always best associated with the big and small ozonotherapy. Some meningitis may be included in iatrogenic pathologies caused more indirectly than directly by vaccines and it is likely that in these forms the blood stem cells can correct serious alterations. Therefore, if introduced into therapy, they would provide more safety measure to those who produce vaccines, that over the last few years have been demonized.

I am convinced that in some cases vaccines are lifesavers and in risk situations I am the first to propose them in the stables. I am also convinced that medicine must direct itself towards prevention and I think that autologous blood stem cells can be used in the future as a natural vaccine distributed by the pharmaceutical industry to improve physical and mental health. Imagine how many test tubes would be distributed.

Lyme disease or Borreliosis and Bartonellosis treated with a new therapeutic protocol

These two diseases are very similar in the way they are transmitted and many vectors are the same. Symptomatology and the difficulty of confirming the diagnosis through laboratory analysis are similar and often these diseases appear as co-infections. Every month new information arrives to advance our knowledge of these diseases.

Borrelia burgdorferi is the most common cause of Lyme disease in the United States, while *Borrelia afzelii* and *Borrelia garinii* are more frequent in Europe.

It is a spirochete, a gram negative, which differs from other bacteria because it is formed by a long rolled propeller. Spirochete causes other diseases such as leptospirosis and syphilis. It is a genetically complex bacterium to identify, it has 132 functioning genes with respect to, for example, the syphilis spirochete that has only 22. 90% of these genes do not belong to any other bacteria. *Borrelia* contains 21 plasmids more than any other bacteria. The plasmids are small circular DNA filaments, double helix super-wrapped, present in the cytoplasm and distinguishable from the bacterial chromosome for their small size. The genetic material that distinguishes them gives the cell special properties (sometimes unique metabolic properties). The plasmids are able to move between cells also diverse, but similarly affecting their genome. This feature allows the organism to be highly adaptable to the environment with the ability to survive in many different hosts. If *Borrelia* is in the presence of antibiotics or cerebrospinal fluid it changes its morphology. The variations include the rolled or unrolled spiral form, the cystic form such as vesicle or granule and wall-less cells (L-shaped). These characteristics allow *Borrelia* to remain hidden for long periods, resist treatments and evade the immune response.

Bartonellosis is caused by a gram-negative bacterium called *Bartonella*, there are seven species that infect human beings showing different symptoms. In the horse, dog and in people they seem to have an affinity with endothelial cells in blood vessels and with red blood cells. This leads to intravascular disease that obstructs nutrient and oxygen absorption into tissues leading to pain, fatigue, cognitive impairment, emotional problems, etc. The affinity with red blood cells may be partly explained by a substance called Emina that is abundant in red blood cells. The bacteria multiply in red blood cells and when insects take infected blood from hosts they can retransmit it to other animals or humans. Intracellular infection by *Bartonella* begins with adesine secretion that allows bacteria to adhere to target cells, usually red blood cells or endothelial cells, but sometimes even macrophages. Then the bacteria secrete some proteins in the cell and/or their DNA. In this way they subvert many cellular functions for the benefit of the infectious pathogens. Finally inside the cell the bacteria replicate to an average of eight bacteria and stay there for the life of the cell (except for *Bartonella bacilliformis* that usually kills the red blood cell). While a significant number of *Bartonella* are in the red cells of an infected organism every 3/6 days there is a new wave of infection with *Bartonella* free in the blood vessels. This may mean that the primary niche of *Bartonella* is in other cells, definitely in endothelial cells, but perhaps even in some bone marrow cells such as angioblasts or eritoblasts, from which *Bartonella* emerge every 3/6 days.

People are much more familiar with the "Lyme disease" because it is easier to remember than the scientific terms *Borreliosis* and *Bartonellosis*. There is also the fact that the diagnostic test on Lyme in the horse, as in man, even giving many false negatives, is much more significant than that of *Bartonellosis* which is even more complicated and less reliable. In order to test for *Bartonella* in horses in the US, three withdrawals one day apart are recommended to be sure to find the bacterium to be cultured. The culture has to last many days and the medium must be prepared ad hoc for *Bartonella*. In fact, I have many suspected cases from the symptomatology that react to treatment, but result negative to diagnostic tests. Diagnosis is more clinical than in the lab. and many doctors prefer to ignore it. But I will show you some examples that will make you think. Moreover, while *Borreliosis* was identified in 1982, many species of *Bartonella* were discovered

more recently. It is also suspected that Bartonellosis is much more widespread than Lyme's disease and is absent only in areas near the north and south poles.

Ticks are the most suspected Lyme and Bartonella propagators, but Bartonella can also be transmitted by many other haematophagous insects such as fleas, lice and sandflies. In a study in North America it was seen that a type of tick in an area where Lyme's disease was frequent was about 30% positive for Borrelia and those same ticks were Bartonella positive for about 40%. If we think that other vectors besides ticks can carry Bartonella, the evident cases of this infection could be the tip of an iceberg as says the American veterinary *Brenda Bishop* who has studied Bartonellosis in the horse. These two pathologies could be the "chronic malaria of the West ". We have seen that Borrelia and Bartonella are two very difficult bacteria to detect in laboratory tests. It is not easy to find the bacteria in the blood, nor to find specific antibodies, nor to detect their DNA presence. The bacteria have affinity for both body tissues and liquids. It is difficult to obtain them in culture from tissue samples and only sometimes antibodies are found. If it were easy to diagnose everyone would do it. Even when the Elisa and the Western blot test are done a third of the infected cases are not detected. Only a small percentage of cases can be false positives. Why are tests so inefficient? Here are the reasons: the bacteria can live inside cells making it difficult to detect them in the blood. The host's immune system may not recognize the pathogen and not produce antibodies. An infected organism can contain a protein also contained in a healthy body producing false positives. It happens that inside the carrying insect Bartonella can exchange DNA with Babesia or Borrelia therefore a person suffering from Bartonella may result positive to Babesia or Borrelia. Also the PCR test, which serves for DNA research, may be unreliable. The CD-57 test for Lyme disease may be useful. In fact, Borrelia infections have the feature of decreasing the natural killer cells expressing CD-57. In medicine they have become accustomed to diagnosing through images and analyses, if the latter are unclear, they prefer to ignore the causal connection between Borrelia and Bartonella with much more serious pathologies.

In horses and dogs I suspect the clinical examination and I found that many horses negative to the various tests respond to therapy.

Symptoms

If a person is lucky when stung by an infected insect they develop an erythema migrans rash. This warns the victim who has been infected to take the antibiotic that can kill the bacteria before it propagates itself throughout the body, unfortunately this is not always the case and the victims will not notice anything until the disease becomes systemic.

My daughter who was bitten by a tick in Friuli when she was little, immediately received preventive antibiotic cover. But in Friuli, where the disease is endemic, there is the knowledge of this new disease and veterinarians are involved. But if she had been bitten by a tick in Lazio where Bartonella could be more frequent, that has the same pathological consequences, would she have received the same immediate therapy? In a hospital probably yes, but more to avoid an Erlichia infection.

But my daughter also began to have lose concentration and sometimes she was very tired. My wife says she is like herself as she started having the same symptoms at the same age. As these bacteria may pass through the placenta, therefore an infected mother can contaminate her daughter and Antonia may even have been affected because my wife had been bitten by a tick when she was about 12 years old and had no immediate treatment. Borrelia can inhibit the immune system, activate inflammatory processes and develop autoimmune processes by imitating body cells. The result is pain, numbness and weakness. Borrelia may adhere to different types of cells including glial cells in the nervous system and internal blood vessel cells. In advanced Lyme disease spirochete crosses the blood-brain barrier thereby producing neuro-borreliosis. In this case, minocycline, a

tetracycline that has affinity with the nervous system, should be used. Since Bartonella can hide itself in our cells, avoid immune defences and the only antibiotics that have the chance to kill it are those that penetrate the cell membrane such as azithromycin and rifampicin. Rifampicin penetrates almost all body cells and arrives at the central nervous system because it overcomes the blood-brain barrier but is toxic for the liver. Bartonella can pass or not pass the blood-brain barrier, but even when it does not pass it produces certain cytokines in the body that lead to temporary or permanent damage of the central nervous system and in the case of the horse the veterinarian *Brenda Bishop* attributes it to infinity of nerve symptoms.

Bartonella can disrupt the immune system by producing chemicals that inhibit the physiological inflammation that the immune system uses to defend the body. For example, a lipopolysaccharide produced by Bartonella is a potent antagonist of the Toll-like receptor 4, thus secondly inhibiting TNF, IL-1 beta, IL-6. This polysaccharide is such a powerful natural immunosuppressive that it can be used as a treatment for autoimmune diseases.

The areas of the body where Borrelia and Bartonella act are vast and every joint or muscle may become tense, aching, weak and easily fatigued. Other symptoms may be fever, loss of appetite, libido and dizziness. When they attack the brain can cause irritability, depression, cognitive impairment, short term memory loss and other mental problems. Victims can be irritable and angry. One cause is brain hypo-perfusion with loss of oxygen and nutrients for the brain. This can be seen with SPECT or MRI. The injuries caused to the brain's white matter are similar to demyelination and inflammation in multiple sclerosis and thus can cause errors of judgment. In fact, it is possible to have a Bartonella induced multiple sclerosis, so even if the diagnosis of sclerosis is correct one may be ignorant of the cause that, in the case of Bartonella, could be curable especially in the early stages. What we need to ask is whether this infection can be the cause of other serious, neurological, metabolic, etc ... pathologies, but it is not always feasible to resolve one of these secondary pathologies by only doing antibiotic therapy for infection. But if we find a creative link we could prevent them or partly contain them. In the sense that if a pathology such as multiple sclerosis has a potential cause in these infections, there will be a pathological stage in which it can still react to antibacterial therapy and a stage where this is no longer possible or is with a more complete therapy. In Equine Recurrent Uveitis, an autoimmune disease, which is believed to be initially triggered by leptospirosis, doxycycline is also used when the infection is no longer considered active since this antibiotic is attributed to an anti-inflammatory and immunomodulatory effect. But since Borrelia and Bartonella are often also present in the eye and are identified as a concomitant cause of ERU by *Brenda Bishop* and others, the symptomatic benefit after administration of doxycycline may not be due to action on these still active germs but to an anti-inflammatory effect? Bartonella and Borrelia can lead the red blood cells to stick to each other and this does not allow them to pass through the capillaries that then allow the passage of a single red blood cell. Then fatigue, muscle aches and in the horse even post-exercise pulmonary haemorrhage cannot be excluded. Many people who do not know they have these infections are diagnosed with fibromyalgia or chronic fatigue syndrome considered incurable. Treatment is directed towards relieving symptoms, painkillers, corticosteroids, exercise, antidepressant therapies, etc., but this erroneous diagnosis not only leaves the disease untreated but the use of immunosuppressants can worsen the picture. This is also the case for horses that have lung haemorrhage and are then often treated with cortisone. In racing horses, post-exertion haemorrhage is very common, but some competitive horses I have seen, on certain occasions at the end of the obstacle course had significant haemorrhage.

A horse had had an impressive haemorrhage on the third day of the competition when he should have jumped in the Grand Prix, that is when stress and tension increase. By now he had behaved many times like this and the owner called the veterinary specialist who in good faith advised the usual cortisone. However, the owner decided to undertake my therapy. At that time I did not

suspect these infections, but I did the anaplasma test thinking of an autoimmune secondary plateletopenia, but it was negative.

However, I gave tetracycline, systemic ozonotherapy and stem cells. For several months the horse no longer manifested this symptom, but with hindsight I should have then repeated the treatment several times to sterilize the organism from that infection but I was not yet aware of it. The horse after a few months began bleeding again and passed to classical cures and then disappeared from competitions. Recently, however, I came across a show jumping horse from Chile that had an impressive haemorrhage at every course and was therefore useless. In this case I did more cycles of antibiotics, ozone and stem cells and the horse has completely stopped showing this symptom for nearly two years. The subject was not positive to Lyme, babesia and anaplasma, so was probably afflicted by Bartonellosis.

Bartonella and Borrelia can damage every part of our body due to vascular damage and inflammation, for example they can affect adrenal glands, brain and thyroid, causing imbalances in their hormonal production with various physical and psychic symptoms, with weight gain or loss, anxiety, weakness, etc.... the effects of inflammation block the hormone receptors leading to insulin resistance and hypothyroidism. In addition, internal vessel inflammation (the endothelium) is the first step to atherosclerosis, predisposing heart attack and stroke. It is very interesting to know that the chronic infection of these two bacteria may limit the ability to remove heavy metals from the body such as lead and mercury, and in addition, antibiotics can further inhibit mercury excretion.

I will tell you this story about my wife, which I have already mentioned, but from another view point. I met Gaia more than 20 years ago and the first year that we took a house in the mountains she could barely ski and had a temperature every day and complained of all kinds of muscle and back pain. She told me that these symptoms had begun after childbirth, even though she had been losing her vitality before. She attributed it to stress due to family losses and labour pain. I took her to a specialist in Milan who tried to put her right with homeopathy and diet. As a few years before in a medical surgery in Udine a physician through bio-resonance energy tests on her had found among other things, Lyme disease and as I told you Gaia had been bitten by a tick years ago. Of course this fact was considered relatively significant, but both doctors gave homeopaths to improve the case history. After a period of relative improvement Gaia began to feel more and more tired. I took her everywhere and always received different diagnoses until the day arrived that they told us she was suffering from chronic fatigue and that there was nothing to do. It was not possible for me to accept this because I thought the whole case could be due to the heavy metals released by her dental implant. I had her remove the implant and took her to a clinic in Germany where they made tests and found her full of heavy metals. Chelation therapy began and was initially fastidious. Fortunately, to help her they also provided systemic ozonotherapy. The first time they pricked her to get the vein she had atrocious pain but as the therapy progressed the pain decreased. Gaia returned 4/5 times to do chelation and ozonotherapy and eventually improved so much she returned to a normal life. In Germany too, however, they were aware of Lyme and using unconventional techniques, noticed bacteria in the eye on a permanent basis.

Gaia continued to have highs and lows, but overall maintained an acceptable physical condition. Last year she felt a bit weak again so decided to do ozone therapy in Rome without chelation, had several treatments and greatly improved. From time to time she took the homeopathic nosode for Lyme's, but I did not give this disease the value that I do today because of the new studies that have been published and the experience acquired from animals. So heavy metals were there, it was right to have chelation, but the cause could be in these bacteria that inhibit metal elimination and destabilize the psyche-neuro endocrine immune system. The great fortune was that in Germany they combined ozone therapy with chelation. Gaia had decided to re-do the oxygen-ozone therapy in Rome, because she intuitively felt that it was the best thing she had done for herself.

Fortune, will and determination had led us to improve a problem that afflicts many people who are often told that there is nothing to do. Of course with hind sight it would have been easier to achieve a quicker result. Another consideration I made was inherent to the panic attacks that Gaia had shown. At a congress where they spoke about heavy metal poisoning, a professor said that a very common symptom associated with this intoxication was panic attacks. But let us try to see it this way: *Borrelia/Bartonella* create panic attacks by alteration of the central nervous system and also reduce heavy metals elimination. We will find both things without one being directly the consequence of the other, but symptoms of the same infection.

Returning to my daughter Antonia, I realized that her symptoms overlapped with her mother's so it was easier for me to advise her about the care our friendly family doctor and ozone therapist would have given her, that would include ozone and antibiotics.(photo 46) My daughter, as do all kids with their parents, said to me, "You're fixated, this illness has nothing to do my depression and tiredness.. You'll see ,it'll pass by itself! " But because she is a hypochondriac and in the following days felt worse, decided to listen to me and to do the therapies recommended by my medical friend. 3 days after the antibiotic and ozone treatment made in a particular and targeted way by Dr. Guido she was REBORN. After those 72 hours she phoned me full of life, constructive.. something that had not happened for a long time ... another person. She had to admit that she was wrong and, feeling so well, was willing to repeat more than one treatment per year until she finally defeats the disease. Of course, after the second cycle, feeling better she has momentarily set everything aside.

"Lyme disease" comes from the name of a small town in Connecticut called "Old Lyme" where, in 1975, there were numerous cases of suspected infectious arthritis that affected most of the population, both adults and children and the etiologic agent was isolated in 1982 by Burgdorfer, a biologist from Hamilton (Montana), from the intestines of a tick of the Genus *Ixodes cammini* and was called *Borrelia burgdorferi*. The pathology has therefore been strongly associated with infectious arthritis.

Regarding this I want to tell you about three cases. The first concerns two horses that ran races and showed no signs of lameness, but stimulated with the pain test, that is, by flexing the metacarpal phalangeal joint, showed lameness if made to trot immediately. The veterinarian who took care of them then decided to do cortisone infiltration. After a few days the joints of the two horses bulged slightly and began to show signs of lameness. The veterinarian took a sample of the liquid and made a cell culture. After a few days the answer was negative, but in the meantime the horses became much lamer and more swollen. The owner who is a human doctor called me for a consultation and I explained that a high percentage of synovial fluid culture was negative even if there is an infection and the infection is confirmed by the type and number of white blood cells in synovial fluid. A sample was immediately taken and therapy started. Within the day we got the answer and the granulocytes were high, confirming the diagnosis of infection. The veterinarian asked me how could this have happened as she had been very careful in the sterile procedure of inoculating. In good faith I told her that it was because she had not used the antibiotic along with cortisone. When I worked in the racecourse and did dozens of intra-articular infiltrations daily I could not afford similar complications and always associated an antibiotic. She said that the new procedures did not foresee this methodology. I think that not adding the antibiotic is wrong because if the horse has a form of chronic endogenous infection, for example due to *Borrelia/Bartonella* cortisone alone can unleash it. In this case the veterinarian had not informed herself, but the horses results were suspicious for *Borreliosis* in the analysis that the owner had previously done. In this case it was enough to do immunosuppression with cortisone to unleash the latent infection, so I advise all orthopaedics to consider this possibility especially considering that *Bartonella* may be much more common than we think and it is very difficult to have a lab test that confirms it. The second case involves a dog, a border collie who was racing with great success, but at the age of 6 its performance dropped and

the dog could not jump the obstacles as before, also the muscles of both hind legs had atrophied. When she eventually became lame on one rear leg the diagnosis was meniscus lesion and the dog was operated on. After the operation, the dog had an infection in the operated knee, different antibiotics were tried, but what turned out to be effective was minocycline. In post-op the dog also had a pyometra and the uterus was removed. When I was given the case to intervene with stem cells post-operatively, I thought that there was a chronic infection and found out that the dog lived with cats and that the antibiotic used was minocycline, that was also active in neurological forms of Lyme and Bartonella, I suspected one of these forms. Moreover, in human fibromyalgia Bartonella is highly suspected. The owner wanted to do stem cells in the operated bone that did not calcify, but I told her to wait and do the analysis for Lyme and also ozonotherapy before introducing stem cells. Only then did she tell me that in post-op the dog had an otoematoma that confirmed a Bartonella compatible bleeding disorder and finally told me that now, after a month of antibiotics, for the first time in years, the chronic otitis which had never been cured before, had disappeared. Of course this is a hypothesis, and I advised her to at least test for Borrelia.

Undoubtedly in medicine's future the "internist" doctor figure will inevitably be assisted by the "externist", that is, the synthesizer who has a vision of the totality.

The third case instead concerns a veterinarian who called me about her rheumatoid arthritis that she had had for years and that prevented her from working. She had contacted me, like many people, about my stem cells therapy. After telling her that one could not work on humans yet, I asked her if she had done the Lyme disease test, she said she had and it resulted negative. I asked her if she had any swollen lymph nodes and she told me she had a swollen groin lymph node for years. I told her she could have a form of Bartonellosis and she confirmed to me that years ago she had a very high fever which turned out to be due to Bartonella Henselae. She decided to take the antibiotic and do the ozone oxygen therapy. The results were very satisfying for her and the pain she had had for months faded even though in each antibiotic and ozone cycle it appeared again due to toxins produced by the dead bacteria. To definitively eradicate this disease many cycles must be done, but in the end I am sure she will defeat the relapses and be healed. There are now many works that associate arthritis to Lyme and Bartonella, but the same bacteria can also give neurological forms, so we must begin to consider them as the most significant emerging infectious diseases in both humans and animals.

Returning to Borreliosis/Bartonellosis treatment, reactions due to the large amount of toxins released into the body from the dead bacteria due to the antibiotic treatment have been reported. The human body cannot quickly eliminate toxins and symptoms are fever, headache and myalgia that can remain for hours or for months. The types of Borrelia and Bartonella are different and the choice of the antibiotic for the horse must consider the specifics of each complex individual/disease. Azithromicina is very effective to reduce lymph nodes, but not good if there is an autoimmune bowel syndrome. In eye diseases such as neuroretinitis or ERU doxycycline has always been used successfully as well as in front of a full-blown Lyme disease. Rifampicin should be used in every neurological form, but has an unpleasant taste, is hepatotoxic and causes headaches. Severe cases should be treated with two antibiotics simultaneously. As reported by the studies of the American Veterinarian *Brenda Bishop* on young horses and those over 18, less toxic drugs such as febendazolo, the ketoconazole and sulfamethoxazole should be used. The febendazolo should be taken for five days at the larvicidal dose because it reduces candida, dries ulcers and stimulates the immune system. Many horses show improvement after five days. That is, the gastro-protective and antiulcer effect reported from the use of febendazolo might be associated with an antibacterial effect not only addressed to helicobacter. About this drug, a horse suffering from Lyme had become skeletal despite several rounds of doxycycline given treatment with febendazolo and ozone in a short time gained weight and returned to sporting activities. *B. Bishop* said that after five days of febendazolo,

ketoconazole can be started on the sixth day and continued for 4 weeks. Trimetoprin-sulfametazolo is effective and can be given twice daily for 8 weeks and this is good for both Lyme and Bartonella. The problem is that many antibiotics destroy the intestinal flora and must be given for long periods, also some do not pass the blood-brain barrier and Borrelia and Bordetella hide in niches during the treatment, and then start again when the antibiotic is suspended. For this we realize that antibiotics alone are often not enough to cure these diseases, we must assist with other supportive therapies. Given that in the most severe forms the neuromuscular joints with the presence of auto-antibodies are involved, homeopathic and herbal therapies can be used and in the most severe cases of a neurological form, also psychotropic drugs. Should psychiatrists consider as a provoking cause these infectious forms that may continue to modify neurotransmitter production.? If one can improve a horse suffering from Shiver it means that one has worked on both damaged neurons and neurotransmitters. Regarding this I will tell you about another case. You should know that inexplicably in Rome many diagnoses of Equine Motor Neuron Disease (EMND) were made. This pathology has anatomical-pathological characteristics similar to human ALS. It is reported that in Europe there are only 200 cases per year so it was very strange that there were one hundred in Rome. A few years before the "epidemic" there was an earthquake in Aquila and the watercourses in Rome changed and were enriched with toxic heavy metals so many towns near the capital advised the inhabitants not to drink tap water.

I then thought, since ALS is sometimes concomitant with the presence of heavy metals in the body, it depends on this. But maybe I was wrong and now I will explain why: I saw a horse with evident Shiver, muscular atrophy of the back and diagnosed with EMND. But he did not respond to vitamin E supplements. I did the Lyme test and it was negative. However, I still administered magnesium, doxycycline, oxygen/ozone, stem cells and gradually the horse improved by 80%.

In this case a symptom similar to EMND was evident and probably the quality of the water in the stables that I had long considered bad was not without heavy metals, but the fact that Bartonellosis was not eliminated had worsened the clinical symptoms. I wondered then if it were foolish to make the assumption that the same human ALS, that in literature has been related to heavy metal intoxication, could not be predisposed by these two new emerging infectious pathologies. I will return to this point at the end of this mini thesis where I will propose what will be the therapy of the future that I already use veterinary medicine. Now I will let you read the words of the owner of a horse with EMND:

"In August 2016 I found myself having an extra horse in my riding stable, the former owner could no longer keep him and gave him to me to extinguish the horse's boarding debts. I found myself with Leonid, a big horse of about 1,80 mt., Italian and 9 years old, I began to know him better and discovered that he was very gentle, he seemed grateful to finally have someone who cared about him daily!

So I began to move him gradually as for over a year and a half he had been in a stall with a small paddock due to a forced rest period for a previous tendon injury, now healed. After a few days of working on the rope, I begin to mount him and after about a month the initial mild problems begin to appear: an increasingly evident breathing, but this did not compromise its return to normal after working, then the pastern fissures of a back leg that did not go away easily, when I cleaned him where the tail joined the body he had a strange tremor in a back leg, and after a few days even a delay in the trotting movement to the opposite back leg without a real cause. At this point I decided to leave him to rest for a few days, also because in the meantime his breathing became more and more like a wheeze even when walking slightly uphill and he began losing weight, until one November morning things got worse. Fortunately, there was a veterinarian who was visiting other horses that day and visited him, he was panting, almost unable to breathe and sweating copiously and moreover his back legs were trembling, especially one due to a sobbing on the hoof that the

doctor resolved with an incision, but everything else remained for a long time. Films are shown to various veterinarians and for all of them the diagnosis is the same. EMND Equine Motor Neuron Disease, the horse's ALS. So I started with the appropriate treatments, massive amounts of Vitamin E, Amino Acids, Soybean Oil and occasionally cortisone if breathing and tremor worsened. After about twenty days Leonid began to feel a little better but the tremor remained and I often found him resting on the ground and also very depressed.

Practically speaking, they told me that the disease was severe and progressive and there will come a point where one can do no more. I was desperate, I did not want to see him in that state but I did not want to give up at the same time so I then called Dr. Marco Poletini to have an opinion and see if, with his studies and ongoing research on alternative methods for horse care and not only, he could do something for poor Leonid. He initially said that it was likely to be that illness, but he wanted to attempt his stem cells cure and study the case better by comparing the symptoms with those of other illnesses. And then came the great intuition! One day he called me on the phone and told me that there is a disease that has exactly the same symptoms .. tremors, slimming, rigid movement, etc., it is called BARTONELLA!

And the most wonderful news was that it wasn't easy, but was curable!

So I rushed to a pharmacy to buy the veterinary antibiotic that was needed, I began the first therapy cycle that day and it was backed up with ozone therapy and blood stem cells.

Here's the amazing thing, I still had not finished the first antibiotic cycle and the first improvements were noticeable! So after about 2 months I start to mount him walking and after a while even trotting!

Without talking about what he does in the round pen or in the sand field, bucking and galloping at speed. Even in the early months he pranced sporadically, but it never lasted long and certainly without all this energy. I never thought I would mount him again! And then, because we repeated three times antibiotics, ozonotherapy and stem cells, he continues to improve!

The third time he started the antibiotics Leonid had a strong reaction to the drug, an emotional reaction: he went crazy! Maybe it was one of the side effects due to dead bacteria in the brain fluid that led to these symptoms. He would not stand still when cleaning him before saddling, was super agitated in the paddock where I habitually put him to make him walk more, he was wide-eyed and I thought he could have a heart attack. After another two days, continuing with the antibiotic, this agitation suddenly disappeared. From here the improvements went faster and faster. It was very moving when one day as I was riding him, he just started galloping and his "wheezing" has almost gone.

Now we can all hope in a future for the kind and loving Leonid, one still does not know what he'll be able to do but certainly he can lead a dignified life and that is no small thing!" Valentina e Leonid (photo 47-48)

There are many cats in Valentina's stable and this made me think of a disease that horses and cats had in common, Bartonellosis. I had made the Lyme disease test, but the horse was negative and then among the other symptoms there was Shiver that is characteristic of a horse with Bartonellosis. In these cases antibiotics give results but it is difficult that all the symptoms regress with this alone. The association with ozonotherapy and stem cells has proved to be crucial. B.Bishop also reported that some horses with crib biting treated for Borrelia and Bartonella no longer needed the collar. According to her, the biting mechanically stimulates the pituitary to produce endorphins that help to support the low levels of dopamine that these diseases produce. We also see how the insulin resistant metabolic syndrome and PPID can be aggravated if not even produced by Borrelliosis/Bartonellosis. Bishop says that every type of Shiver or abnormal behaviour should be treated.

Now I will tell you how I came into contact with Bartonella's disease. There are basically 3 doctors working with me, Graziella, Carlotta and Elisa and all are particularly quick and intelligent otherwise I would have difficulty relating to them. Carlotta is a veterinarian, but for family reasons she has to do another job, although she would love to be a full-time veterinarian. She bought a young mare some time ago, in Italy at a good price, also because she was shrewd, and the mare despite being potentially remarkable was extremely weak. First one tendon, then the other, an asynchrony more than back leg limp, little desire to work... everything seemed to lead to a diagnosis of incomplete maturation. One day, however, Carlotta fell to the ground with the mare and the horse broke her collarbone. The mare's age did not justify this therefore she decided to test for Lyme disease.

Carlotta stimulated by her veterinary side (she always looks after our scientific presentations abroad) deepened her knowledge of Lyme symptoms in the horse and pulled out the work of *B. Bishop* describing a pathology often coexistent with the *Borrelia*: Bartonella. She also told me that some of the symptoms of her mare were characteristic of this pathology, a lymphangitis, and a particular skin ripple. The mare was positive to Lyme, Carlotta started with the antibiotic and Graziella did the ozonotherapy. Well after the therapy the mare stopped crib biting. How many veterinarians have seen a horse stop crib biting? Very few I think.

These infections lead to a decrease in the amount of magnesium in the body, both because the bacteria use it and because heavy metals such as lead can inhibit magnesium absorption and its deficiency aggravates any neurological symptoms. For this reason, magnesium in addition to probiotics that prevent the devastating effects of prolonged antibiotic treatments, are always included. Inhibition of dopamine production and also acetylcholine due to infection may predispose the horse to the PPID syndrome so it is possible in humans it predisposes Parkinson's, to Parkinsonism.

It is likely that horses that are constantly infested by insects are often affected by *Borrelia* and Bartonella. And if these pathologies are relatively little considered in humans imagine in animals. We have seen that they are bacteria with a sophisticated biology that often allows them to evade analysis, but there are several symptoms that may help us to suspect these infections before arriving at pathologies such as Shiver, equine recurrent uveitis, autoimmune hemolytic anemia and serious neurological diseases. Bartonella is also more common in Lyme disease because the carriers in addition to ticks can also be fleas, sandflies and lice. They can settle in the endothelium and from there the Bartonella, every 3/7 days, can migrate into the blood, enter the erythrocytes and with their taxi reach every part of the body. When many vessels are affected, the disease shows its symptoms including stiffness of movement, enlargement of the lymph nodes, lameness, lethargy, nervousness and bleeding.

Here is another case: an important dressage horse was lame for a few months and still had not been diagnosed. I saw the horse with a lame left rear 3 out of 5 when on the lunge and 4 out of 5 when mounted. He had dreadful shivering and the back legs could not be raised. So I did diagnostic anesthesia under the hock, without lifting the leg. The horse became straight after a few minutes. I had been called for an orthopedic visit and the owners wanted use stem cells treatment which I did twice in the insertion of the suspension ligament under the hock, in the sacroiliac and in the coxofemoral with a two month gap. 30 days after the second treatment the horse was straight, but it still difficult to use him for dressage because he changed gallop every moment. I did acupuncture and infiltrated the back, but the horse did not show signs of improvement. I suspected a neurological disease due to his extremely nervous nature and because, when he had returned from the clinic in Holland some time before where he had gone to have the lameness diagnosed, he could not stand up because of the Shivering. The journey to the Netherlands had been long, then for a few days in this new Dutch environment he was without his groom. A horse so apprehensive and perhaps full of pathological phobias had increased his stress cortisol and also received steroid treatment in the

stifle joint. This could explain the aggravation of the symptoms. I suggested beginning treatment with ozone and doxycycline immediately because I suspected Bartonella, but the owners, advised by the specialist, wanted to wait for the analysis. If he had been positive to Bartonella alone, I would not have been able to cure him because as I explained to you, the analysis is almost always negative. Fortunately, in this case, it was highly positive to Lyme and I could start treatment with the specialist's consent. In subclinical states, horses may have muscle cramps, premature fatigue, fibromyalgia, rigidity of movement, urinary and respiratory problems, painful soles, local sweating, cardiac murmur and ophthalmic problems. Also, there may be evident neurological problems both physical and behavioural as is the case in humans. No two horse show identical symptoms because they vary by bacteria number, the presence of that type of Bartonella and/or that type of Borrelia or by several types of each one of them, and may also be present in different anatomic districts. Doxycycline is good for both infections and it good for concomitant leptospirosis and ehrlichiosis, but alone is not enough. The horse visited after antibiotic/ozone treatment improved especially from the behaviourist point of view in fact he is much less frightened now. Now he has repeated ozone and started Febendazole.

My friend's son turned out to be positive to Lyme after having been bit by a tick in the USA. Despite some weeks of antibiotic treatment with doxycycline, over time he continued to show signs of tiredness and difficulty in concentrating, so I advised him to be seen by a physician using oxygen ozone for this pathology and I trust that if he perseveres more than my daughter, he will greatly improve.

B. Bishop says that in the face of unresolved horse diseases, one should think of these infections. Headshaking, muscular tying-up, chronic gastric ulcers, lymphangitis, narcolepsy, pulmonary haemorrhage, chronic obstructive bronchitis, swelling of the joints, etc....., there may also be a fever that reappears in times of lethargy and appetite loss. When many antibiotic infected red blood cells are killed, autoimmune hemolytic anemia may also occur. Both Bartonella and Borrelia can suppress the immune system by decreasing T killer lymphocytes and creating autoimmune diseases. This is why even stem cells therapy can be extremely useful. In this case, we have infections that create immune imbalance and/or immunosuppression, stem cells have the characteristic of bringing the immune system back to normal by restoring an unpleasant situation for these two bacteria. In other infections where the immune system increases its functions to defend itself, stem cells are not indicated because they bring the immune system back to normal so allowing the infectious agent to proliferate. That is, stem cells can be used when the infectious agent causes immunosuppression or secondary production of autoimmune diseases but not during an infectious disease where the immune system is more active than usual to fight it.

In the case of Borrelia and Bartonella the stem cells can be of great support. In fact a horse with a very obvious Shiver that did not allow him to step backwards, jump a challenging oxer and forced him to walk rigidly, after stem cells treatment became a winner in a 1mt. 40/45 race . Only later did I do the Lyme test which was positive. Two other horses in the same stable improved remarkably after stem cells and were positive to Lyme. I had suspected these bacteria because one of the last two horses had a remarkable fibromyalgia and worsened when the veterinarian was doing immunosuppressive therapies and the other had joint ectasia and a recurrent prurient dermatitis. Regarding dermatitis, fissures resistant to any type of therapy (these are dermatitis of the peripheral part of the limbs) are found in horses positive to Lyme and respond to ozone oxygen, local antibiotic perfusion, systemic doxycycline and stem cells Let us remember that they are affections far from the heart, places, as *B Bishop* says, in which these bacteria perform their action better. Being far away from the heart also makes one think that these are the least oxygenated areas therefore more sensitive to oxygen-ozone therapy.

It is not to be excluded that the beneficial effect of blood stem cells on some neurological pathologies is also because of the regulation and stimulation of the immune system that would activate itself against these chronic infections that are perhaps more frequent than we think. In addition, nervousness may depend on magnesium deficiency. Both Bartonella and Borrelia need a lot of magnesium to survive and draw on the body's reserves. When we are in front of a horse showing a very short and rigid pace (Shiver) it is useful to administer to the horse 20/40 grams of magnesium daily by mouth, for a few weeks, if the step greatly improves infection is very likely. There are also intestinal autoimmune syndromes caused by these pathogens that inhibit magnesium absorption and cause other pathogenic agents to proliferate such as candida, the symptoms being diarrhoea, constipation, ulcers and colic. These bacteria act on the microcirculation and infect the erythrocytes, artery endothelium, veins, capillaries and collagen, so also tendons, ligaments and their synovial sheaths

I happened to have a very important racing horse that had a swollen tendon, the ultrasound technician had said there were no lesions in the tendon and gave cortisone for the inflammation. The horse swelled up even more, could not walk for the pain, his temperature increased and he stopped eating. Lyme test was negative, but the horse responded perfectly to the local antibiotic perfusion, oxygen-ozone and doxycycline, returning after a month to jump races of 1mt.60. In this case it is likely that the disease was precisely Bartonellosis. The points most affected by these two bacteria are those furthest from the heart, probably due to lower oxygen input: skin, feet, back, back legs and pelvic problems, head and cervical area. As in humans, the symptom of chronic fatigue may be the most obvious. Because these bacteria try to remain invisible to the immune system they prefer hidden places such as the marrow, liver, pericardium, and brain. I wonder then if Bartonella could be a predisposing cause in important diseases, as it is more insidious and not as easy to diagnose as Borrelia. ALS is more common in military personnel who have been in combat zones with active combat and so with depression and suicidal tendencies, these military are affected by Borrelia in a high proportion. It is true that fighting is a very serious stress situation that can lead to a neurological imbalance, but if Borrelia/Bartonella were also the tip of an iceberg in humans and could cause so many neurological disorders as *B Bishop* claims in the horse, one cannot exclude that stress could inhibit the immune system amplifying bacterial aggression leading it to be one of the triggering causes of these pathologies. In the horse sometimes the Borrelia/Bartonella manifests itself with intermittent lameness, compensating walk and alternating limping on various limbs. Interesting are the dormant abscesses in the soles of the feet that can remain quiescent and reactivate when the horse is stressed.

I will tell you an interesting case regarding this. I was visiting a horse that had been lame for more than a year and had been put to grass even though he was only 12 years old. The diagnosis was a lesion of the ligament suspension under the hock. The owner decided to make an attempt and sent him to me for repeated treatment with blood stem cells. I was very happy with how the therapy was proceeding when, after 40 days, he showed a very serious limp on a front leg. I checked the foot with the exploratory clamps and pain was present, but did not justify the limp. Then I did a local antibiotic perfusion in the digital vein and the next day the horse was much better. So I thought of an infection and I did hot packs 3 times a day. In 10 days a fistula was created in the foot and the horse returned straight. I continued with stem cells and ozone and the horse was better than it had ever been. The owner came, I let him jump the horse and he was enthusiastic. He took the horse home and began to work him, but after 2 months it was lame on the other foot. The horse had collapsed his immune defences and it was not possible with the hot packs to get the same result I had at home. The defences collapsed because in that stable there was still an asbestos roof with fibre glass in it. Luckily they soon changed stables, also on my advice, and after doing antibiotic therapy, the horse was healed and returned to normal sporting activity. Today the case history of

that horse makes me think of a *Borrelia/Bartonella* pathology aggravated by a predisposing environment, while at that time I was aware of the symptoms but could not give any logical connection. The basic lesion was ligamental and this could also have predisposed this infection. Tendinitis and dehydration are, however, more common in horses of a certain age and attributed to frequent PPID (horse's Parkinson's). Even among this neurodegenerative pathology and *Borrellosis/Bartonellosis* we find a relationship not only because these bacteria nourish in the connective of tendons and ligaments but also because they create dopamine deficiency.

In this syndrome that affects tendons and ligaments *Brenda Bishop* uses herbs such as basil, Jiaogulan arginina to restore oxygen afflux into diseased tissues, I use oxygen-ozone therapy. The fact of dramatically altering the immune, endocrine and nervous system can lead to tissue destruction and profuse bleeding in fact in the dog *Bartonellosis* has as a characteristic symptom epistaxis and even otophematoma. In the horse *Brenda Bishop* reports the breakdown of pulmonary alveoli and consequent pulmonary haemorrhage, muscular pathologies, endocrine laminitis, trigeminal neuralgia, autoimmune diseases affecting the optic nerve and ERU, erythremia, atypical sweating, pruritus, seasonal asthma, excessive salivation, laryngeal spasms and hyperventilation at rest. I had a pony years ago, that I had taken for my daughter Antonia, that had behavioural disorders, aching muscles, sweating always on the same small circumscribed body parts and profuse lung haemorrhage only in moments of stress. Only now do I realize that the symptoms were related to a systemic infection.

Even the evolution of headshaking in a 25 year old horse made me think. Here is the owner's story and following is my comment.

"Everything started two years ago on the return from an obligatory holiday in the mountains due to respiratory problems. Our mare Calla started to have a strange behaviour, almost un-rideable, difficult to manage on the ground, was nervous in the paddock and had started to move her head up and down in a frenzy!!! So one day during a veterinary visit, almost jokingly we told him about this strange tic she had and very seriously he replied that it was not a tic but a sometimes very severe disease called Headshaking!!! So he recommended a colleague specializing in this field and once he had seen the mare there was almost no shadow of doubt about the diagnosis ... but before deciding more he preferred to carry out a specific examination to find a targeted cure!!! A few days later we fixed the appointment for an endoscopy and during the exam we were told that she had a strong rhinitis that most probably was the cause of everything!!! Relieved and content for the good news the next day we started with the prescribed therapies, alternate cycles of antihistamines and cortisone for 10 days at the end of which we should see the results but they did not arrive ... so after several calls to ask the veterinarian what could still be done to help the mare get better he advised us to make relaxing injections in the vein that would definitely improve if not heal but alas it was not so!!! From here a series of disappointments and especially concern for our mare who was still ill and the veterinarian who said that there was nothing else or anything better that he could do better and took his leave from us!!! Upset by yet another failure I started reading articles, looking for news on this pathology until I hit an article in particular which documented the cure and healing, which I say is miraculous, of a horse affected with headshaking!!!! I read, reread and almost didn't believe it, a new therapy, a gift from heaven! I had already read about Dr. Marco Poletini a few years ago and his stem cell therapies, but I never thought that one day I might need him! The next day feeling like a little girl I asked my daughter to write to the veterinarian who had followed our mare and ask what he thought about this "alternative" cure and in response wrote that it was basically money thrown away!!! Okay, I told my daughter, no problem, we are going ahead! That evening I wrote to Dr. Poletini explaining the mare's problem and when we spoke a few days later, we decided to try, and also because he honestly explained to us that unfortunately the only thing that would hinder a successful treatment was the mare's age as she was no longer a youngster but that it would still help

her to recover and definitely feel better!!! Aware of this, we decided to try and made an appointment with Dr. Poletini who kindly made one in a very short time! And finally the fateful day came... we arrived in the stable and introduced ourselves and he immediately wanted to see the horse moving... we pulled her out of the horsebox and she started moving her head up and down and it worsened as she moved towards the ring and there he made her turn and she gave her best, almost stumbling! After a brief explanation of the next steps to take we set the day for treatment and we carried on! Well it seems amazing but the next day the mare seemed reborn! She trotted out of the stall and in the paddock she started bucking and kicking like a foal, taking into account that she had never done this because of the knee pain! Every day a little step, less and less troubles until after about twenty days, in the paddock she hardly shakes her head any more, only every now and then but rarely! What to do ... shout out loud at the miracle, one should, but this is the success of stem cells! The road ahead is still long, but know that one will definitely is surely a peaceful trip. With affection and esteem Barbara, Martina and Calla thank you Doctor".

The mare had been treated by a good specialist, but very often it is a disease that does not respond to any therapy and when it is so serious one can even consider euthanasia. The overlapping human disease is the cluster migraine involving the trigeminal and has forced some people to commit suicide. The symptomology of this 25-year-old mare was so severe that even in the paddock she could not stay still for a moment and shook her head continuously.

She had had recurrent forms of breathing allergies and manifested all the PPID symptoms. Normally I say to owners that stem cells therapy takes a couple of months to have effect in Headshaking. But considering *Brenda Bishop's* work plausible, in which she attributed this disease to Bartonellosis, I did my usual blood stem cell therapy, but I also associated it with my PPID and ozone therapies. Thus the mare improved within a few days, meanwhile the analysis was highly positive to *Borrelia*. Very often *Bartonella* and *Borrelia* are associated and respond to the same therapy.

In this case stem cells stimulate and reset the immune system, regenerate the nervous system, ozone has a remarkable antibacterial capacity and amplifies the effect of the doxycycline that I prescribed and PPID correction inhibits immunosuppression. But here we are 15 days after the second inoculation, made a month after the first, the mare in the paddock no longer moves her head, sometimes they have to bring her in because she seems crazy and she is even mounted.

"13/04/17 Here we are again more excited than ever! Our mare Calla after stem cells treatment improves daily to the point of trying to mount her after almost a year. One begins to saddle the mare with gestures that seem superstitious, bumpers and bridle...and off one goes to the field for the long-awaited trial (to be honest we never thought we would do it again). First round walking, then another and then trotting, a few head movements, but because she wants to gallop asks for the reins, so ok I let her go galloping, not one head movement (by now I was resigned to not being able to mount again) my legs are trembling with emotion, in the saddle again, alive again and together again! It seems a dream but instead thanks to the blood stem cells it is a reality, they have given back life to our mare. Barbara Martina and Calla "(photo-49-50)

The phenomenon of antibiotic resistance in bacteria that attack our body is becoming increasingly worrying. In the case of *Borrelia/Bartonella* we must consider that antibiotics are easily evaded and when the therapy stops infection starts again.

A few years ago I was at the World Congress of equine ophthalmology in Wyoming. The taxi driver that was bringing me to the hotel asked me if I was European, and told me the story of his sister with Lyme disease neurological symptoms who had failed to be cured the US despite several courses of antibiotics. His sister then went to Northern Europe where they backed up the classical therapy with many systemic ozone therapy cycles finally getting healing. I who have been using ozone in veterinary stored the information and began to give myself new explanations also about my wife's chronic fatigue illness that I was able to heal without thinking directly of Lyme or Bartonellosis.

We are entering into a post antibiotic era where we will have to rely less and less on these drugs that for decades have saved millions of lives. The future strategy will have two possible solutions: to continue to invest in the production of more effective antibiotics or encourage the use of alternative therapies able to assist chemical drugs. One of these alternatives is the oxygen-ozone therapy. Professor *Marianno Franzini*, one of the most illustrious Italian ozonotherapist doctors and founder of the Scientific Society of Oxygen-Ozone Therapy, said that "there is no bacteria, virus or fungus that can withstand a correct dose of ozone, administered at the right time" asserting that "the oxygen-ozonotherapy can defeat superbugs".

The ozone kills bacteria by cell lysis, by attacking their protective membranes with an oxidizing mechanism and altering the interior enzymes without leaving chemical residues. A similar mechanism to that used by white blood cells during bacterial phagocytosis. It is a powerful oxidant and an important disinfectant which acts on micro-organisms through the oxidation of their biological matter. The majority of studies on oxygen-ozonotherapy have shown that ozone, when used in vitro, could destroy all kinds of bacteria, gram positive and gram negative. In addition these studies show that the sensitivity of microorganisms to antibiotics grows when using ozone, as well as the effectiveness of the immune system. The oxygen-ozonotherapy is therefore an opportunity that must be used to fight *Borrelia* and *Bartonella* both in the human and veterinarian fields. In my experience I have used it a lot in this type of disease with considerable success and of course I assist with blood stem cells that push the immune system towards normality. So it is useful in the autoimmune types and in the state of immunosuppression that these two specific infections create. The pluripotent component of blood stem cells then has the ability to interact directly on neurological diseases. Now let us consider some scientific works and some facts. There is this publication: "Immunologic Reactivity Against *Borrelia burgdorferi* in Patients With Motor Neuron Disease" by Halperin, et al., Archives of Neurology, May 1990, Volume 47, Number 5, pages 586-594, which states that in a first analysis 11 of 24 ALS patients were positive for Lyme, but with a more sophisticated analysis it came to 88%, and because some infected people do not show positivity it could be that 100% of the reported cases were Lyme positive. This fact was considered a coincidence given that no one gives value to forms of Lyme considered no longer active. However, considering that the American population is 0.85% positive to Lyme, the data should not be taken lightly. Certainly it should not be considered as a coincidence. Then there is the case of American veterans that because of their work are more easily contaminated by ecto parasites, and in fact many of them are positive for Lyme disease. In the veterans the percentage of ALS patients is very high. If we consider that one of the Lyme disease manifestations is depression and suicide, the fact that 7,300 veterans commit suicide every year that suggests a strong correlation. If we consider that these soldiers are vaccinated for many types of diseases because they have to travel around the world and go to risky areas, the immune system's direction towards other infectious agents strips defences towards chronic infections such as *Bartonella* and *Borrelia*.

Another interesting scientific work is "Seroprevalence of *Bartonella henselae* in patients awaiting heart transplant in Southern Italy." (Picascia et al.) Here is highlighted that out of 24 patients waiting for a heart transplant, 21% were positive for *Bartonella*, while a sample of 50 people from the same areas was completely negative. As we have seen many serious diseases can be related to these two diseases. If we think that they compromise our immune system that is our inner sense organ that protects us from cancer, why exclude a preventive cancer treatment that considers these two diseases.

My conclusions are that these diseases are more common than we think and continue to have an effect at least predisposing if not causal even when they become chronic. Treating them with antibiotics alone is not enough, so in veterinary we successfully paired both oxygen-ozonotherapy

and blood stem cells with them and with my partners I introduced this protocol even in cancer treatment.

Regarding this, I relate the case of a dog with osteosarcoma confirmed by tissue biopsy and sentinel lymph node that in spite of painkillers could only walk badly. After the treatment we use for cancer assisted for the first time with daily administration of doxycycline for months and weekly oxygen/ozone treatment the dog does not show any lameness despite the suspension of painkillers, is much more active and we are waiting for the cancer check/up to be done 6 months after diagnosis. I do not know if we will find the cancer regressed, but we have definitely given months without suffering to our Golden Retriever.

From the picture I have given you it is clear that many serious and incurable diseases could draw enormous benefits from this new treatment protocol.

Probably ALS and cancer are less likely to gain benefit from stem cells, ozone and antibiotics, but maybe this therapy could be very useful in multiple sclerosis. If multiple sclerosis depends on residues from an infection or another factor leading to an imbalance in the privileged immune system of CNS as indeed many studies confirm, it might be one of the diseases that would take most benefit from blood stem cells. Whoever deepens this argument will understand how serious Borreliosis and Bartonellosis are. It has also been seen that not only ticks give it, but also mosquitoes or other carriers, it also seems that contamination occurs through saliva and through the placenta. So little by little there will be a pandemic or maybe there already is. Because the clinical diagnosis in use today is assigned to medieval physicians, the existence of these two deadly diseases is ignored if not denied because nothing is written in black and white from a laboratory and even if there are patients positive the gravity is neglected because it is not related to more serious diseases.

You remember my veterinarian friend with rheumatoid arthritis ... well one of her clients came with a sick cat and began to talk of her personal pathology situation. For some years she had pain throughout the body, swollen lymph nodes, difficulty breathing, her voice was so low that it was barely audible, rapid heartbeat, memory loss, chronic fatigue, vitiligo, anemia, etc ... and more. The she confessed that in this situation she almost wanted to die, the doctors had diagnosed fibromyalgia and multiple sclerosis, but nothing could relieve her and they had given up. My colleague, happy to have improved after diagnosis and treatment, told her she could have Bartonellosis since she had several cats at home and advised her to get her doctor to prescribe the antibiotic and that she should they have oxygen-ozonotherapy. Her client followed her advice out of desperation more than anything else and after 20 days had the first improvement in a long time. The veterinarian also noted that two other customers with cats were suffering from multiple sclerosis.

Lyme exists in Northern Italy and with all the deer we have that are carriers, it is more widespread than you think, but diagnosed Bartonellosis is the tip of the iceberg and often the two are concurrent infections.

What if we viewed these two diseases as a "Western Malaria"? In Africa most of the population is positive for Babesia that causes malaria. Africans live with it and the moment one has an immune collapse the disease takes over. But it is a disease that is easily diagnosed in the laboratory and has clear symptoms while the Borrelia/Bartonella infection, also chronic in part of the population, remains hidden to analysis and predisposes to more serious diseases with diverse symptoms.

Years ago I introduced a treatment/prevention for Babesiosis in horses, I am now successfully offering the same procedure for Borrelia/Bartonella with a little more elaborate protocol. The fact that these two diseases are not enclosed in a specific symptomatic manifestation, but manifest a multitude of symptoms, also destabilizes the diagnostician in good will. Moreover the most severe symptoms arrive after years of infection therefore the increasing longevity of the population has made the obvious pathological consequences more evident. These infections are not diseases with

well-defined symptoms, but the causes of many diseases. The correlation and causality are characteristics of creativity that is in contrast to specialization. If there were more open-mindedness one could prevent many serious diseases. These diseases are becoming a pandemic that will increase exponentially, they are subtle and occur over time also because the bacteria have acquired more tropism in our bodies and for this we must be concerned for ourselves and our children. Many people are and will be affected and one must open the eyes of doctors who have their patients health at heart.

Is it normal that in a sample of ALS patients a high percentage were positive to Lyme? Is it normal for a high percentage of people waiting for a heart transplant be positive for Bartonella? Is it normal that many pet owners that I treat, despite negative tests, note a significant improvement? Is it normal that some Headshaking, epilepsy and cancers improve under antibiotic and oxygen / ozone? Even if ophthalmic and neuro/ophthalmic diseases, autism, multiple sclerosis, depression, etc .. are related to Lyme and other diseases to Bartonella, every day in scientific publications. A sufferer of Lyme or Bartonella is dismissed with a prescription for a short course of antibiotics. What will probably happen to them afterwards will be another disease.

I wonder if we could find a "simple" and inexpensive system to combat Borrelia and Bartonella in the early stages how many diseases could we prevent?

I do not think that this is due to an actual decision to ignore Lyme and company, but only for the lack of a holistic vision. In veterinary we cannot send a horse or dog to the clinic to make long and expensive treatments so we must use creativity to devise a simple protocol to defeat the disease. It is true that in veterinary we can use things that are prohibited or borderline in humans, but who knows.

If depression in the past decade has led to 73,000 US veterans committing suicide, and given that high percentage are Lyme positive (then think about how many of them may have contracted Bartonella), would not a protocol that avoids this situation be immediately accepted? And if it were the "Italian" State to realize this, how much would it gain in image and prestige. I told you my wife had been diagnosed with Lyme disease in Germany, where I had taken her to be treated for her chronic fatigue. After many therapies that included antibiotic ozone chelation and other draining therapies my wife is much better. But ozone therapy is something that has always been good for her and after meeting Guido, a human doctor at an Ozonotherapy Congress, I decided to have her do a few cycles in his surgery. In the outpatients where he works they also use the diagnostic test on the frequencies of a substance or a bacteria present in the body (I do not want to debate the validity of this type of test because they are energy so considered unscientific) and I asked if Gaia could do the Borrelia test and she was positive.(This test confirmed what I had already done in Germany). Because many people with neurological diseases go to seek benefit from ozonotherapy Guido and Franco had done a screening noting that many people were suffering from these diseases were positive for Lyme.

When I took my wife there, there were other people, but two of them, suffering from severe neurological diseases, were tested negative to Lyme with their frequency diagnosing technique. I advised them to see if they could be positive for Bartonella. But they did not have the frequency with which to test it given that Bartonella is even more imaginary than Borrelia. However, they succeeded in a short time to have the Bartonella bacteria in varying dilutions in order to perform the exam and told me that the two patients with Parkinson's symptoms and negative to Lyme were positive for Bartonella. From the case histories it turned out that both of these patients had had cats at home for years. In Guido's surgery my wife advised me to get tested for Lyme and my veterinary friend for Bartonella because at that time I was more tired than usual and I had aching muscles, obviously I resulted positive to both, my wife had probably infected me with Lyme and I got Bartonella from my profession as a veterinarian. Therefore it becomes a personal challenge to find

an effective therapy. Until that moment I knew about these diseases in theory, but not in real life. My life was separate from knowledge, now no longer.

Here is the therapeutic protocol used for animals:

I have a suspicion about the symptoms, do the Elisa test on Lyme, the one for Bartonella is useless for the present, test with kinesiology or with the bio-resonance test positivity to the two bacteria.

I begin with a treatment of doxycycline for 15 days assisted by oxygen/ozone. Together I prepare the subject's diluted and dynamized blood which I give by mouth for a month, to this I add the nosode for Lyme, the one for Bartonella and a homeopathic detoxicant, energetic and herbal in origin. I also inoculate autologous blood stem cells to stimulate the immune system.

After the doxycycline cycle I do a shorter Thiabendazole cycle, I repeat the oxygen/ozone therapy. At this point if I do not have the desired results I test with two other antibiotics, rifampicin and minocycline but they are more toxic.

With these I do shorter treatments and eventually I continue with them diluted in water so as to exploit the memory of water as an antidote to their toxicity and as a non toxic therapeutic continuation of the product.

I repeat the stem cells in severe cases at least three times, while the oxygen/ozone therapy I repeat several times. Horses that I had treated for a long time with discrete results with non targeted therapies because I ignored Borrelia and Bartonella, after the introduction of the new protocol, their owners have said they have been literally transformed.

I began to treat myself too with such a protocol and in a few weeks my wife said I was visibly better and I have the same feeling. It is just that I am killing poor Guido because I show up every week to do ozone treatment.