Unit III

Complex Diseases

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Intoxication and poisoning

Unit III Lesson 1

Definition

Intoxication or poisoning is the harmful effect that occurs when a toxic substance is ingested, inhaled or comes into contact with the skin, eyes or mucous membranes, such as those of the mouth or nose.

Through bioenergetics we can find out what kind of substance it is, for which we can use a series of lists to avoid omitting any. But before continuing, it is necessary to specify that there are different types of intoxication Chronic intoxication, acute intoxication. They all affect our body, but especially the liver, which is responsible for carrying out hundreds of chemical reactions, and the pancreas.

Acute intoxication

It is when the person's life is at risk. Poisoning can be accidental, especially when harmful substances such as medications, acids, chlorine, animal poison, among others, are ingested. Children are the most likely to suffer this type of accident, which is prevented by keeping these substances out of the reach of minors, correctly labeling products and, above all, warning children about these dangers. While intentional or deliberate poisoning occurs in the case of attempted or homicide, or suicide.

Symptoms vary depending on the toxic agent, but can include: vomiting, difficulty breathing or choking, hives (redness of the skin), congestion of the nose and eyes, fainting, cardiac arrest.

The **adrenal - adrenal** pair can be useful in these emergency cases.

Acute poisoning is an emergency case, every second counts. The first thing will be to identify if it is a case of intoxication according to the symptoms, the witnesses and the situation in which the person is. You should immediately call the emergency number (911) or ask someone to do so while you assist the person. See if the person has vital signs and if CPR is necessary and possible. Prevent the person from being in contact with the toxic substance; if it is a gas, ventilate the area or control the source of the gas, such as car exhaust (carbon monoxide) or a stove leak (liquefied gas under pressure). In the case of a liquid or caustic substance in contact with the skin, remove clothing, wash with plenty of water. Avoid self-contamination by wearing gloves, glasses, etc.
It is vital that the person receives the help of paramedics and medical attention, since due to the effect of the toxin the person may require various means to maintain life such as an artificial respirator, intestinal lavage, alkaline diuresis, hemodialysis, administration of antidotes, among others. Only medical staff can manage such resources.

Chronic or gradual intoxication

It is when the harmful substance continuously comes into contact with our body, usually in minute amounts, but which still undermines the health of the body. Chronic intoxication is usually the most difficult to detect since the symptoms with which it manifests can be of a different nature,

from headaches, rashes, indigestion, depression of the immune system, mood disorders such as depression, irritability, insomnia, among others. many others. For this reason, great intuition and experience are required to be able to detect chronic intoxication.

Substances that can negatively affect the body can be contained in food, in the environment, in substances that come into contact with the skin such as cosmetics, soaps, clothing, etc. In the Biomagnetic Guide you will find an article that can serve as a guide to detect the most common harmful substances.
It can affect the body in different ways, from symptoms of chronic inflammation such as allergy: headache, dizziness, drowsiness, changes in the psyche (irritability, hyperactivity, depression...) abdominal pain, bloating, gastro-intestinal disorder, gastritis, diarrhea, among others. Symptoms can be confused with food intolerance.

Causative agents

Various agents can be harmful to the human body, mainly food, cosmetics or chemicals in the environment. Search for the causative agent(s):

- **Most common agents present in food:**

mercury (seafood, dental amalgam), aluminum (packaging), bismuth (artificial colors, preservatives, agrochemicals, insecticides, herbicides), lead (kitchen utensils), arsenic (drugs)

- **Drugs and medications.**

Drugs can range from alcohol, tobacco, marijuana... to illegal drugs such as cocaine, heroin, methamphetamine, crystal, crack, so the symptoms can be very varied depending on the type of drug involved. While in terms of medications, intoxication can occur due to accidental intake (more

common in children) as well as due to improper intake. Almost any medicine, and even some vitamins can be toxic if not administered properly, let's see some of the most common: paracetamol (acetaminophen), aspirin (acetylsalicylic acid), sedatives such as (diazepam), ibuprofen, all of them dangerous in case of self-medication.

- **Most common agents present in the home:**

detergents, bleach, ammonia, dyes, flavorings, paints, varnishes, glues, solvents, carpets, upholstery, kitchen utensils, cleaning supplies, PVC, asbestos, synthetic resin.

- **Personal hygiene items:**

soaps, shampoo, antiperspirants, lotions, perfumes, fragrances, cosmetics (eye shadow, mascara, nail polish).

- **Agents present in the environment:**

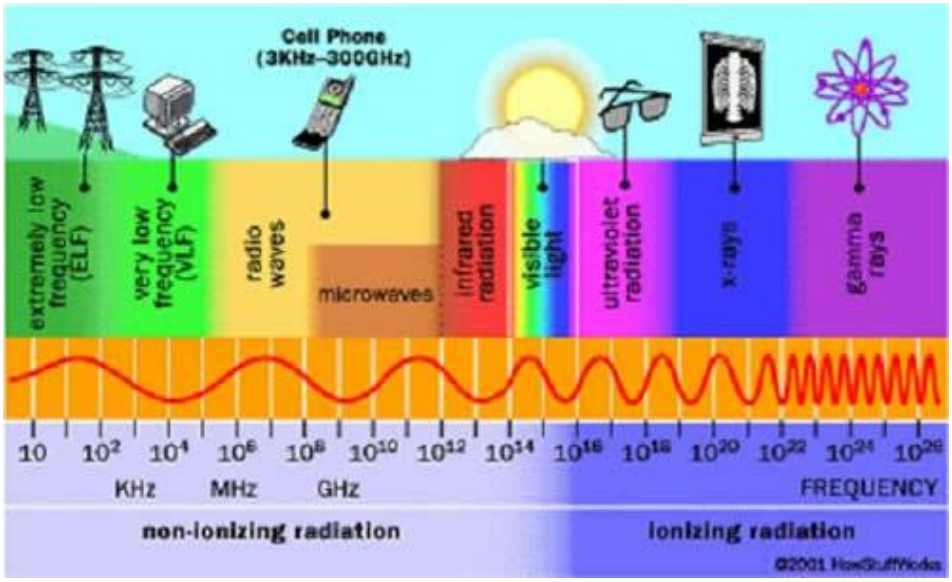
Formaldehyde, airborne particles (various compounds), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, mercury, chromium, cadmium.
Toxic agents vary depending on the environment where the person lives, much more dangerous if you are near an industrial area, the toxins can arrive through the air or contaminated water.

- **Stings or bites:**

In addition to all the agents already mentioned, some animals have toxic substances that they use as defense mechanisms, as is the case with various insects such as bees, scorpions, some species of spiders; reptiles such as snakes, or mammals such as platypuses. In poisoning in these cases, it can become a serious case that causes an anaphylactic shock, which should be treated in a similar way to acute poisoning.

Radiation exposure.

There are many types of radiation, and in fact we are continually exposed to radiation since light or radio waves are also a type of radiation, in this case it is electromagnetic waves. In nature, we naturally find radiation, for example, that which comes from outer space: UV rays, which are mostly filtered by the atmosphere, radiation that comes from elements such as radon, from artificial substances or even from nuclear tests or accidents such as Chernobyl or Fukushima, which have released radiation into the atmosphere; however, once dispersed, these levels are low enough to be harmful to health.



The technology of the modern world has brought new types of radiation such as radio waves, waves from telecommunication networks (the famous 5G); as well as the radiation radiated by many electronic devices and appliances such as computers, screens, microwave ovens, etc. All of them can affect our body, perhaps in a subtle way, but constantly. Now practically all the time we are surrounded by electromagnetic pollution. There is still debate whether this type of radiation can be harmful to health. With bioenergetics we can ask if a person is particularly sensitive, and if continuous exposure or proximity to these radiation sources could be affecting them in some way.

On the other hand, we have radioisotopes, which are elements that naturally produce radiation, losing small amounts of energy throughout their lives, until they decay and become another element. Such is the case of radium, uranium, radon, and many others. Unfortunately, the first researchers who worked with these elements did not know the damage they caused and paid for it with their lives, like the scientist Marie Curie.

In short, radiation can be made up of high-energy alpha, beta or neutron particles, as well as high-frequency electromagnetic waves: X-rays or gamma rays. The damage that radiation can cause to an organism depends on the amount of radiation emitted by the source, the distance and the time of exposure. When the radiation is very intense, it ionizes the atoms or molecules with which it comes into contact, removing electrons, which is why it is called ***ionizing radiation***.
In the case of leaks in nuclear reactors, it only takes a few minutes for organisms to be damaged. Symptoms of **radiation intoxication** usually appear almost immediately, but can come on over time, or come and go. Symptoms include nausea and vomiting, diarrhea, headache, dizziness, fatigue, bleeding, hair loss and swelling, skin irritation and/or burns. Very large doses of radiation can cause death. Also called ***acute radiation sickness***, ***radiation sickness***, ***acute radiation syndrome***, or ***radiation sickness syndrome***.

In other cases, when the intensity or duration of exposure is more moderate, symptoms may take longer to appear. This is the case of people who were near the cities of Hiroshima or Nagashaki when the United States attacked with atomic bombs. People continue to suffer from the effects of radiation for decades, in part because radiation is still present in these places. People may have alterations in the digestive system, nausea, vomiting, fatigue, hair loss, skin disorders, thyroid problems, kidneys, liver, etc.
Radiation, even in moderate amounts, can harm the fetus, especially in the first 8 weeks, altering brain development and other organs.
Radiation is one of the factors that can cause cancer as it can directly damage the DNA molecule. If this type of disorder is suspected, a bioenergetic test of the chromosomes can be carried out.

Ionizing radiation can be:

- Internal: when the radioactive substance is ingested or somehow reaches the bloodstream or some tissue.
- External: when the radioactive material is in the environment

More moderate but constant exposures can also damage health. We should especially pay more attention in the following circumstances:

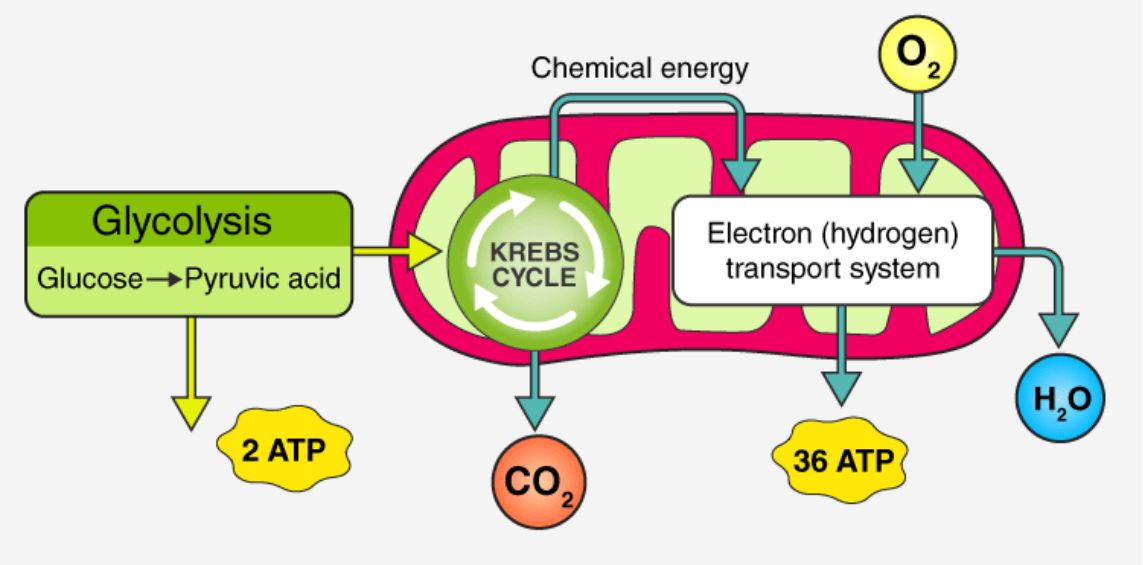
- Patients subject to radiotherapy or studies where radioactive substances are administered

- Nuclear power plant workers
- Medical staff using X-ray equipment
- Industrial handling of radioactive substances
- Workers on microwave antennas or on high voltage power lines
- Astronauts who stay for months in space.

Oxidative stress

Unit III Lesson 2

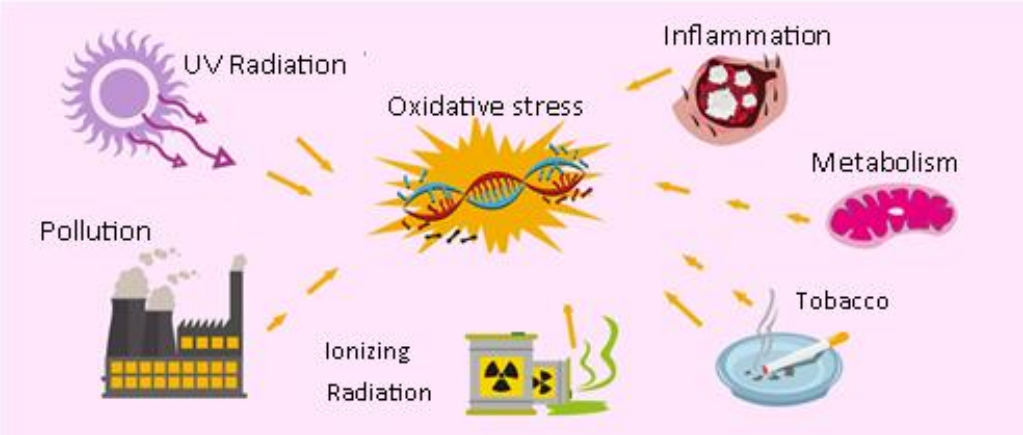
Oxidative stress and chronic inflammation are two processes that are closely linked and, fortunately, we are increasingly aware of their importance and of studying them in greater detail, since the vast majority of diseases start from these disorders.



Oxidation is a natural process of the cell through which oxygen intervenes to oxidize molecules such as sugars and fats, resulting in the obtaining of energy essential for cell function. This process is called ***catabolic metabolism***.
Oxidative stress is a state of the cell in which intracellular oxidation-reduction homeostasis is altered, that is, the balance between prooxidants and antioxidants. As a result of cellular metabolism, substances such as nitric oxide (NO-) and reactive nitrogen species (ERNs) derived from it are generated, which have the power to damage organic molecules within the cell. To neutralize oxidation, the cell uses antioxidants, which it must obtain or manufacture through the nutrients in food.
Oxidative stress is mainly due to three factors:

- The first is the lack of antioxidants, which are found in vitamins and minerals, which is obtained through a correct diet, abundant in fruits and vegetables.
- The second factor is excess free radicals. Free radicals are also unstable molecules or elements capable of “stealing” electrons

from the organic compounds of the cell, and therefore damaging it, in a similar way to the substances resulting from the catabolic activity of the cell. The end effect is the same. Damage to cell structures, which over time can lead to countless diseases: In principle, the cell has fewer resources to defend itself against pathogenic organisms, so it is easier for an infection to occur. Over time, the alteration of the cellular balance leads to a whole series of complex and degenerative diseases. But we will see a little more on the subject later. Free radicals are harmful substances that we can find in many elements such as cigarette smoke, alcohol, chemicals present in food such as sweeteners, flavorings, dyes, emulsifiers, also in elements present in the air or water due to environmental pollution.



- The third least mentioned factor is the lack of balance of the ***circadian cycles*** that lead the cell to remain longer in catabolic mode without leaving time for rest that allows self-repair and return to the balance zone, or homeostasis.
  When sleeping, our body secretes a series of hormones such as melatonin and the parasympathetic nervous system sends the order to our body so that our organs and cells rest and regenerate. This activates another type of metabolism called anabolic, which allows the cell to regenerate and regain its balance. If we go to bed stressed, we will not be able to sleep well and will suffer from insomnia or restless sleep. When we get up the next day, we will feel tired and in a bad mood, because in reality our body has not obtained the necessary rest. Our cells, our organs and our entire body are weakening and becoming unbalanced day by day due to lack of rest. It is like a runner, who is exercising all the time, without

leaving room for rest, at some point he will present symptoms of extreme fatigue, which is called "burn-out".

If you have taken note of all the above, you will have already realized that there are actually two types of oxidative stress:

1. The one that is caused by the same metabolism of the cell that we can call **endogenous**.
2. And the **exogenous**, which is due to elements from outside the cell such as free radicals or radiation.

In addition to causing various diseases, oxidative stress also affects aging processes, and aging in turn favors oxidative stress, since the body loses resources to avoid or minimize cell oxidation. Therefore, it is very important to cultivate healthy lifestyle habits: as we already mentioned, a diet rich in fruits and vegetables.
Vitamin E especially captures the hydroxyl radical, its main source being wheat germ.
Vitamin A is present in fish liver oil, in vegetables (such as carrots) rich in carotenoids and vitamin C in citrus fruits, tomatoes, strawberries and vegetables.
The first two, because they are fat-soluble, can accumulate in fats and/or membranes and it is not yet known what consequence their abusive use can have, which is why it is more advisable to ingest them in natural products than in their isolated form.

Epidemiological studies indicate that the ingestion of fruits and vegetables confers protection against the development of cancer, frequently associated with oxidative stress. Although it has been proposed that the beneficial effect of this type of food lies in the

antioxidant properties of the vitamins they contain, when vitamins C and E (1, 2) and pure carotenoids are administered, such conclusive results are not obtained. From this study, Potter (2) concludes that fruits and vegetables would act as a "polypharmacy" against the development of chronic diseases, containing not only vitamins but also other antioxidant agents, such as polyphenols (with free radical scavenging and metal chelating properties), forming a complex antioxidant network.
Flavonoids are antioxidant polyphenols, present in plants and possibly the benefits of eating fruits, vegetables and red wine, touted by nutritionists, lie in their high content of these polyphenolic antioxidants. Polyols (e.g., sorbitol) also strongly activate stress-sensitive signal pathways (3). Some elements such as glutathione and melatonin (produced by the pineal gland) have the ability to “trap” free radicals, minimizing their damaging effects.
Avoiding free radicals is also of vital importance, avoiding alcohol, tobacco, as well as harmful elements that may be present in processed foods, already mentioned, or in the environment (factory smoke, solvents, etc.).
Exercise stimulates cells, activates antioxidants, as well as other mechanisms that allow the body to deal with oxidation. However, strenuous exercise is harmful to the body, since beyond a certain limit the body is not able to handle the excess of nitric oxide, lactic acid and other substances derived from physical activity, which causes damage and an imbalance that it will take time to resolve. Therefore, exercise should be practiced, but in a moderate way, in accordance with the age, sex and physical condition of the person.

So, it has to be the right exercise, at the right intensity, and even at the right time of day. We will not dwell too much on this topic, since it is very

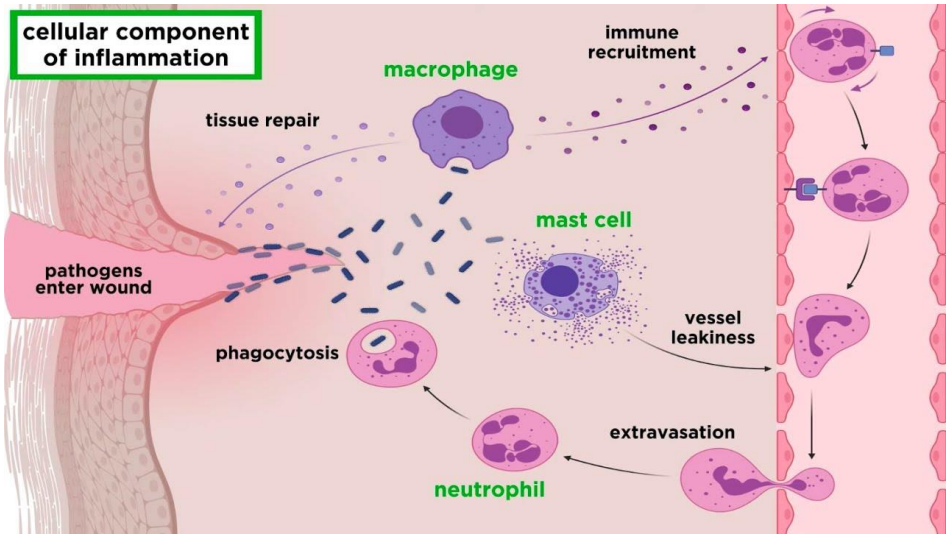
broad, but in general terms, let's say that it is better to exercise daily, in a moderate way, than to practice a single day exceeding the limits of the body. It is advisable to intersperse more forceful exercises with weights or gym machines, the next day do cardiovascular exercise such as running, riding a bicycle. Disciplines such as yoga, tai-chi, meditation are invaluable tools, as they help the body achieve hormonal balance, the autonomic nervous system, and circadian cycles. They can be practiced for a few minutes after having performed the intense exercise routines.

1, 2, 3: Potter J D, 1997. Cancer prevention: epidemiology and experiment. Cancer Lett. 114: 7-9. 31. Lee A Y, Chung S S, 1999. Contributions of polyol pathway to oxidative stress in diabetic cataract. FASER J. 13: 23-30

Silent inflammation

Unit III Lesson 3

Inflammation is our body's response to damage: a sprained ankle, a burn, an infection... The symptoms we associate with inflammation, such as redness or swelling, represent the beginning of the repair process. Without inflammation, there is no healing.



Inflammation, therefore, is not bad. It is a strategy of the immune system to attack the pathogenic agent or when an injury occurs, and mobilize the necessary compounds for reconstruction. Under normal conditions, the threat is eliminated, the repair is complete, and a few days after the inflammation, anti-inflammatory processes are activated to minimize the damage. It is necessary to highlight the fact that the body has the same reaction when it detects possible damage, whether it is caused by pathogenic germs, free radicals, radiation, or even psychological disorders. The body will always activate the immune system causing an inflammatory process.
The problem comes when this process, for different reasons, remains constantly active. There is no apparent swelling or redness, but the immune system remains alert. The result is a low-grade, chronic, silent, and very dangerous permanent inflammation. It's like having a wound that never heals. The constant activation of the immune system, the state of persistent inflammation ends up altering the tissues and the organism as a whole, generating different disorders that we will see in this section.

Inflammation and disease

Modern chronic diseases are very diverse, but they share causative factors. Of these, chronic low-grade inflammation is the most relevant, raising the risk of cardiovascular disease, cancer, diabetes, autoimmune disorders, depression, and neurodegenerative diseases. In fact, it is associated with an increased risk of mortality from any cause. Inflammation is a better predictor of longevity than telomere length.
This low-grade inflammation contributes to so many diseases because it affects the entire body:

- Damages DNA, increasing the risk of cancer. Inflammation is estimated to contribute to 25% of cancer risk.
- Dysregulates the homeostasis of multiple hormones, favoring, for example, insulin resistance.
- Damages organs and tissues, interfering with their proper function. It even attacks muscles and bones, contributing to sarcopenia (muscle weakness and atrophy) and osteoporosis.
- Damages the cardiorespiratory system. Inflammation is, in many cases, a better predictor of coronary heart disease risk than cholesterol. The disease is initiated by an LDL particle that becomes embedded in an artery, but develops from an inappropriate inflammatory response.
- It hinders the proper functioning of the immune system, increasing the risk of infections and making vaccines less effective.
- Inhibits neurogenesis, increasing the risk of depression and neurodegenerative diseases.

Causes of low-grade inflammation

A multitude of factors contribute to this low-grade chronic inflammation. Let's review the main.

Obesity

When our fat cells, called adipocytes, are filled to the limit, they become dysfunctional, and they alert us to their status by releasing pro-inflammatory cytokines. Some people have an easier time than others to produce new adipocytes, and in these cases the increase in inflammation is less. By creating new adipocytes, the fat is distributed among more cells and the stress that each one supports is less. People who develop new adipocytes suffer less inflammation when gaining weight.
On the negative side, the adipocytes created by gaining weight will hardly

be destroyed, facilitating future weight gains. On the other hand, some types of fat have limitations when it comes to hypertrophy, that is, to expand their reserve capacity.
For example, visceral fat is especially dangerous because it produces less hyperplasia and more hypertrophy, and therefore more inflammation. This inflammation of fatty tissue directly contributes to the risk of insulin resistance and diabetes.

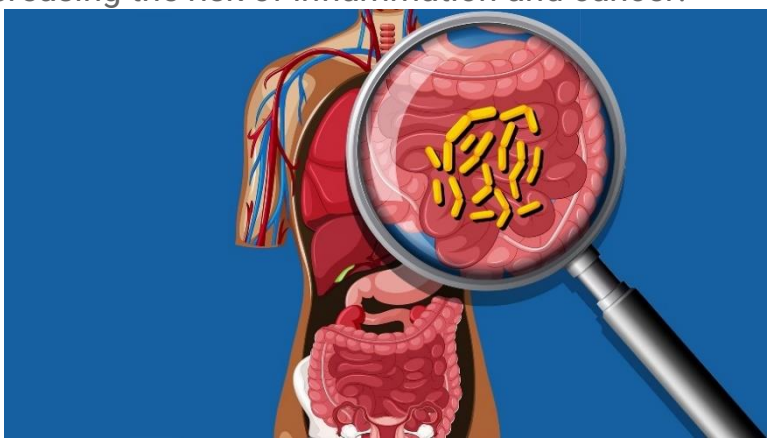
Sedentary lifestyle

Lack of physical activity facilitates obesity, but is associated with increased inflammation regardless of weight. In other words, exercise reduces inflammation through multiple pathways, and not just because it helps burn fat. In reality, the relationship between exercise and inflammation is complex. On the one hand, exercise is stressful and causes some damage, activating our inflammatory response. As we have seen, this punctual inflammation is not only not bad, but it is necessary to repair and strengthen our body. In fact, abusing anti-inflammatories, such as ibuprofen, could inhibit the effect of training.
On the other hand, repeated exercise has a powerful anti-inflammatory effect. The muscle is an endocrine organ, which when stimulated produces myokines that counteract inflammation. Some muscle-produced interleukins (ILs) also stimulate general fat oxidation (such as IL-6), while others primarily attack visceral fat (such as IL-15). Muscles also produce BDNF, a neuronal fertilizer that mitigates depression and reduces the risk of neurodegenerative diseases.
People with obesity have much higher levels of inflammation than athletes.
Some researchers estimate that a third of the benefits of exercise come from its ability to mitigate this chronic inflammation.(1)

Unbalanced microbiota

As we know, different factors of modern life unbalance our microbiota and cause the intestinal mucosa to become permeable. This facilitates the crossing of molecules unknown to our immune system, causing it to raise inflammation as a protection strategy. When the intestinal mucosa loses integrity, compounds such as endotoxins from bacteria (lipopolysaccharides) can reach the bloodstream and increase inflammation.

Dysbiosis or imbalance of the microbiota also puts the immune system on alert, increasing the risk of inflammation and cancer.



Harmful foods

A bad diet elevates inflammation in multiple ways.

For starters, it harms the microbiota, perhaps the most direct pathway linking diet to inflammation. For example, a low fiber intake limits the production of butyrate in the colon, a particular acid that reduces inflammation.

When frying, especially with polyunsaturated vegetable oils (such as sunflower, corn or soy), compounds that increase inflammation are produced. The result will be especially bad when reusing these degraded oils, and the continued use of reheated oils is associated with higher levels of vascular inflammation. In contrast, fresh food-based diets are associated with lower levels of inflammation. (2)

Although the important thing is to have a good overall diet, some foods have been specially studied for their anti-inflammatory potential:

- Fruits and vegetables rich in fiber and polyphenols, such as berries, tomatoes or broccoli.
- Foods rich in beta-glucans, such as mushrooms and oatmeal.
- Foods rich in Omega 3, such as oily fish and nuts.

- Olive oil, mainly for its contribution of oleocanthal.
- Spices with great antioxidant power, such as turmeric, ginger or cinnamon.
- Millenary beverages such as tea and coffee.
- Whey. In older people, inflammation contributes to sarcopenia, and protein supplements (such as whey) have been shown to reduce the problem.

Imbalance of Circadian Cycles

Like most processes in our body, the function of the immune system is also governed by circadian rhythms, and the dysregulation of these rhythms affects its function and increases inflammation. Furthermore, these processes feed off each other. Inflammation makes it difficult to sleep, and lack of sleep elevates inflammation. And as we also saw, it affects all the tissues and cells of the body to favor oxidative stress. (3)

Stress

When faced with a threat, our body activates the so-called sympathetic nervous system, which is responsible for our fight or flight response. Heart rate and blood pressure rise. Muscles tense and pupils dilate. In anticipation of a possible injury, pro-inflammatory cytokines are also secreted. Although this response is ineffective against most modern stressors, it is the only one we have. Our brain continues to believe that we live in an uncertain world. This acute response, applied intermittently, benefits us, hence the importance of introducing ancestral stimuli such as intense exercise, cold or heat.

However, constant stress, usually caused by psychoemotional factors, increases the risk of multiple diseases, and low-grade inflammation is one of the main pathways. The sympathetic nervous system facilitates inflammation, while the parasympathetic nervous system inhibits it. The balance between the two is key to regulating the immune system.

Compounds such as adaptogens (4) can help combat stress, in addition to having, some of them, a direct anti-inflammatory effect. (5)

Aging

Over time, the cells become damaged and are replaced by others. In this regeneration process, some undergo dangerous mutations and are paralyzed by the immune system before they can become malignant. Many of these damaged cells are eliminated, but others remain in a zombie state, neither dead nor actually alive. These cells, called senescent cells, release substances that increase inflammation. For this reason, inflammation tends to rise with age, and with it all associated diseases. This is the concept of ***inflammaging***, luckily, it is not an inevitable process, and its evolution depends more on our habits than on our years.

How to detect silent inflammation

As its name implies, this condition can be present without showing any symptoms, making it difficult to detect. Allopathy also does not currently have any specific marker that can measure it. Therefore, the therapist must infer its possible presence based on the information received from the patient. If the person is obese and/or sedentary, it is more likely that they may suffer from this disorder.

Also smoking, alcoholism or the abuse of any other type of drug can favor this condition. People who suffer from chronic-degenerative or complex diseases such as diabetes, cancer, allergies, poor immune system, lupus, Alzheimer's have probably already suffered from silent inflammation for a long time. While people who present inflammatory processes located in some organ or tissue such as arthritis, prostatitis,

esophagitis, are also candidates for having suffered from silent systemic inflammation for a considerable time. As we already know, in these cases the specific pathogens that affect the organ, or the affected organs, must be found.
Bioenergetics can also help us to investigate this aspect, either by using the pendulum and a gradient graph, or by formulating questions that can be answered in the form of yes or no, such as:

- Does this person have no systemic inflammation? (null)
- Does this person have mild systemic inflammation?
- Does this person have moderate systemic inflammation?
- Does this person have severe systemic inflammation?

Since there is no quantitative scale to measure chronic systemic inflammation, at the moment the classification as zero, mild, moderate and severe are the most convenient.
Another question could be:
Has the inflammation been present for (mention months, years or a specific date)?
To find the causes you can ask:
The factors that cause inflammation are...

- Food?
- Recurring infections?
- Presence of toxins or free radicals?
- Hormonal imbalance?
- Emotional imbalance, blocked emotions?
- Stress?
- Sedentary lifestyle (lack of physical activity)?
- Lack of sleep and rest?
- Aging or genetic damage?

Usually we will find that there are several causative factors.
In conclusion, silent inflammation depends more on the lifestyle habits that we already mentioned, such as healthy eating, exercise, hygiene, to avoid infections, respecting the hours of sleep; without forgetting the emotional balance and the adoption of anti-stress habits. Medicines can do little to prevent or control it, at most they can help alleviate its negative effects.
Biomagnetism can help on various fronts, either by applying energy balance pairs such as the **nape - sacral** pair or Dr. Bansal's pairs: ***palm – palm*** or ***plant-plant***. In the same way, pairs can be applied to try to balance other systems such as the endocrine, the immune, the metabolism of fats. In other words, pairs can be applied according to the

needs and imbalances detected in each patient. In this way, biomagnetism is an invaluable help in cases of silent inflammation (which are much more common than expected). However, and it is very important to clarify, a lasting balance cannot be achieved if the person does not carry out the change in lifestyle that we have already mentioned.

Digital information sources:
1. www.sciencedirect.com
2. www.schneiderclinic.com
3. journals.physiology.org
4. Adaptogens are substances found in plants such as turmeric, elderberry, rosemary, chamomile, Siberian ginseng, ginger, rose hips, hawthorn, nettle and help relieve stress. They can be obtained naturally or in extracts marketed in various product brands.
5. www.frontiersin.org

Immune system and microbiota

Unit III Lesson 4
The immune system is responsible for neutralizing pathogens that can alter the health of our body. By pathogens we understand all kinds of organisms from tiny viruses, as well as bacteria, fungi, to parasites. But also some substances or elements such as free radicals can be harmful or toxic to our body, and the immune system also acts in these cases.
In the Anatomy and Physiology course we give a more complete explanation of the immune system, its components and its functioning. For now we will limit ourselves to explaining it in a very general way: The cells that act as the army of the immune system are the white blood cells that travel mainly in the blood and are also found in the lymphatic system. The cells are produced in the bone marrow of the long bones and from there they undergo different maturation processes. White blood cells, also called leukocytes, mature in the nodes of the lymphatic system (B lymphocytes), others in the thymus gland: the so-called T lymphocytes.

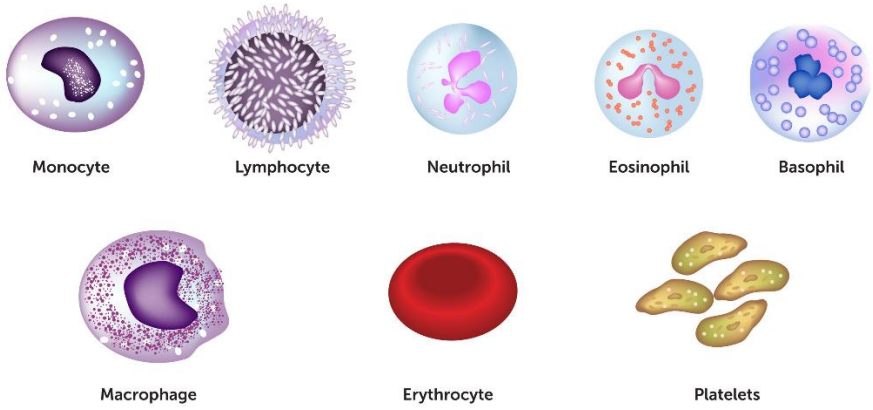
Types of immune response

Actually, the body has two types of immune response: Firstly, we have the **innate response**, as its name indicates, it is a response that the body already has from the moment of birth. This response occurs immediately when the immune system detects a pathogen and consists of neutralizing it or attacking it indistinctly. To fight infection, the immune system activates a series of processes such as temperature rise and tissue inflammation. The leukocytes responsible for this response are the Neutrophils, who phagocytize (engulf) the pathogens. We also have the Basophils and Eosinophils

who are responsible for inflammation and allergic reactions.
The **adaptive response** is the second battle front and begins when the immune system detects a pathogen. Whether it is a virus, bacteria, toxin or even a damaged cell, the immune system is able to detect them thanks to substances that they generate called antigens. The B or T lymphocytes then make immunoglobulins, also called antibodies, specifically designed to attack a specific antigen. This process takes the immune system some time, during which time the body tries to contain the infection through the primary immune response.

The immune system has memory

The system has memory lymphocytes, which are responsible for keeping track of the antigens that the body has previously encountered, in this way, when it encounters the same agent again, it will react much more quickly, having a much better chance to successfully fight infection.

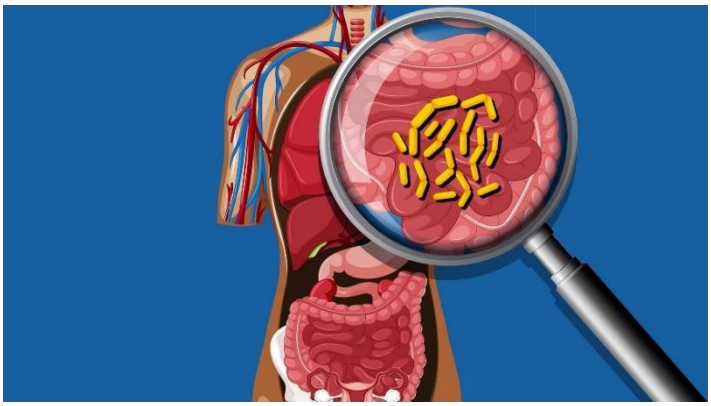


Before birth the baby has practically not developed the adaptive immune response, although there are studies that suggest that many of the immunoglobulins can be inherited to the baby through its mother. Such is the case of the coronavirus that, having suffered from the mother, the baby can develop some immunity.
The first moment that the baby comes into contact with a myriad of pathogens is at the time of birth, when passing through the vaginal canal, his entire body is bathed in various types of bacteria and viruses. Doctors now consider this moment to be of vital importance for the baby to begin to develop the adaptive immune response.

The second moment is when the baby begins to feed on breast milk, there are also a large number of pathogens, but also antibodies that will help strengthen their immune system. And throughout life, food intake will be a continuous administration of various agents such as viruses, bacteria, fungi and parasites. All vital for the balance of the organism and to maintain a balanced immune system. Now medical science is beginning to understand the relationship between the digestive system, the immune system and the health of the body in general. As the naturopathic doctors used to say, the intestine is the center of the body and the health of the entire body depends on its state of balance. Hence the importance of maintaining a balanced diet, rich in fiber and, if possible, carrying out detoxification processes periodically.

Mucous membranes and intestines

A part of the work of the immune system is carried out in the lymphatic system, particularly in the lymph nodes, where the lymphocytes encounter large numbers of pathogens that are discarded from the tissues. But another part is made in the mucous membranes of the body such as the mucous membranes of the respiratory system or in the digestive tract. Mainly in the latter is where the immune system can be strengthened or lose balance. The most recent studies indicate that for the immune system to work optimally, it is necessary to have a healthy microbiota. The microbiota is what used to be called intestinal flora, but more than plants, it is about the bacteria that inhabit the intestines. Having a large number of "good" bacteria will allow the immune system to work in balance, attacking only pathogens and respecting "good" cells. While the presence of "bad" bacteria will throw the body out of balance, causing the much-feared silent inflammation, which will cause a series of disorders and diseases.



To give an example: it has recently been discovered that the bacterium ***Faecalibacterium prausnitzii***, present in the intestine, is of vital importance, since it is an anti-inflammatory agent, so its decrease or absence in the microbiota translates into greater inflammatory processes in the body. In the case of people infected with covid-19, there is a close relationship between the absence of the bacteria and the development of an acute illness or a longer recovery.
Surely there are many other interactions between germs and our bodies that we have not yet studied, so the slogan of keeping them out of our body, of living in a completely sterilized environment, is a far-fetched idea.

The importance of diet

It has recently been discovered that cow's milk, as well as all products derived from it (cheese, cream, etc.) contain antibodies that alter the immune system. Some people are more sensitive to them while others are less so. As far as we now know, milk not only affects humans due to lactose intolerance, but also due to antibodies that especially affect the immune system. As humans age, their ability to digest lactose decreases. In fact, it should be avoided from childhood, especially in children who have allergic symptoms, in this way we would be greatly improving the health of children.
Food intolerances such as lactose intolerance, gluten intolerance or oilseeds are actually closely related to allergies. At the end of the day, all of them alter the immune system, producing some type of inflammation that will affect a particular tissue, or the entire organism.
The healthiest diet is one based on natural foods, preferably organic, that do not contain chemicals or other added substances. A diet based on vegetables and fruits, which provide a high fiber content, should also avoid the consumption of animal products and their derivatives, as well as excess sugar and salt. All these factors that we have just mentioned determine the type of microbiota that our intestine will develop.

These recommendations are very general since the best thing to do would be to personally test to find out which foods are better for someone (medicinal foods) and which ones should be avoided (harmful foods). This test could be carried out from the first session, to indicate to the person the changes in diet that they need to make to improve their health.

There are many types of diets; one that can be very useful is the one proposed by Dr. Peter D'Adamo, it could serve as a guide to carry out more efficient testing. This is the classification of Dr. D'Adamo and the different characteristics, based on blood groups:

Type A
Allowed Foods: Vegetables, fruits, grains, peas, legumes, nuts, and seeds.
Foods to Avoid: Dairy, meat, fish, poultry, eggs, and processed foods
Exercise: Calming exercise, such as golf or yoga, is recommended.
Type B
Allowed Foods: Vegetables, fruits, grains, peas, legumes, meat, poultry, fish, eggs, and dairy.
Foods to Avoid: Nuts, seeds, and processed foods.
Exercise: Moderate-intensity exercise, such as walking, hiking, and tennis, is recommended.
Type A-B
Allowed Foods: All foods allowed on both Type A and Type B diets are fine, but following a vegetarian diet is recommended most of the time.

Foods to Avoid: Processed Foods
Exercise: Both calming and moderate-intensity exercise are recommended

Type O

Allowed Foods: Meat, poultry, fish, and olive oil; in moderation: some vegetables, nuts, seeds, and eggs
Foods to Avoid: Dairy, grains (cereal, bread, pasta, rice), peas, and processed foods
Exercise: Vigorous exercise, such as running, is recommended.

Interesting, because according to Dr D'Adamo it is not good for all of us to be vegetarians or carnivores, that is determined by the blood type and how man evolved through these different types, living different eating situations throughout the time they created these forms of adaptation.

Conclusion

The idea of bad germs that allopathic medicine has preached for several decades, is losing strength every day. We now know that in our body there are 10 times more foreign organisms than cells with our own DNA, only a small part of these germs can be pathogenic and only in certain circumstances. Most of them live in perfect balance creating an entire community. Viruses are able to eat bacteria and maintain a balance of their populations. Viruses also serve to transport genes from one organism to another. While bacteria are involved in hundreds of processes in our own body in such a way that it would be difficult to live without them.
All this leads us to imagine the multiplicity of organisms and complexity of our body and the work that the immune system does to detect when a germ can be pathogenic, that is, to distinguish the good ones from the bad ones. Our body has developed a sophisticated intelligence to be able to function in the best possible way, in coexistence with innumerable germs.

1. journals.physiology.org
2. www.frontiersin.org

Immune system disorders

Unit III Lesson 5

The allergies

The immune system does not always work perfectly, sometimes it reacts disproportionately to substances that are not really harmful to the body, causing what we know as an allergic reaction. Allergies can be mild reactions, they can manifest on the skin as a rash, in the eyes, or in the respiratory tract as nasal congestion. Silent inflammation, which we have already studied in the previous section, is a type of immune system reaction very similar to allergic reactions, with similar mechanisms such as inflammation and increased temperature.

On some occasions, allergic reactions can present severe reactions of acute systemic inflammation that, in addition to the previous symptoms, affect all systems, such as the cardiovascular and respiratory systems, which, when inflamed, endanger the person's life. This is what is known as **anaphylactic shock**. Epinephrine administration can counteract the effects of inflammatory substances (histamines) generated by the immune system. In these cases, the person's life may be in danger. In biomagnetism the **kidney - kidney** pair can achieve a similar effect.
But, what is it that causes the immune system to get out of balance and have these types of allergic reactions? There are various factors such as genetic predisposition (hereditary); while others have to do with the development of the child's immune system from birth (or even before). A mother who has a body contaminated with toxins (cigarettes, alcohol, medications, junk food) is more likely to have a baby with an

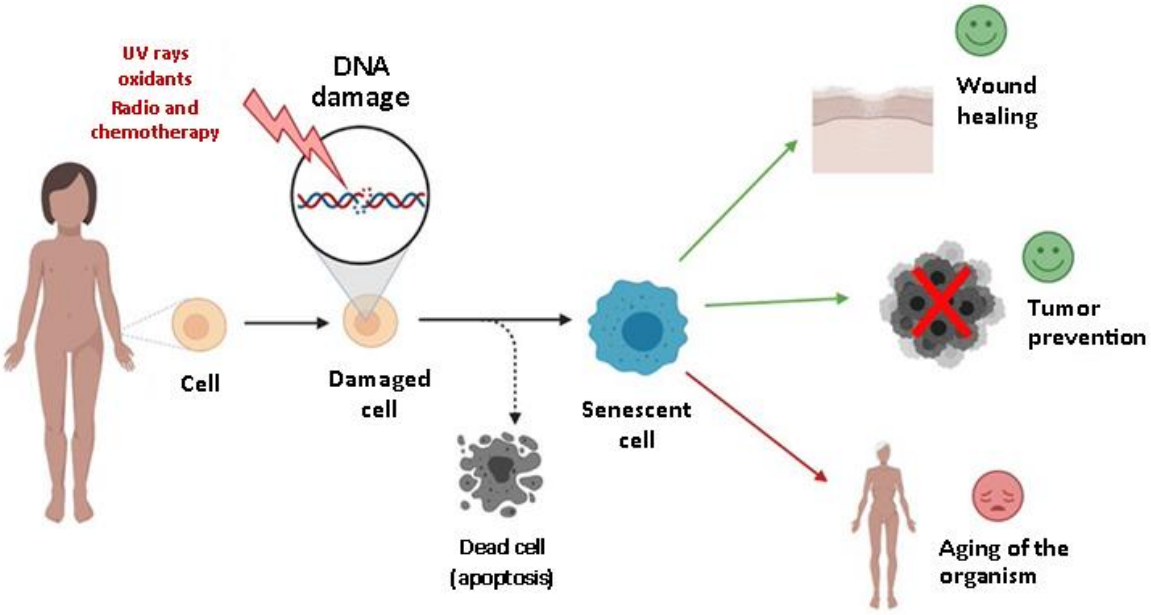
unbalanced immune system, since from the moment of the womb she is inheriting good or bad health.

Then comes the lifestyle. What kind of food does the baby have? The most recommended is natural feeding: at least the first 6 months of life, only breast milk, then various foods can be added. Milk is the first "vaccine" that the newborn receives, with which it begins to form its intestinal microbiota. These bacteria, which accompany us throughout life, have multiple functions such as helping to digest food, attacking other pathogenic bacteria, and helping the immune system to be able to identify "good" bacteria from "bad". Therefore, maintaining a good microbiota is vital for developing a good immune system, as well as for general health.
It is worth remembering the general recommendations: eat probiotics, eat more foods rich in fiber, eat plenty of vegetables and fruits and avoid processed and animal foods. From a young age, get children used to eating healthily, avoiding saturated fats and excess sugar. From a young age, the child's palate can be educated to prefer healthy foods over harmful ones.

Autoimmune diseases

One more function that the immune system has is to eliminate the cells of our own body when they are damaged. Cell damage can be due to various factors such as being infected by a virus, having suffered a genetic mutation, showing signs of aging or any other type of damage. The immune system is capable of detecting the signals that tell it when to eliminate this type of cell. Cytotoxic T lymphocytes (produced in the

thymus) are responsible for recognizing senescent cells from “normal cells”.



Autoimmune diseases occur when the system is not able to make this distinction and attacks cells and tissues that are in good condition. As we already mentioned, the imbalance of the immune system, which manifests itself as silent inflammation, favors the different types of autoimmune diseases.
There are more than 80 types of autoimmune diseases, let's review some of them:

- **Addison's disease**, affects the adrenal glands.
- **Celiac disease** (sprue) (gluten enteropathy).
- **Dermatomyositis**, presents with muscle weakness and skin rash.
- **Graves' disease**, produces hyperthyroidism (excessive activity of the gland).
- **Hashimoto's thyroiditis**, produces hypothyroidism (deficit of activity).
- **Multiple sclerosis**, affects the nervous system.
- **Type I diabetes**, affects the pancreas, can be suffered from a young age.
- **Scleroderma**, can affect various tissues causing inflammation.
- **Myasthenia gravis**, affects the neuro-muscular system.
- **Pernicious anemia**, disorder of the digestive system that prevents the absorption of vitamin B12.
- **Reactive arthritis**, affects the joints.

- **Rheumatoid arthritis**, also affects the joints.
- **Systemic lupus erythematosus**, multisystemic, that is, it affects the entire body.
- **Type II diabetes**, affects the pancreas (insulin production).
- **Sjogren's syndrome**, affects salivary glands, lacrimal glands, among others.

For more information on these disorders, see the Biomagnetic Guide in the article autoimmune diseases .

Finally, let's see other important factors that favor the appearance of autoimmune diseases:

- **Cancer** especially in the case of lymphoma, or bone marrow cancer.
- **Diabetes** and other metabolic diseases decrease the capacity of the immune system.
- **Infections** such as HIV-AIDS or any other pathogen, be it a virus, bacteria, fungus, parasite, etc. In general, any prolonged or chronic illness weakens the immune system.
- **Malnutrition**, since the body does not have the necessary elements: minerals such as calcium or vitamins such as complex B, vitamins C, D, E...
- **Stress,** stress added to other factors such as poor sleep eventually cause various imbalances and undermine the health of the body, the immune system is one of the most affected under these conditions.
- **Drugs**, some drugs can alter the immune response, especially immunosuppressants that are used to prevent organ transplant rejection, reduce allergic reactions or the effects of autoimmune disorders.
- **Chemotherapy** greatly affects the response of the immune system.
- **Toxic substances**: chemicals, alcohol, cigarettes, drugs...
- **Cow's milk** and its derivatives.
- **Exposure to radiation**, including radiation therapy, can affect the function of the immune system.
- **Kidney or liver disorders.**
- **Old age,** since over time fewer white blood cells (particularly T-Lymphocytes) are produced and deficiencies in their structure and functions may also begin to appear.

Type II Diabetes

Unit III Lesson 6

Diabetes is the alteration of glucose levels in the blood. It is directly related to the hormone insulin produced by the pancreas. Insulin works as a "key" that allows glucose to enter cells to be used. When, for some reason, the insulin level is insufficient, glucose remains in the bloodstream, altering its balance, while the cells suffer from a lack of energy.

Type I or primary diabetes is when the person, from birth, already has a deficiency in insulin production. Type I diabetes can be due to hereditary factors or it can also be an autoimmune disorder, that is, the immune system attacks the tissues of the pancreas.

While **type II diabetes** is acquired throughout life, sometimes from childhood. Allopathic medicine holds that diabetes is caused by a deficiency of the pancreas, which is unable to produce insulin.
Depending on the degree of increase in blood glucose, diabetes can be treated in various ways: when it is mild, it is enough to change the diet, when it is moderate or severe, the patient may require daily insulin administration (insulin dependent).
All these measures are just to regulate the level of glucose in the blood, since allopathic medicine does not solve the root of the problem.
For biomagnetism, the deficiency of the pancreas is only one of the causes, which can be detected with the **duodenum – left kidney** pair.
Other pairs associated with true diabetes are: **tail of pancreas**

– gluteus, **duct of pancreas – kidney**, **tongue – anus** and **lumbar 2 =**. In addition, it will be necessary to find the factors that may be affecting the pancreas, such as infections or metal poisoning. In many cases, the "pancreatic belt" can work to help restore the function of the pancreas.

Fake diabetes

Dr. Goiz also discovered another type of diabetes that is not related to the malfunction of the pancreas, but to the presence of other pathogens that alter glucose metabolism, to date, at least 30 pathogenic entities related to diabetes have been identified:
Enterobacter cloacae is below the pancreas and causes false diabetes. Pair: **descending colon =** Trepanozoma cruzi, pair: **costodiaphragmatic =** Streptococcus B, Staphylococcus Aureus negative, Clostridium difficile, Adenovirus 36; all of them form a pair in the head of the pancreas, and therefore affect this organ, producing false diabetes.
We also have Salmonella Typhoid, as one of the main causes of false Diabetes. Pair: **greater trochanter =.**
Other pairs that may appear are **pancreatic duct – left kidney**, **gallbladder duct – right kidney** (corresponding to spirochetes) as well as the **hip** pair = (chlamydia) that causes pain in the waist, gluteus and difficulty walking or climbing stairs.
The parasites that can cause false diabetes are: Gardnerella or parasitic amebiasis, try **right omentum =** or/and **left omentum =.**
Some of these pathogens do not directly affect the pancreas, but several of them (bacteria) feed on insulin, altering the balance of the hormone. While others affect glucose metabolism directly in cells.

Complications

Moderate or acute diabetes, when it has been chronically suffered, entails a series of disorders, since the alteration of the blood and glucose metabolism damage various organs and tissues, among the most common we have:

- **Diabetic retinopathy**, macular edema, or any other damage to the eyes, which is accelerated by the presence of other pathogens such as Orf virus or Aspergillus (among others).
- **Diabetic foot**, which is nothing more than necrosis that occurs in the lower extremities. Here is added diabetes with circulatory problems (ischemia) as well as the possible presence of pathogens.
- **Cardiovascular problems** such as myocardial infarction or stroke.

- **Renal insufficiency**
- **Hepatic injury**
- **Nervous system disorders**
- **Alteration of the immune system**

In this type of patient, the therapist will have to attend to the complications, either through biomagnetism or using other methods. In the Biomagnetic Guide you will find extensive information on each of these disorders.

Gestational diabetes

Gestational diabetes occurs more frequently after week 20 of pregnancy and is favored by some factors such as:

- Overweight
- Hypertension

- Previous abortion
- Polycystic ovary
- Silent inflammation

Biomagnetism can also treat this condition, helping to improve the condition of the woman and her baby. We point out that the pathogens that have been found to be related to this disorder are klebsiela pn. Pair: **ascending colon – liver** and the pair: **hypophysis - medulla oblongata**.
Some biomagnetists recommend adding the following pairs to the treatment of gestational diabetes:
Pineal – Pylorus (depolarize only with bioenergetics)
Pylorus – Duodenum (depolarize only with bioenergetics)
Pineal – Pineal (depolarize only with bioenergetics)
Pineal – Pancreas (depolarize only with bioenergetics)
Pineal – Cerebellum (depolarize only with bioenergetics)
Right Occipital – Medulla Oblongata (depolarize only with bioenergetics).

Diabetes insipidus

This disease also alters blood glucose levels, lowering them considerably. It is not related to the pancreas but to the pituitary gland, which can be damaged due to trauma, tumors or infections. It can be treated with the same pairs as gestational diabetes, starting with the **hypophysis - medulla oblongata** pair. You can also review **sciatic =** (poliomyelitis), **cardia - adrenal**, and **hepatic ligament - cost-hepatic**.

Conclusion

As we can see, there are multiple pathogens that can cause a disorder such as diabetes, whether type II or gestational. As we already mentioned, there are at least 30 pathogens that may be affecting insulin production and/or glucose metabolism. The number becomes even greater if we consider the possible combinations of these pathogens, be it viruses, bacteria, fungi or parasites with each other. So it becomes clear that only a complete test is the best tool to locate the pathogens involved.
The sessions, at least at the beginning, should be carried out every week to continue finding the different pathogens that could appear (screen effect), as well as to attend to the possible disorders derived from the disease itself.
It is worth emphasizing that even the best biomagnetism treatment

cannot guarantee 100% success if the person does not make changes in their lifestyle, as we have already mentioned on other occasions:

- Healthy and natural food, taking special care in the amount of glucose in food.
- Follow the medical indications, if you are insulin dependent, continue with the insulin dose until the doctor indicates a change.
- Practice moderate exercise (as long as there is no contraindication).
- Take care of sleep and work schedules, avoid stress.

All these comprehensive health habits will be of great help to the diabetic patient, as well as the weekly follow-up of the biomagnetism sessions.

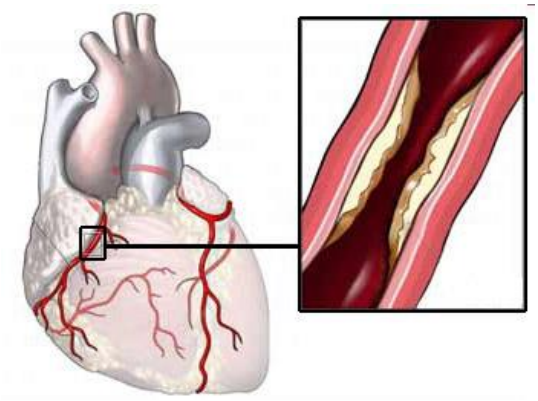
Circulatory system

Unit III Lesson 7

The circulatory system is responsible for carrying blood to each tissue in the body, transporting nutrients, oxygen and eliminating waste substances. Broadly speaking, it is formed by a network of blood vessels that are the arteries, capillaries and veins; in addition to a force pump that is the heart. For more details about the circulatory system, we recommend studying the Anatomy and Physiology for Health course presented on the course platform: ashrami.net

The supply of oxygen and nutrients is vital to keep all the cells of our body alive, since the lack of blood in some tissue, a condition known as **ischemia**, after a few minutes begins to cause damage or cell death. To keep the cardiovascular system healthy, it is important to practice the basic points of a healthy life, which are: good nutrition, exercise and stress control.
The proliferation of pathogens, which is the condition that Dr. Goiz pointed out, in principle is due to the energy imbalance, which in turn can be controlled if the aforementioned points are practiced.
The biomagnetic guide has a list of disorders of the cardiovascular system, which can be tested one by one through bioenergetics. Next, we give a description of each one of them and the particularities that the therapist must take into consideration.

Spasm



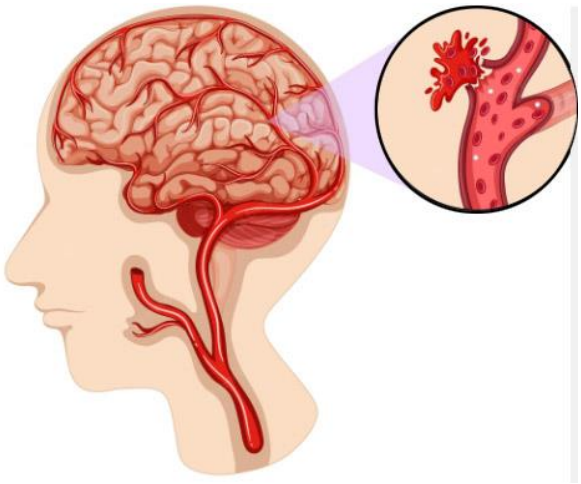
Spasm is an involuntary contraction of any muscle, whether smooth or striated. Intestinal spasm that affects the digestive system, altering digestion, producing what we call colic. Cramps are a type of spasm of the skeletal, or voluntary, muscles; while vaginismus is an involuntary contraction of the muscles of the vagina.

Since blood vessels are made of smooth muscle, they can also go into spasm, reducing or preventing blood flow to a certain area. Depending on the area of the body will be the symptoms that occur. If the spasm occurs in the arteries that supply an eye, it will present as some type of disorder or temporary blindness. Similarly, if it affects the ear it could cause deafness, and when it affects the brain it produces migraines. Coronary artery spasm can compromise the blood supply to the heart and cause a myocardial infarction (heart muscle).

Spasms may be associated with autoimmune diseases such as Systemic Lupus Erythematosus. Stress is also a factor that favors the presence of spasms. Aspirin can help prevent them, but bioenergetics should ask if this substance is appropriate for the patient. Placing the negative pole of the magnet in the affected area with kidney (+) can also be of relief.

Hemorrhages

The circulatory system is a closed system, meaning that blood only circulates within the blood vessels. The exchange of gases and substances occurs in the capillaries, which are the smallest conduits in the system and also have the thinnest walls made up of a single layer: the tunica intima. While the arteries and veins have three layers: intima, media and external tunics.



Hemorrhages occur when blood vessels are damaged, allowing blood to leak into the tissues or out of the body. The way the body tries to control bleeding is by creating a clot, which is done by platelets. The adequate level of this type of blood cell is vital to be able to control bleeding or to prevent thrombi from forming that can block the blood supply to some tissue.
Hemorrhages are classified as:

- **External.** due to trauma: cuts, fractures...
- **Internal.** in any tissue or organ.
- **Externalized.** exits through a natural opening in the body.

When blood loss is profuse or severe, it can put the person's life at risk, so they should be treated immediately with first aid while medical personnel attend. This happens regularly from accidents or attacks with weapons.

First aid

As a first measure, put pressure on the wound (in order not to infect it, use a sterilized gauze, or failing that, a clean cloth). The injured limb or body part may also be raised above the level of the heart. Even practicing the two techniques simultaneously.
In most cases this will slow or stop the bleeding. The platelets will be responsible for forming a clot that will stop the blood flow, unless the person has a disease or condition that affects the normal circulation of the blood or the wound, due to its size, does not allow the blood to clot.
A tourniquet will be applied only in extreme cases when the person's life is really in imminent danger, since by stopping the circulation there is a risk that the tissues will suffer necrosis.

Hemorrhagic shock

Also called **hypovolemic shock**, it occurs when the body loses more than 20% of its blood volume. The heart is unable to pump enough blood to the tissues and the organs and cells begin to suffer from a lack of oxygen. It presents with symptoms such as:

- Anxiety, confusion, altered mental status
- Low blood pressure and weak pulse
- Cold skin
- Shortness of breath
- Fatigue
- Distracted look

Without medical intervention to control bleeding or a blood transfusion, the person can die within minutes.

Internal hemorrhage

Internal hemorrhages are often more difficult to detect. They can be detected by palpating each part of the body, looking for possible injuries and inflammations. It can also be done through bioenergetics. In any case, medical studies and treatments are always necessary. X-ray images will help determine if any type of medical intervention is required, such as emergency surgery.
Hematomas are lower-risk types of bleeding that usually don't require medical intervention.
Stroke or cerebrovascular accident is also a type of internal bleeding that affects the brain.
Internal hemorrhage can also occur due to diseases that weaken the walls of blood vessels such as some types of cancer, diabetes or other chronic-degenerative diseases; or by the rupture of an aneurysm.

Externalized hemorrhages

They are those that occur through a natural orifice of the body such as the mouth (bloody vomit or bleeding gums), the eyes, ears, breasts, vagina, urethra or rectum. Gastrointestinal hemorrhages in most cases are caused by chronic-degenerative diseases of the digestive system. Anemia (iron deficiency in the blood) can occur in all cases.

Hematoma

A hematoma is the result of internal bleeding, which is commonly known as a "bruise". When the capillaries break, the blood flows towards the muscles and layers of the skin, in a short time it coagulates taking on the characteristic purple color. Usually, the blood is reabsorbed and the tissue recovers over time. The **injury - kidney** pair can speed up the recovery process and decrease inflammation and pain.

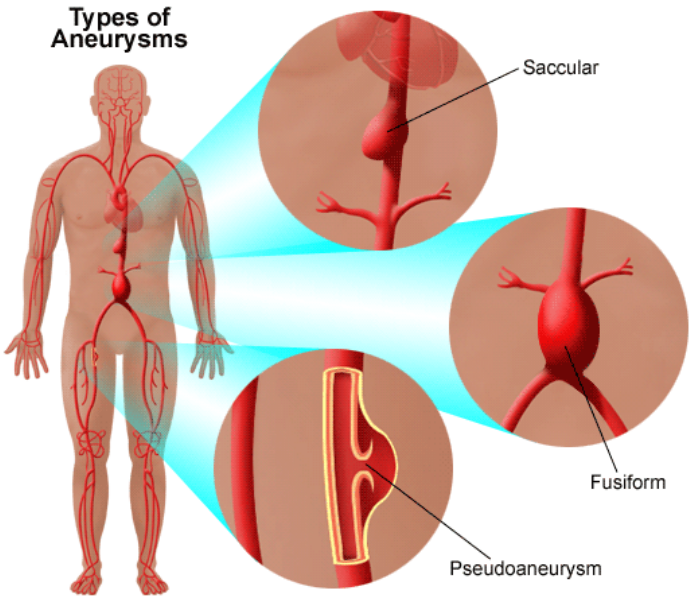
Thrombi

Platelets are part of the composition of the blood, their function is to help form clots. The normal level of platelets is between 150,000 to 400,000 per microliter of blood (mcL). An excess of platelets creates clots or thrombi that can obstruct the bloodstream in some region of

the circulatory system, on the contrary, the decrease in platelets slows down the coagulation process that is necessary in the event of bleeding or injury.
The **navel - navel** pair is combined with the **sternum - adrenal**, with them it helps to dissolve thrombi in the blood.

Aneurysm

It is an abnormal bulge in a blood vessel. It is estimated that 1 in 50 people have an aneurysm (0.5% in the United States) and most of them do not know it since they usually do not have symptoms. If you present any symptoms these may be:
headaches, dizziness, momentary loss of attention, memory failures, among others. In this type of malformation, the walls of the blood vessel weaken over time, so they can break and cause bleeding.



If this occurs in the brain it can cause a hemorrhagic stroke, which can be fatal within minutes. People who survive will usually have some type of disability due to the loss of certain brain functions, depending on the area damaged.
These are the risk factors identified to date:

- Important family history
- Previous history of cerebral aneurysm
- Polycystic Kidney Disease

- Collagen Vascular Disease, such as Ehlers-Danlos Syndrome or Marfan Syndrome
- Female gender
- Fibromuscular Dysplasia (FMD)
- Arteriovenous Malformations (AVM)

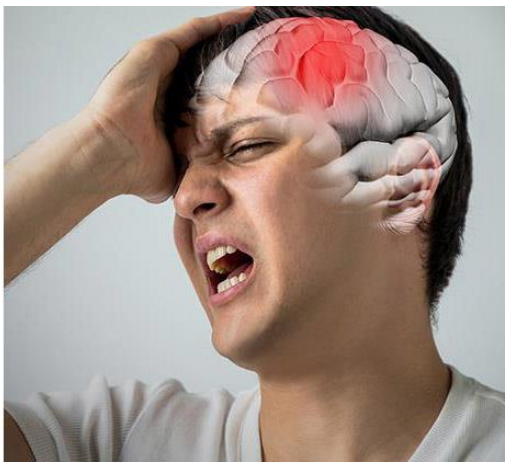
Treatment with biomagnetism

We really have no news of successful results with biomagnetism, so the first suggestion is that the person continue with their medical studies and if surgery is necessary, since the aneurysm can rupture at any time, especially dangerous if it is in brain. However, with bioenergetics we can ask some questions that can be of great help such as:

- Is it a congenital condition? (in this case it is less likely to break)
- Is it a pseudoaneurysm?
- Is it a saccular aneurysm?
- Is it a fusiform aneurysm?
- Could the aneurysm rupture?
- Could the aneurysm endanger a person's life?
- Is surgery necessary?

The pairs **aneurysm - kidney** or **gene - aneurysm** may be of help, but we do not have successful reports in this regard, so you will have to ask bioenergetics. The complete biomagnetism test and treatment can also be of great help since, by improving the condition of the body systemically, the risk of a rupture of the walls of the blood vessels is also reduced. The person should be recommended to improve their life habits: moderate exercise, healthy eating, since avoiding high blood pressure also reduces the risks. Avoid intense exercises or sudden activities or activities that involve risk of accident.

Cerebral stroke



Brain damage (stroke). Mainly it can be due to two causes:
- **Ischemic stroke**, embolism or cerebral infarction, which consists of a significant decrease in blood flow to a certain part of the brain.
- **Hemorrhagic stroke** or cerebral stroke as a result of the rupture of a blood vessel.

In both cases, the affected area of the brain depends on the location of the cerebrovascular disorder; which can lead to the loss of brain functions such as cognitive functions: memory, language, etc. sensory functions: hearing, sight, etc. Very common are motor disorders.
Ischemic stroke can be due to various factors such as decreased artery lumen due to atherosclerosis, stenosis, thrombosis, embolus, erythrocyte abnormality. It can also be due to other factors such as cysts, abscesses or tumors that press on the arteries from the outside (of the vascular system).
In the case of hemorrhagic stroke, the main causes are a hypertensive spike (high blood pressure) or an aneurysm or bulge of a blood vessel that can eventually rupture and cause bleeding in the brain.
The most common cause is high blood pressure, other factors such as strokes or congenital factors (aneurysm) can favor it.

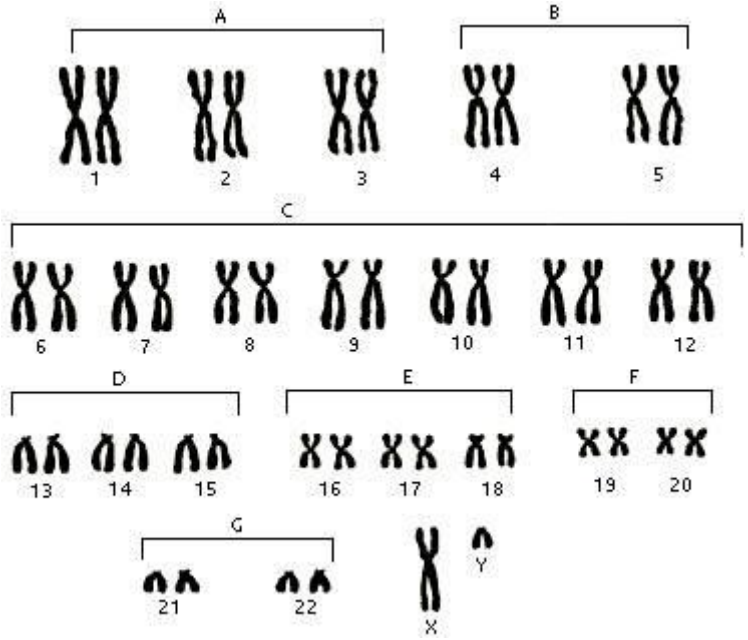
Symptoms

If you notice difficulty raising both arms, coordinating your body movements, and/or difficulty speaking, moving your tongue, or articulating your fascial muscles, you most likely have some type of stroke. Immediate attention by a specialist is essential and can greatly reduce damage to the brain.

Genetic disorders

Unit III Lesson 8

One of the most incredible achievements of bioenergetics is the ability to correct possible genetic disorders. Genetic manipulation no longer responds to pH balance, but to modification of DNA sequences and activation or suppression of expression of the human genome.

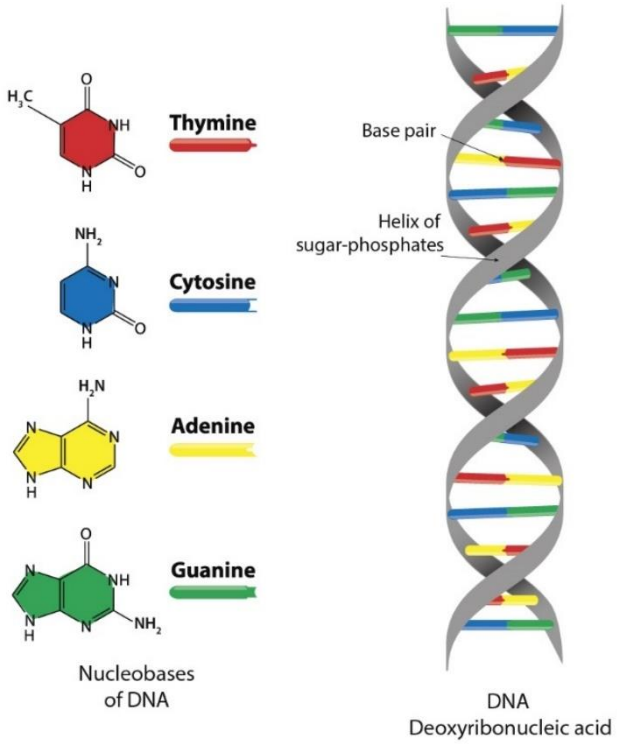


The human genome is made up of 23 pairs of chromosomes, each containing hundreds of genes. The first 22 pairs are called autosomes and the last 23 pair is what determines sex: XX for women and XY for men.

Chromosomes are made up of DNA molecules. The DNA molecule consists of two strands that wind around each other like a spiral staircase. Each chain has a backbone in which a sugar (deoxyribose) and a phosphate group alternate. Each sugar is attached to one of four bases: adenine (A), cytosine (C), guanine (G), or thymine (T). These four proteins form the "alphabet" or code where the instructions to form the cell and regulate its functioning are encrypted. The long DNA molecule can contain hundreds or thousands of genes, each with a package of instructions.

The DNA molecule is the same for all living organisms, at least all the ones we have studied on Earth. Whether it is a tree, an octopus, an elephant, a mushroom or a human; All living beings have genetic

information encrypted in the DNA molecule. What changes is the sequence of the “letters” (amino acids) and the number of genes.
It is estimated that the human genome may contain about 20,000 genes spread over 46 chromosomes. However, there is no consensus on the exact number of genes that make up the human genome for various reasons. First, the methods that are used from one laboratory to another, which use computer models and very complex technology that yield different results. Another reason is the very definition of gene. If we define gene as that sequence, which through the RNA molecule can produce a protein, then there are only about 20,000 genes, as we already mentioned. However, about 18,000 others have been identified that have functions other than making proteins.



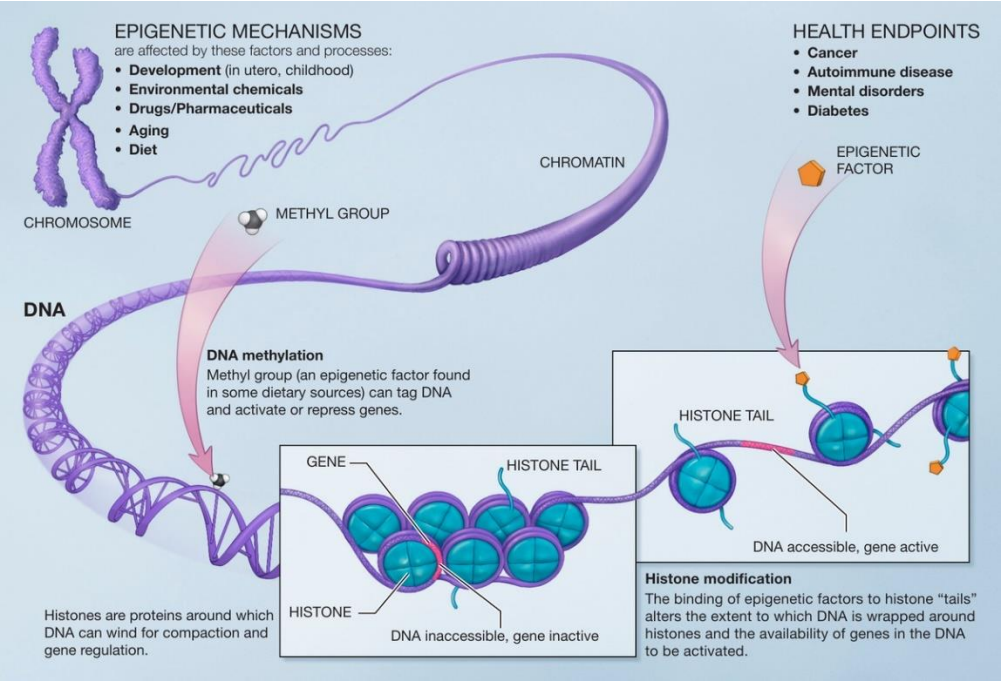
In addition, we have the "junk DNA" formed by most of the bases, which is not yet known if they have any function, or if they have only remained there in the molecule as a remnant of the evolutionary stages.
It has particularly intrigued scientists that the number of genes bears no relation to the complexity of the organism. There may be very elementary organisms with more than 100,000 genes while man, who is considered to be at the pinnacle of evolution, has only 20,000. There is no doubt that genetics is still a field with many surprises to discover.

Epigenetics

From the beginning of the 21st century, a new branch of genetics called epigenetics began to develop, which literally means "beyond genetics". What has been discovered is that the DNA sequence and the genes themselves are just like a recipe book that has all the instructions for how the cell works. But, just as important as having the book, to decide which genes will be activated and which will be suspended. In other words, epigenetics studies how the body is capable of activating or deactivating genes according to the situations that are presented to the cell.

This is possible since the nucleus of the cell is made up of a variety of molecules that surround the DNA and are responsible for activating or deactivating genes. The interesting thing is that, according to the latest studies, the configuration of active or inactive genes that parents have, at the moment of conception, is the one that they inherit to their children, along with the genes.

In other words, if the parents have good habits such as good nutrition, exercise, etc.; then at the time of begetting your children, they will not only inherit your genes but also tell you which ones will be active. That is, if the parents have the aforementioned healthy habits, their children will inherit the information to activate the genes corresponding to that condition and lifestyle. While, in the opposite case, parents with vices and bad health habits will inherit to their children a sequence of active genes that will make their cells react, in advance, to adverse conditions such as the presence of toxic substances, excess fat, radicals free, pH imbalance, etc. Therefore, babies will be more prone to allergies, immune system disorders, metabolic disorders, systemic inflammation, and even aspects such as stress or emotional disorders, since emotions are nothing more than biochemistry and hormones.



Until now, there are no therapists who have handled epigenetics through bioenergetics, however, it is a field of work that promises good results. We provide this information so that biomagnetists are interested in delving into the study of epigenetics and thus have more tools to investigate the origin of many diseases, or conditions, which in this way can be inherited from parents to children.

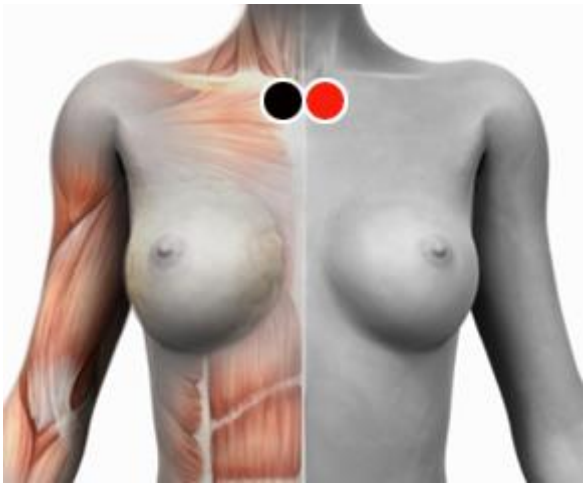
Types of genetic disorders

Genetic disorders can be defined according to the following types:
Numerical disorder. When there is an abnormal amount of a chromosome as is the case with trisomy 21 or Down syndrome.
Structural disorder. When there is an alteration in the structure of the chromosome, in this case the genes are altered with duplications, deletions, inversions, displacements (translocations) or rings.
Congenital mutation. The disorder is inherited from one or both parents; or, it occurs in the stages of gamete formation (egg or sperm); or in the early stages of embryo formation. As a result: all the cells of the organism present the mutation.
Mosaic mutation. It occurs in the course of the individual's life, as a result only some cells or tissues present the mutation. The mosaic type

mutation occurs due to damage to the genome throughout life, either by pathogens, free radicals, or radiation. Cancer is often the result of these types of disorders.

Mariquita pair

The method to treat genetic disorders was discovered by Dr. Isaac Goiz Durán and is aided by a pair called “Mariquita”, apparently honoring Dr. Goiz's mother. In most books the pair is located at the sternum handle, or manubrium sternum, which is the joint where the clavicles meet the sternum. Some students claim that Dr. Goiz mentioned “interdigital membrane” which can appear between the fingers or toes, but as far as we know the pair is applied to the manubrium of the sternum.

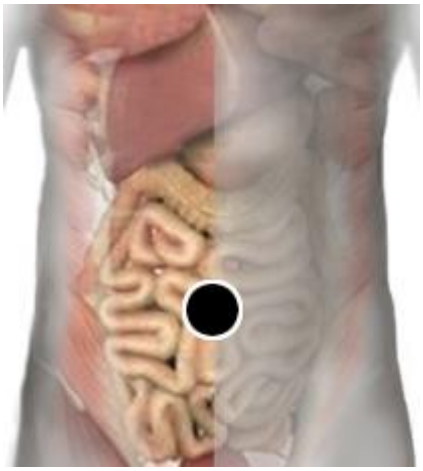


Protocol

We ask if there is any genetic disorder that can be treated in the session.
If the answer is affirmative, we place the negative magnet on the manubrium of the sternum and check if the leg responds (shortening or elongation). Then it goes inquiring for each chromosome:

- Chromosome 1
- Chromosome 2
- Chromosome 3 ...
- up to chromosome 22
- Next, we ask about the XX or XY chromosome, depending on whether it is a woman or a man.

If we find a shortening in any chromosome, we place the positive magnet next to the negative one and ask how many minutes of treatment. It is also important to order the body and the *superconscious*.
"Balance the chromosome (number) permanently."
We can then repeat the protocol from the beginning to detect if there are any other chromosomes that require treatment. After the treatment time we can check if the chromosome has been balanced, again asking with bioenergetics.
In bioenergetics there are no protocols that must be strictly followed, this is the one we propose based on the teachings of Dr. Goiz, and taking into account the experiences of several colleagues. However, each one will be able, in practice, to find different methods that will be equally valid; as long as they bear fruit.
For example, there are those who say that it is enough to place the negative magnet on the point, and that it can be placed at the moment the chromosome with disorders is found. There are also those who apply the treatment using the Gen point (in the navel) with the negative pole, instead of using the sternum handle, obtaining equally good results.



When to apply the protocol

The protocol can be applied as an integral part of the biomagnetism session, especially when a person comes for the first time and especially if one suspects that the person's symptoms may be rooted in some kind of genetic disorder. From the outset, we know that there are diseases and syndromes that may be due to this condition, such as:

- Down syndrome (trisomy 21)
- Cystic fibrosis
- Huntington's disease
- Duchne muscular dystrophy
- Sickle cell anemia
- Hemophilia
- Tay-Sachs disease
- Trisomy of pair 18
- Among many others…

Some disorders may be due to a combination of several factors such as genetic abnormalities, plus environmental factors such as cleft lip, heart defects, cleft palate or neural tube defects.
In addition, we must consider disorders acquired during life (mosaic type) in many cases degenerating into various types of cancer.:

- Breast cancer
- Prostate cancer
- Cervical cancer
- Leukemias …

Genetic disorders may have been inherited directly from one or both parents, who in turn may have these genetic defects in a recessive or overt form.
Or they can be due to environmental factors such as alcohol, medications, drugs, heavy metals such as lead or mercury, exposure to high levels of radiation, or certain infections (such as rubella). The fetus

is more sensitive to this type of substance, called teratogenic, during the first three months of pregnancy.
By the way, that genetic disorders, as well as many other anomalies can be detected and treated in fetuses from the early stages of pregnancy thanks to bioenergetics, thus radically changing the life of the baby.
Many disorders are less obvious, or are rare and therefore poorly understood diseases. The biomagnetist will begin by applying the protocol and balancing the chromosomes that require it, hoping (with faith) for the improvement of the patient. Usually when we find an altered chromosome, we see that the symptoms or diseases of the person correspond to those caused by genetic disorders. In the Biomagnetic Guide we offer a whole series of articles where the most common disorders that have been found in each of the chromosomes are presented, so it is a very useful tool for the treatment of genetic disorders.