Abstrakt

Potentials of a quantum technology to regulate chronic stress in dogs.

An interdisciplinary perspective

General

Chronic diseases such as atopic dermatitis, gastrointestinal dysbiosis, respiratory stress and systemic diseases such as epilepsy and cancer are increasing alarmingly in dogs. Our interdisciplinary research suggests that the causes lie not only in physical factors such as environmental toxins, electromagnetic interference fields (EMSF), inadequate nutrition and inflammatory processes, but also in psychosomatic influences. Dogs often take on emotionally stressful conflict issues from their owners, such as grief or guilt, which can have a direct impact on their health

Effect of a quantum technology using dark-field vital blood analysis according to BESA and bioenergy-informative system analysis - BESA for short

In this animal-dog study, we are investigating the effect of a quantum technology (Quantum Upgrade) on the energy-informative behavior (in the meridian system) as well as on the blood environment and the health parameters of the animals as test subjects. With the help of bioenergy-informative system analysis (BESA for short) and dark-field vital blood diagnostics (according to BESA), we try to detect potentially life-promoting changes in the energy-informative status (BESA) and in the vital blood of the treated dogs. In particular, we are interested in the question of whether a regression of pathogenic structures into apathogenic forms can be detected in the vital blood of the animals, accompanied, for example, by a regulation of the gut-lung-skin axis, in the context of bacterial cyclogeny (see abstract of the study Parasites and spike proteins). Previous studies and their results suggest that the quantum field of this quantum technology promotes the energy-informative balance of the organism, stabilizes the blood environment and modulates inflammatory processes

Stressors as main influencing factors

A remarkable aspect of our research is the interaction between the emotional stress of the animal owners and the physical health of the animals.A transfer of emotional stressors (“referral”) was also clearly manifested in the blood counts and physiological (cell structure) parameters (tested using BESA) of the dogs.

In addition, the inadequate digestion of meat-based diets due to stress-related digestive insufficiency led to further stress in the area of the gut-lung-skin axis.

The influence of stress on animals, regardless of whether it is unconscious stress (trauma, imprinting, conflict-based attachment referrals, etc.) or physical stress (EMSF), plays a decisive role in relation to the so-called HPA axis. In particular, the hormonal regulatory systems and

mechanisms of e.g. cortisol, progesterone, testosterone, DHEA, melanin and melatonin are highly relevant. In fact, there are numerous indications that animals, like humans, react to stress and environmental factors that go far beyond the obvious physical stresses (see the abstract on the HPA axis from the P79 Men`s H.E.A.L 360 Underwear study).

Direct effect of stressors on the test subjects

The hypothalamic-pituitary-adrenal axis (HPA axis) is the central mechanism by which the body responds to stress.

Chronic or unconscious stress can lead to overstimulation of this axis in animals, which in the long term increases the release of cortisol. A sustained increase in cortisol not only leads to systemic inflammation, but also weakens the immune system and impairs digestion, which can manifest itself in animals in symptoms such as skin diseases or gastrointestinal problems

Animals, especially pets such as dogs, which are closely connected to the habitat of their owners, are exposed to the same electromagnetic pollution as humans. This includes Wi-Fi, mobile phone radiation and electrical devices, as well as mobile phone masts, smart meters, LED lighting and much more.

Extensive studies suggest that electromagnetic interference fields (EMSF) can disrupt cell communication and promote oxidative stress. In sensitive animals (lack of melanin and melatonin), this often manifests itself in symptoms such as restlessness, sleep disorders or an increased susceptibility to diseases (kidney insufficiency, lung, intestinal, liver stress, etc.).

The role of melanin and melatonin in the stress response

In addition to its role as a pigment, melanin in particular also has bioenergy-informative properties that enable the organism to perceive its environment accordingly and that can help to absorb EMSF and protect the body from their effects.

A well-regulated melanin system could therefore increase tolerance to such stressors. A weakened melanin system, on the other hand, is a major cause of electrosensitivity.

Melatonin, on the other hand, is primarily produced by the pineal gland. On the one hand, it is crucial for the sleep-wake rhythm, on the other hand, it also has antioxidant and anti-inflammatory properties. Chronic stress and electromagnetic interference fields (EMSF) can impair melatonin production in the pineal gland, which in turn weakens the body's ability to regenerate.

This is the bridge to animal health:

It is plausible that stress - in combination with unconscious patterns, environmental stress (especially electromagnetic interference fields) and hormonal dysregulations - plays a central role in the observed deregulations.

This is the bridge to animal health:

The quantum field of the quantum technology used could potentially act as an energetic balancer by supporting the homeostasis of the HPA axis. In doing so, it could contribute to the regulation of melanin, melatonin and certain oxidative and nitrosative stress factors (5-HMF and AKG) while promoting general cell communication - effects that should also be reflected in the vital blood milieu.

Our initial results indicate that quantum technology enables sustainable physiological and energy-informative regulation in dogs and also reduces psychosomatic stress.
In the planned study, the importance of a holistic approach that integrates physical, emotional and energy-informative aspects will be clarified in order to effectively address chronic stress in animals.
Our research perspective here lies generally in the questions (for details, see the corresponding project description) of the extent to which the quantum field of the quantum technology addressed is capable of

- the electromagnetic interference fields (EMSF) that influence the HPA axis and consequently the hormonal markers mentioned, such as melatonin and melanin, in animals in a way that promotes life.
- whether a measurable relief of these systems is possible through the targeted application of quantum technology.

Hormone testing procedures

With its methods and applications (BESA individual tests), the IFVBESA actively contributes to the reorganization of scientific perspectives. Through its research work, it is shaping the paradigm shift towards a holistic view of health and regulation in a special way.
The bioenergy-informative system analysis (BESA) goes far beyond conventional, material test procedures. It records the regulatory processes on an energy-informative level and thus integrates the quantum-physical reality of the body

Energy-informative regulation is primary, not secondary
Modern scientific fields such as quantum biology, epigenetics and information medicine are increasingly proving that biological systems are not only controlled by biochemical processes, but are also significantly influenced by consciousness and consequently by electromagnetic signals, quantum coherence and bioenergetic fields.
Hormones are much more than biochemical substances - they are also carriers of information on the energy-informational level. They act as mediators between consciousness, body and environment. This means that the bioenergy-informative regulation determines the biochemical reaction, not the other way around.
A conspicuous hormone field at the energy-informative level can already indicate a biochemical imbalance - even before it can be measured at the physical level. Studies and empirical values from BESA tests show that deviations in these fields are often reflected later in laboratory parameters

Renowned scientists such as Prof. Fritz-Albert Popp and Dr. Ulrich Warnke have proven that biological systems react to electromagnetic and coherent light signals. Biophotons, frequencies and fields not only control enzyme activities and cell communication, but even influence DNA.

BESA is based on this science, which is shaping the next generation of medicine: information medicine.
With BESA, objective answers to subjective questions can be found - with repeatable, meaningful and correlating results. Experience reports, case studies and scientific findings show that BESA is an essential complement to conventional diagnostics - often even the decisive key to a holistic approach

Data sheet on the tested factors

Cortisol
Cortisol is a steroid hormone produced by the adrenal cortex and belongs to the group of glucocorticoids. It plays a central role in the body's stress response and is involved in various physiological processes. Here are the most important functions:

Stress management: Cortisol is known as the “stress hormone” because it is released during physical or psychological stress to put the body on alert.
Regulation of blood sugar: It promotes glucose production in the liver (gluconeogenesis) and thus provides the body with energy.
Anti-inflammatory: Cortisol has anti-inflammatory properties and helps to control excessive immune reactions.
Blood pressure regulation: It supports the maintenance of stable blood pressure by enhancing the effect of adrenaline and other hormones.
Protein and fat metabolism: Cortisol influences the breakdown of proteins and fats to provide energy for the body.
Production and regulation: Cortisol is regulated by the hypothalamic-pituitary-adrenal system (HPA axis). It is released in a daily rhythm (circadian rhythm), with the highest levels normally occurring in the morning.
However, a permanently elevated cortisol level can be harmful to health, for example by promoting chronic stress, fat accumulation (especially in the abdomen), high blood pressure and a weakened immune system

Progesteron
Progesteron ist ein Steroidhormon, das sowohl bei Frauen als auch bei Männern eine wichtige Rolle spielt. Es wird oft als "Mutterhormon" bezeichnet, da es als Vorläuferhormon für die Synthese anderer essenzieller Steroidhormone wie Cortisol, Testosteron und Östrogen dient.

Functions in women:
Reproduction: Progesterone is mainly produced in the ovaries (corpus luteum) and in the placenta during pregnancy. It prepares the lining of the uterus (endometrium) for the implantation of a fertilized egg and maintains the pregnancy.

Hormonal balance: Progesterone has a balancing effect on the menstrual cycle by regulating the effect of oestrogen.

Calming effect: It has a relaxing effect on the central nervous system and supports sleep.

Functios in men:
Testosterone precursor: Progesterone is formed in the testicles and adrenal glands and is crucial for the synthesis of testosterone.

Protective function: It has a neuroprotective effect and supports the health of the nervous system.

Hormonal balance: Progesterone can balance the effect of too much oestrogen (also present in the male body).

Common functions:
Precursor role: Progesterone is essential for the production of cortisol, aldosterone and sex hormones.

Calming effect: It promotes well-being and counteracts stress.

Bone and skin health: Progesterone supports bone density and has a positive effect on skin regeneration.

An imbalance of progesterone - in both sexes - can also trigger symptoms such as sleep disorders, irritability, concentration problems or hormonal imbalances

Testosteron
Testosterone is a steroid hormone from the androgen group and plays a central role in both sexes, although it is often known as the “male sex hormone”. It is produced in both men and women, but in different amounts and with slightly different functions.

Functions in men:
Sexual development and reproduction: testosterone is mainly produced in the testicles and is crucial for the development of male sexual organs and secondary sexual characteristics (e.g. beard growth, deep voice).

Muscle and bone development: It promotes muscle growth, bone density and physical strength.

Libido and fertility: It influences sex drive and the production of healthy sperm.

Mood and energy: Testosterone acts on the central nervous system and supports a sense of vitality, self-confidence and mental clarity.

Functions in women:
Hormonal balance: in women, testosterone is produced in the ovaries and adrenal cortex and is a precursor for the production of estrogen.

Libido: It also plays an important role in sex drive and sexual desire in women.

Muscle and bone health: testosterone promotes muscle regeneration and helps maintain bone density.

Mood and well-being: It has a mood-enhancing effect and supports the ability to concentrate

Production and regulation:

In men, testosterone levels are around 10 to 20 times higher than in women.

Its release is regulated by the hypothalamic-pituitary axis, with luteinizing hormone (LH) playing a key role.

Possible problems with imbalances:
Men: A deficiency can lead to reduced libido, muscle loss, fatigue and depression. Excess is rare, but can promote aggression and skin problems.

Women: Too much testosterone can trigger symptoms such as acne, hair loss (androgenetic alopecia) or hirsutism (increased hair growth). A deficiency can lead to listlessness and loss of libido.

Testosterone is therefore essential for physical, mental and emotional balance in both sexes

Estriol
Estriol (E3) is one of the three main oestrogens in the human body (alongside estradiol (E2) and estrone (E1)) and is considered the "weakest oestrogen". It plays a special role in the formation of the internal and external mucous membranes, in reproduction and in hormonal balance in women, but is also relevant in men, albeit in smaller quantities.

Functions in Women:

Pregnancy hormone:

- Estriol is produced in large quantities by the placenta during pregnancy. It contributes to the maintenance of pregnancy and supports uterine growth and blood circulation.

Hormonal balance:

- It has a milder effect compared to estradiol, but can help modulate the effect of the stronger estrogens.

Protective function:

- Estriol has an anti-inflammatory effect and protects vaginal and mucosal health by promoting moisture and elasticity.

Functions in men:

Estrogen effect:

- in men, estriol is produced in small amounts through the conversion of testosterone (via aromatase) and other precursor hormones. It is important for bone stability and the balance between male and female hormones in the body.

Protective of the prostate:

- Some studies suggest that estriol may play a protective role in prostate health.

Common functions:

Neuroprotective: Estriol has potential positive effects on the nervous system and may have anti-inflammatory effects.

Bone and vascular health: In both men and women, estriol contributes to the maintenance of bone density and vascular elasticity.

Special feature:

Estriol has a comparatively weaker estrogenic effect, making it considered safer, especially in hormone replacement therapy. It is often used in postmenopausal women to relieve symptoms such as vaginal dryness.

Imbalances:

Women: A lack of estriol can occur during or after menopause and contribute to vaginal dryness, skin aging or osteoporosis.

Men: Excess estrogens, including estriol, can lead to hormonal imbalances, such as prostate disease.

Estriol is therefore an important component of hormonal balance, even if it usually receives less attention than other oestrogens.

Estradiol

Estradiol (E2) is the most biologically active and strongest of the three main oestrogens (along with estrone (E1) and estriol (E3)). It plays a central role in both women and men, particularly in hormonal balance, reproduction and general health.

Functions in women:

Reproduction and menstrual cycle:

- Estradiol is mainly produced in the ovaries and is essential for the menstrual cycle. It promotes the growth of the uterine lining (endometrium) and the maturation of the egg cells.

Development of female characteristics:

- Estradiol is responsible for the development of secondary sexual characteristics such as breast growth and fat distribution during puberty.

Bone health:

- It helps maintain bone density and protects against osteoporosis.

Mood and brain:

- Estradiol has a positive effect on mood, memory and cognitive function.

Skin and blood vessels:

- It promotes skin elasticity, hydration and vascular health.

Functions in men:

Boone and vaskular health:

- Estradiol also helps maintain bone density and vascular stability in men.

Hormone balance:

- Estradiol is produced in men by the conversion of testosterone via the enzyme aromatase. It is important that the ratio between testosterone and estradiol remains in balance.

Sperm production:

- It plays a role in the maturation of sperm and supports fertility.

Comman functions:

Cardiovascular system:

- Estradiol protects against arteriosclerosis and supports the elasticity of blood vessels.

Neuroprotective:

- It has an anti-inflammatory effect and protects the nervous system.

Production and regulation:

Women: Estradiol is primarily produced in the ovaries and during pregnancy in the placenta.

Men: It is produced in small quantities in the testicles and the adrenal cortex.

Unbalanced:

Women:

- A deficiency (e.g. during menopause) can lead to hot flushes, vaginal dryness, osteoporosis and mood swings.
- An excess can cause symptoms such as breast tenderness or irregular cycles.

Men:

- too much estradiol can lead to breast growth (gynecomastia), decreased libido and disruption of sperm production.

Summary:
Estradiol is crucial for men and women's overall health, especially for bones, blood vessels, fertility and the nervous system. Its balance is essential for well-being and vitality.

DHEA
DHEA is a steroid hormone that is mainly produced in the adrenal cortex, but also in smaller amounts in the gonads (ovaries and testes) and in the brain. It is considered one of the most abundant steroid hormones in the human and animal body and is a precursor for the production of androgens (e.g. testosterone) and estrogensSummary:

Estradiol is crucial for men and women's overall health, especially for bones, blood vessels, fertility and the nervous system. Its balance is essential for well-being and vitality

Functions in women and mens:

Hormone production:

- DHEA is an important intermediate in the synthesis of sex hormones, including testosterone and estradiol.

Cognitive health:

- DHEA has neuroprotective properties and is associated with improved memory, mood and stress management.

Immune system:

- It supports immune function by promoting anti-inflammatory processes.

Boon health:

- DHEA helps maintain bone density and may protect against osteoporosis.

Energy metabolism and vitality:

- It is often referred to as an “anti-aging hormone” as it is associated with the maintenance of energy, muscle mass and general well-being.

Production and regulation:

Highest concentration: DHEA production reaches its peak at around 20-30 years of age. After that, it steadily decreases, which is associated with the ageing process and age-related health problems.

Regulation: The release of DHEA is controlled by ACTH (adrenocorticotropic hormone) from the pituitary gland.

Unbalanced:

Deficiency: May be associated with ageing, chronic stress, autoimmune diseases, osteoporosis, depression or fatigue. Symptoms may include lack of drive, loss of libido, muscle weakness and a weakened immune system.

Excess: Can occur in hormonal disorders such as adrenogenital syndrome (AGS) and often leads to increased androgen levels, which can cause symptoms such as acne, hair loss or hirsutism (increased hair growth).

Special features of DHEA:

It is considered a “prohormone” because it has little direct hormonal activity itself, but is the precursor of many important hormones.
Due to its potential anti-ageing effects, DHEA is often used as a dietary supplement, but this should only be done under medical supervision.

What is the thyroid gland?

The thyroid gland is a butterfly-shaped gland located in the front of the neck below the larynx. It is a central component of the endocrine system and produces hormones that regulate numerous processes in the body, including metabolism, energy production and growth.

Main functions of the thyroid gland:

Hormone production: The thyroid gland produces two main hormones: thyroxine (T4) and triiodothyronine (T3). These hormones affect almost all tissues and organs in the body. Production is controlled by TSH (thyroid-stimulating hormone), which is released by the pituitary gland.

Regulation of metabolism: Thyroid hormones control the rate of energy consumption (basal metabolic rate) and are essential for carbohydrate, fat and protein metabolism.

Growth and development: They play a decisive role in physical and mental development, especially in children.

Nervous system and psyche: Thyroid hormones support the function of the nervous system and influence mood, memory and concentration.

Cardiovascular system: They regulate the heart rate and vascular elasticity

Differences between men and women:

Women: Thyroid disorders such as hypothyroidism (underactive) and hyperthyroidism (overactive) are more common in women.

Hormonal changes (e.g. pregnancy, menopause) influence thyroid function and can increase the risk of dysfunction.

Men: Thyroid disorders are less common, but they can also affect energy, metabolism and fertility in men.

Imbalances in thyroid function:

Hypothyroidism (underactive): Symptoms: Tiredness, weight gain, sensitivity to cold, depressed mood, dry skin, hair loss.

Cause: Often caused by autoimmune diseases such as Hashimoto's thyroiditis.

Hyperthyroidism (hyperfunction): Symptoms: Nervousness, weight loss, palpitations, sweating, sleep disorders. Cause: Often caused by Graves' disease or thyroid autonomy.

Goitre (goiter): Enlarged thyroid gland, often caused by iodine deficiency or hormonal dysregulation

Special features of the thyroid gland:

Iodine requirement: The thyroid gland needs iodine to produce hormones. A deficiency can lead to hypothyroidism or goiter.

Universal importance: Although there are differences in the frequency of diseases, the thyroid gland is equally important for men and women in terms of general health and well-being.

Melanin

Melanin is a pigment found in the skin, hair and eyes. It is produced in specialized cells called melanocytes.

Function: Protection from UV radiation: Melanin absorbs UV rays and thus protects the skin from DNA damage caused by sunlight. It determines the individual skin, hair and eye color. As a radical scavenger, it protects the cells from oxidative stress.

Special feature:

Melanin also has an energy-informative significance and is increasingly being researched in science as a bridge between physical and energetic existence (e.g. protection against electromagnetic fields).

5-HMF oder 5-Hydroxymethylfurfural

This is an organic compound that is formed from sugar sources through thermal or acidic decomposition. It is a furanoid compound found in many natural substances, such as honey, coffee, fruits and certain sugar products that have been heated.

In medical research in particular, 5-HMF has potential antioxidant and anti-inflammatory properties that make it a top topic of research in the field of health and medicine. Oxidative and nitrosative stress play an important role in the development of many chronic diseases, 5-HMF serves in this context as a marker for the extent of this stress

AKG or Alphaketoglutarsäure

Alphaketoglutarate (AKG) is an important compound in human metabolism and plays a central role in the citric acid cycle (also known as the Krebs cycle), which supports energy production in cells.AKG is used as a kind of intermediate in the conversion of amino acids and carbohydrates into energy. It is also involved in the synthesis of glutamate, an important neurotransmitter.

AKG as a marker for oxidative stress provides information on the extent to which a substance or a technology (in this case the quantum technology of the test object at hand) is able to reduce oxidative stress in order to verify the improvement of cell functions. The relationship between AKG and oxidative stress is particularly relevant as it plays a role in the detoxification process of cells and can help to minimize free radical damage

In medical research and health contexts, AKG has several remarkable properties:

Antioxidant effect: AKG has antioxidant properties and helps neutralize reactive oxygen species (ROS) associated with oxidative stress.It can therefore play a protective role against cell damage caused by free radicals.
Anti-ageing and cell protection: AKG is often associated with anti-ageing effects as it protects cells from oxidative stress and promotes cell regeneration. Some studies suggest that AKG can also extend the lifespan of cells and slow down the ageing process.
Anti-inflammatory: There is evidence that AKG has anti-inflammatory effects, making it an interesting candidate for the treatment of inflammatory diseases or for general support of the immune system.
Metabolic health: AKG influences energy metabolism and could also help to improve insulin sensitivity and reduce the risk of metabolic diseases

Methylenblau

Methylene blue is a chemical molecule that plays a role in various medical and scientific applications. In this study, its role as a maker is an interesting aspect in the context of research on oxi- and nitro-stress.

In conjunction with melanin and melatonin, the association lies in its ability to act as an antioxidant and protective agent that helps the body defend itself against stressors.

Properties and applications of methylene blue:

Antioxidant effect: Methylene blue has antioxidant properties and is able to reduce oxidative damage, similar to melanin and melatonin.

It can act as a reducing agent and help protect cell structures from free radical damage.

Neuroprotective effects: There is evidence that methylene blue has neuroprotective properties. It has the potential to support mitochondrial functioning and improve the production of energy in cells, which is particularly important in neurodegenerative diseases. In this sense, it could have a similar protective effect to melanin and melatonin on the brain.

Blood coagulation and oxygen transport: In medicine, methylene blue is also used to treat certain intoxications (e.g. methemoglobinemia) and to support oxygen transport in the body. It can be used in a wide range of pathological conditions to stabilize health.

Versatility in research: Methylene blue is used as a dye in biological and chemical experiments, but also as a compound that can play a role in various biological processes. It is used in experimental models to study the function of enzymes and the interaction of molecules

Similarities to melanin and melatonin:

Protective effect: Like melanin and melatonin, methylene blue may play a protective role against oxidative stress and free radical damage.

Melanin protects the skin from UV radiation, while melatonin plays an antioxidant role in the brain. Methylene blue appears to have a similar protective effect on cells.

Neuroprotection: All three substances also have neuroprotective properties, with methylene blue and melatonin being compared in their ability to protect the brain from damage caused by oxidative processes.
Melatonin is a naturally occurring hormone that is produced primarily in the pineal gland in the brain and plays a central role in regulating the sleep-wake cycle. It is primarily known for promoting sleep and synchronizing the circadian rhythm by signaling the body when it is time to sleep and when it is time to wake up.

Important functions and properties of melatonin:

1. **sleep regulation:** melatonin is produced primarily at night when it gets dark and helps to put the body into sleep mode. It helps to stabilize the natural sleep-wake rhythm (circadian rhythm) and facilitate the transition to sleep..
2. **antioxidant effect**: Melatonin is a powerful antioxidant and protects cells from free radical damage. It is increasingly being studied in research as a protective factor against oxidative stress and associated cell damage. This antioxidant effect is particularly important in terms of protecting the brain and other organs from the damaging effects of inflammation and oxidative processes.
3. **neuroprotection**: Melatonin has neuroprotective properties that can protect the brain from oxidative damage, inflammation and neurodegenerative diseases such as Alzheimer's and Parkinson's. It is also being studied for its ability to support neuronal health and regeneration.
4. **Anti-inflammatory effect**: Melatonin has anti-inflammatory properties that are related to its antioxidant effects. It can help reduce inflammation in the body and therefore reduce the risk of inflammation-related diseases.
5. **immunmodulation**: Melatonin influences the immune system by regulating the production of cytokines, which play a key role in the body's immune response. It supports the immune system by inhibiting inflammation and strengthening the body's defenses.
6. **anti-ageing and cellprotection**: Due to its antioxidant properties, melatonin is also being studied in anti-ageing research. It is believed that melatonin helps to reduce age-related damage caused by free radicals and improve quality of life.

Further applications and therapeutic use:

- **Melatonin Treatment of sleep disorders:** Melatonin is often used in supplement form to treat sleep disorders, especially in people with jet lag, shift work or sleep problems in general.
- **Treatment of depression and anxiety:** Some studies suggest that melatonin may also play a role in the treatment of depressive disorders and anxiety, as it affects the balance of neurotransmitters in the brain.

- **Therapeutic approaches for neurodegenerative diseases:** Due to its neuroprotective effects, melatonin is also being studied as a potential treatment option for neurodegenerative diseases such as Alzheimer's and Parkinson's.

Melatonin is therefore not only a sleep hormone, but also an important regulator of cellular health, the immune system and the brain. In medical research, melatonin is increasingly valued as a protective substance against oxidative stress and for its anti-inflammatory properties, making it of interest as a potential therapeutic agent for a variety of diseases.
In a spiritual context, the pineal gland is often referred to as “the third eye” and is considered a center for intuition, consciousness and spiritual perception. The pineal gland is also the place where melatonin is produced and therefore melatonin plays a special role in spiritual understanding

Melatonin and the pineal gland in the spiritual realm:

1. **connection to higher states of consciousness:** In many spiritual traditions, the pineal gland is considered a gateway to higher states of consciousness or spiritual levels.It is believed that the production of melatonin, which originates in the pineal gland, can create a connection between the physical body and the spiritual self. Some see the activity of the pineal gland as a kind of key to opening up access to transcendental experiences.

2. **promoting meditation and spiritual growth:** Melatonin has a calming effect on the body that is associated with relaxation and inner peace. Spiritual practices such as meditation often emphasize the importance of entering a state of inner stillness and mindfulness. Melatonin can support this state by regulating the sleep-wake cycle and promoting the ability to enter deeper meditative states.

3. **connection to inner wisdom and intuition:** The third eye, which is associated with the pineal gland in spirituality, is often associated with intuition and inner wisdom. It is believed that the activity of the pineal gland supports inner vision and the recognition of spiritual truths. Melatonin may play a role in this as it is associated with regulating inner perception and promoting calmness and clarity of mind.

4. **light and darkness:** Melatonin is produced at night when it gets dark.In many spiritual teachings, darkness is a symbol of the unconscious, the hidden and the mystical. Light is seen as a symbol of knowledge and enlightenment. Melatonin could be seen as a bridge between outer darkness (night) and inner light-knowledge (enlightenment), as it could symbolize the transition from physical sleep to spiritual awakening

5. **promotion of spiritual healing:** Some spiritual practices, such as the so-called “sacred geometry”, see the third eye as a center for spiritual healing and transformation. Melatonin may play a supportive role in harmonizing and energetically balancing the body, which promotes spiritual healing processes.

To summarize: In the spiritual realm, melatonin associated with the pineal gland is considered an important substance that can open the gateway to higher states of consciousness. It not only helps to promote sleep and physical recovery, but could also pave the way to spiritual experiences, inner peace and intuitive perception.It is believed that harmonious activation of the pineal gland can support spiritual growth and personal enlightenment.

Link between DHEA and inflammation

1. **anti-inflammatory properties of DHEA:**
    - DHEA has an anti-inflammatory effect by inhibiting the production of pro-inflammatory cytokines (e.g. TNF-α, IL-6).These cytokines are involved in the development and maintenance of inflammatory processes.
    - At the same time, it promotes the production of anti-inflammatory cytokines such as IL-10, which can restore the balance in the immune system.
2. **regulation of the immune system:**
    - DHEA modulates the activity of T lymphocytes (T cells) and natural killer cells (NK cells). These immune cells play a key role in fighting infections and regulating inflammatory reactions.
    - It reduces the activity of NF-κB signaling pathways, a key regulator of the inflammatory response. This dampens the production of inflammatory mediators.
3. **protection against chronic inflammation:**
    - Chronically low DHEA levels are associated with various inflammatory and degenerative diseases, such as rheumatoid arthritis, lupus erythematosus and inflammatory bowel disease (Crohn's disease, ulcerative colitis).
    - DHEA supplementation could help to alleviate chronic inflammation and improve the course of the disease.
4. **Alter und Entzündungen:**
    - age and inflammation:o DHEA levels decline with age, contributing in part to the “inflamm-aging” hypothesis. This term describes the chronically increased tendency to inflammation in old age, which is associated with diseases such as atherosclerosis, diabetes, Alzheimer's and other inflammation-related diseases.
    - DHEA supplementation can help reduce age-related inflammation and promote overall health.
5. **DHEA and oxidative stress:**
    - DHEA has antioxidant prop erties that indirectly influence the inflammatory response. It protects cells from damage caused by free radicals and thus reduces the activation of signaling pathways that intensify inflammatory processes.

Practical applications of DHEA in inflammation

- **Autoimmune diseases:** DHEA has been shown in studies to reduce disease activity in conditions such as lupus and rheumatoid arthritis.- Chronic fatigue and fibromyalgia: In these conditions, which are often associated with low DHEA levels, DHEA can help to reduce inflammation and increase well-being.
- **Neuroinflammation:** There is evidence that DHEA inhibits inflammatory processes in the brain and possibly counteracts neurodegenerative diseases.

Conclusion: DHEA plays an important role in the regulation of inflammatory processes and protection against chronic inflammation. Its anti-inflammatory and immunomodulatory properties make it a potential therapeutic agent for inflammatory diseases, especially when DHEA levels are reduced due to age or stress. However, therapeutic use should be individualized and monitored by a physician, as DHEA also has hormonal effects.

Summary of the results relating to the application of the quantum upgrade in the BESA studies

Research on 5-HMF suggests that it plays a role not only in energy metabolism, but also in stress resistance, regeneration and possibly slowing down the ageing process.
This prompted the International Federation for Bioenergy Informative Systems Analysis (IFVBESA) to include 5-HMF and AKG as substances or frequencies in the resonance tests of the following studies on the effect of the so-called “quantum upgrade”
(see animal studies P75 4.0 and P75 4.1 - in particular projects P75 4.1.1 to P75 4.1.5 and P75 4.0.1 to P75 4.0.5 as well as pilot study on melanin P83, study on men's health P79 - still ongoing).AKG is an exciting molecule (frequency) with great potential for future medical and health-promoting research and applications.

The aforementioned BESA studies on the effect of the “Quantum Upgrade” show clear correlations with both AKG and 5-HMF in the BESA resonance tests, as well as clear and significant effects on the reduction of oxidative and nitrosative stress
The BESA test results from the BESA studies cited reveal significant correlations between the effect of the test object (Quantum Upgrade) and factors such as stress, AKG and 5-HMF. At the beginning, the test subjects were examined for possible deficits or excesses of the hormones of the HPA axis (stress axis), in particular cortisol and glucocorticoids. This revealed a clear correlation between AKG, 5-HMF and electromagnetic interference fields - a strong indication of oxidative stress and the associated weakening of melanin and melatonin production.
These findings support the hypothesis that the “quantum upgrade” could have a regulating effect on oxidative stress and reduced melanin and melatonin production. The interactions between AKG, 5-HMF and the “Quantum Upgrade” provide further evidence of a potential regulatory mechanism that could promote the harmful effects of electromagnetic interference fields on hormonal processes, the skin, mitochondrial performance and the vitality and longevity of cell structures, as well as mitigating the ageing process in humans and animals in general.