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HORMONES, STRESS AND IMMUNITY

PARADIGM SHIFT CANCER THERAPY

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EDITORIAL

Welcome to the second issue of Prudentia Journal!

This issue is about the scientific research which I conducted together with my late friend and mentor Dr. Uwe Rohr. Uwe was also interested in the promotion of the highly gifted, as he in his life faced discrimination by his less talented peers himself.

There will definitely be a follow-up on this. Probably the third issue of Prudentia Journal will contain a couple of more related articles.

Basically, Uwe was a researcher in phytoestrogens and steroid hormones. He investigated in particular why soy isoflavones such as daidzein and genistein have such a positive effect on the treatment of severe mental diseases, infectious diseases, cancer and wounds, and hypothesized that they acted by influencing the steroid hormone cascade, converting stress hormones into immunity hormones.

As I wrote on the website http://www.uwerohr.net/ (I registered this domain to keep up the memory of Uwe's works), it is commonly accepted by medical scientists that soy isoflavones have similar effects as the adiols (androstanediol and androstenediol), which are steroid hormones that naturally appear in the human organism, including anti-inflammatory and anti-androgenic effects. However, Uwe Rohr was of the opinion that soy isoflavones did not exert this effect directly but rather indirectly by stimulating the conversion of other steroid hormones into adiols. Moreover, he suggested that there are two types of steroid hormones: One type is released as a reaction to stress, boosts physical performance and weakens the immune system. The other type, which the adiols belong to, has exactly the opposite effect. Uwe Rohr believed that by converting what he called stress hormones into immunity hormones, severe mental diseases, infectious diseases and even cancer could be effectively treated.

This issue of Prudentia Journal features a short popular-scientific review article about Uwe's research which I originally published in IQ Nexus Journal and the English translation of an article written by Uwe and me which first appeared in a magazine published by yet another high IQ society (in German).

I wish you a Merry Christmas and a Happy New Year!

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HORMONES, STRESS AND IMMUNITY

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It is well-known that hormones are responsible for a large number of control processes inside the human organism. What might be less known, and very interesting, is that hormones can on the one hand cause stress and weaken the immune system and on the other hand fight stress and strengthen the immune system. A team of researchers based in Vienna, Austria, around Uwe Rohr, MD, PhD and Anca Gocan, MD is dealing with the related mechanisms. What's fascinating: The balancing of these hormones makes novel treatment strategies possible for severe mental diseases such as schizophrenia on the one hand and for severe physical diseases involving the immune system such as particular types of cancer on the other.

As Professor Alfred S. Wolf (Ulm, Germany) explains, stress is a vital reaction cascade of the human body. However, if a person gets into burdensome situations again and again without time to relax in between, he or she will gradually become exhausted, and this will cause a loss of energy and depression. According to Wolf the consequences of stress are still underestimated.

"Everybody knows that emotional stress has a negative impact on the immune system, and medical doctors additionally know that it is cellular stress which degrades the immune system", says Rohr. What is not widely known yet is how this connection is controlled. This is where Rohr's own research comes into play: "We have been able to prove that conversion of stress hormones such as pregnenolone, 17-hydroxy-pregnenolone and most of all aldosterone into protecting immune hormones alleviates stress and increases immunity." These protecting immune hormones are primarily the so-called adiols, metabolites of dehydroepiandrosterone (DHEA) and testosterone.

"In contrast to cortisone and related substances the adiols regulate the human immune system. Although cortisone reduces inflammation, it can also cause infections. Therefore cortisone may be applied only for a short time. Moreover, cortisone also acts against the formation of new, healthy tissue, while adiols support the formation of muscles, skin and bones", Rohr explains. This also offers new opportunities for treatment of severe muscular and neural diseases.

By encouraging the formation of protecting adiols from stress hormones Rohr has managed to treat very severe mental diseases that are usually resistant to therapy, such as post-traumatic stress disorder (PTSD), schizophrenia and bipolar disorder. Moreover, he was able to repair damaged organs and achieve positive effects in the treatment of epilepsy, lethal muscular diseases, amyotrophic lateral sclerosis (ALS) and multiple sclerosis (MS). The stimulation of the immune system also had benefits in the treatment of allergies, viral diseases and various forms of cancer, such as particular brain tumors of children.

"Interestingly, no undesired side-effects occur, since only disadvantageous hormone balances are corrected", Rohr says. There does not seem to be the danger of overdosage,

either. "What's most important for the doctor is that the effects cannot only be visually observed – the skin perfusion is improved, the patients become calmer -, but one can even measure markers in the blood." The concentration of several blood lipids, including triglycerides, is decreased by the treatment. According to Rohr this is especially remarkable since there has not been any medical drug before able to decrease the concentration of triglycerides.

Rohr also explains that stress not only decreases immunity but also causes dyspnea since the lung volume is reduced. This is always related to increased anxiety.

To make it short: An increase of stress always causes an increase of cellular stress, which will also increase emotional stress and cause severe mental diseases on the one hand and severe immune disorders on the other. The relation also works in the other direction.

With their research, Rohr and Gocan follow the tradition of the Viennese School of Medicine and continue the works of famous doctors and scientists such as Pietro Mattioli, Sigmund Freud and Carl Djerassi.

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A PARADIGM SHIFT IN CANCER THERAPY FROM "DESTROY AND KILL" TO "MODIFY AND REPAIR"

In the treatment of cancer, the principle "DESTROY AND KILL" has so far been followed. The degenerated cancer cells were to be destroyed by means of a wooden hammer method. In this thesis we want to present a new treatment principle for cancer, which we want to call "MODIFY AND REPAIR".

In pregnancy, hormones play a role whose application in a pilot study both increased the survival rate of cancer patients and helped to repair damaged organs and promote wound healing. The concentration of these hormones is increased in the second and third trimesters of pregnancy. This protects the pregnant woman from potentially dangerous cells of the unborn child. These hormones are also used to stabilize the uterus and ensure a sufficient blood supply. Thus, a "natural cancer therapy" is carried out. Our proposal is that these hormones should also be used in the treatment of cancer patients.

Introduction

From the great pathologist Rudolf Virchow (1821 - 1902) and his pupil Ernst Cronenberg two theorems on cancer have been handed down (Blech: Der Spiegel 2007), which are so topical that even the National Cancer Institute of the USA asked in 2001: "BACK TO RUDOLF VIRCHOW?" (Balkwill 2001):

1) Cancers are wounds that do not heal.
2) Cancer develops from cells that are damaged during organogenesis.

Experimental findings prove Virchow right: cancer therapy and organ repair are interrelated (Goel 2012, Rohr 2010, Thomasova 2013). Since cancer cells have lost the ability to transform directly into functional tissue (Goel 2012), the new approach to cancer treatment we are proposing is to promote the conversion of dangerous cancer stem cells into functional cells. We want to call this "MODIFY AND REPAIR". This term was originally defined at Harvard Medical School and MIT in Boston. Unfortunately, they only intended to repair the blood capillaries in the tumor (Jain 2008), but according to Virchow the principle must be much broader: According to our findings, cancer must be treated by carrying out a general organ repair, whereby the repair of blood capillaries is a special case. The treatment must prevent metastasis, tumor growth and deadly cachexia caused by loss of appetite. According to our findings, these are controlled by steroid hormones.

What is the difference to the current paradigm? Currently, the principle of "DESTROY AND KILL" applies in cancer therapy. A major disadvantage of this common chemotherapy is that dying cancer cells emit IL-8 (Liang 2014). IL-8 prevents healthy stem cells from forming healthy, functional cells and making membranes permeable (Liang 2014). Subsequently,

"encapsulation" of the tumour by healthy tissue is prevented and metastases can spread (Rohr 2010). The new paradigm "MODIFY AND REPAIR" does not have this disadvantage.

How "MODIFY AND REPAIR" works is surprisingly illustrated by pregnancy. During pregnancy, precisely those hormones that stabilize the membranes also convert cancer stem cells into differentiated, functional cells (Tagawa 2005, Rohr 2010, Kobayashi 2012). In particular, the placenta serves to contain cancer by preventing individual fetal cells from turning into dangerous cancer cells (Cervar 2013). For this reason, the incidence of breast and ovarian cancer in pregnancy decreases when it is carried out at a young age and completely (Kobayashi 2012).

Placenta (see Cervar et al 2013)

The placenta is a particularly important membrane because it connects two people. It grows extremely strongly, is mechanically strong and well supplied with blood. The tasks of the placenta:

- Structure of the mother-child barrier
- Synthesis of hormones and growth factors
- Immunological functions
- Exchange of nutrients, gases and waste products between mother and child
- Stability for perfusion of large quantities of blood
- Prevention of uncontrolled growth of the fetus into the mother

Pregnancy as a model

After fertilization, the blastocyst must implant itself in the woman's uterus. This takes place in a protective shell. As is generally known, the resulting trophoblast is very similar to a tumour. Two conditions have to be fulfilled: Firstly, there must be a pro-angiogenetic state at the beginning of pregnancy; secondly, after some time this state must be replaced by an anti-angiogenetic state in order to stabilise the trophoblast and the mother. (Tube 2010, Challis 2009)

To make the trophoblast membrane permeable, the mother first releases Th1 cytokines (IL1b, TNF-alpha, etc.) (Challis 2010). At the same time, there is a drop in androstenediol (adiol) (Tagawa 2005). The relationship between adiol and Th1 cytokines is well established and also exists in other immunological situations, for example sepsis (Tagawa 2005, Brunnemer 2012, Loria 2009). It is also known that the concentration of adiol in umbilical cord blood is elevated compared to the venous blood of pregnant women (Schindler 1975).

This relationship is used, for example, to treat trauma and septitis: The administration of adiol has been shown in animal experiments to stabilize blood capillaries by preventing the diffusion of pro-inflammatory cytokines into tissue and bloodstream (Brunnemer 2012). Side effects of increasing Th1 cytokines at the beginning of pregnancy are dizziness, fatigue

and tendency to feel unwell, similar to cancer patients (Tagawa 2005). A too high increase of Th1 cytokines in plasma can unfortunately endanger pregnancy (Challis 2009).

Preeclampsia

Preeclampsia is a hypertensive disease in pregnancy that functionally corresponds to pulmonary arterial hypertension. It is caused by a decrease in the concentration of the estradiol metabolite 2-methoxy-estradiol (2ME) due to prevention of the conversion of 2-hydroxyestradiol to 2ME, resulting in 16-hydroxy-estradiol (Lee 2010, Jobe 2013). 2ME is about five times more anti-hypertensive than estradiol (Tofovic 2010) and has high anti-angionetic properties (Rohr 2010). Due to its high cytotoxicity, 2ME acts similarly to a chemotherapeutic agent (Rohr 2010).

Clinical studies

The new paradigm "MODIFY AND REPAIR" focuses on substances that simultaneously a) have strong anti-angiogenesis properties, b) stabilize membranes and c) form new, functional tissue, i.e. carry out cell repair. The formulations tested by us increase estradiol and androgen metabolites from the precursors in an advantageous way, so that classical drug delivery is not necessary. The body synthesizes the necessary hormones itself, which are lowered in the disease state. Starting with individual cases at the Harvard Medical School (Klein 2006), through a pilot study in Germany (Rohr 2008), up to a 4-year long-term study and a multi-centre study with approx. 300 patients, the new concept could be investigated. In a pilot long-term study, the survival of cancer patients who had undergone therapy (breast, ovary, prostate cancer patients) was compared. As can be seen, the survival rate was significantly improved.

This therapy also "normalizes" the white blood cells. The necessity of such "normalization" can be explained by the fact that the stem cells from the spinal cord differentiate normally again and heal wounds and repair organs there on their way through the blood into the tissue. This has already been recognised by the Viennese physician Billroth. Christian Albert Theodor Billroth (* 26. April 1829 in Bergen on Rügen; † 6. February 1894 in Abbazia, Istria) was a German-Austrian physician and one of the most important surgeons of the 19th century. He is generally regarded as the founder of modern abdominal surgery and a pioneer of laryngeal surgery. The House of Doctors in Vienna is named after him. Billroth succeeded in proving that wound fever is caused by infections that are not caused by the air but by contact with "smallest living beings". He therefore demanded "cleanliness to the point of debauchery". His principle: "A good doctor can do more with a wet towel than a bad doctor with a whole pharmacy". This work led to Karl Landsteiner (* 14 June 1868 in Baden near Vienna; † 26 June 1943 in New York), an Austrian pathologist and serologist who discovered the AB0 system of blood groups in 1901, for which he received the Nobel Prize for Medicine in 1930. In Vienna, therefore, connections between immunology, wound healing and blood have been known for a long time, whereby the action of steroid hormones in pregnancy and later the formation of organs from stem cells of the spinal cord have been a major concern.

The proof that not only the endothelium of the blood capillaries but also other organs could possibly be repaired was shown in the wound healing of MRSA patients and in patients with ALS and Duchenne muscular dystrophy (Goslin, 2013). It is reported that normalisation of the disease is always associated with normalisation of blood pressure.

Conclusion

The new method presented here of using pregnancy to treat tumours is based on the findings of great doctors such as Rudolf Virchow from Berlin and Theodor Billroth from Vienna and avoids the disadvantages of modern therapies. If Virchow is right in saying that wound healing is needed to cure cancer, then Billroth must also be taken into account, who said that the blood must be in order to enable wound healing. The method of cancer therapy proposed by us causes a repair of the organs, because the hormones of pregnancy are so orchestrated that they not only treat individual phenomena, but carry out an overall repair, which reduces cellular stress and even carries out chemotherapy, but which does not endanger either mother or fetus.

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