



In memory of Arne Burkhardt (1944-2023)

### **Dedicated to Case 1**

(82J / W / 2 x Mod /75, 40)

### Arne Burkhardt, Walter Lang and Norbert Schwarz

### Thorn in the Flesh

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How the Corona "Vaccine"- Induced Spike Protein Causes Damage
(Author's Translation without Proofreading)



#### **Impressum**

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#### The Thorn in the Flesh

The so called "spike protein" (thorn protein) was regularly mentioned in media coverage on Corona. It consists of proteins (macromolecules that consist of amino acids) and carbohydrate- or "sugar"-groups (glycan residues). So, it is a glycoprotein. Glycoproteins regularly occur on the cell surface and are contributing to the formation of spatial structures making glycoproteins to distinctive antigens for immune cells. As a transmembrane protein the spike protein is an important cell surface feature for the SARS-CoV-2-Virus with the S2-subunit being the transmembrane component and the S-1 subunit sticking out of the cell membrane as a spike. Between the S1- and S2-subunit a furin-cleavage site allows enzymatic separation of the two subunits.

According to our current knowledge most side effects of the corona "vaccinations" are due to the spike protein.

# Some Good News: Evidence that many Vaccinees may have had a Lucky Escape

The homepage https://howbadismybatch.com keeps statistics on undesired side effects of corona "vaccinations" according to given batches. These statistics soon revealed that severe and deadly corona "vaccine" side effects were associated to a relatively small proportion of around 5% of all marketed batch-numbers. Or to phrase it differently: most batches were harmless.

Based on data of the Danish drug regulatory authorities it was possible to plot the number of vaccine doses in a production batch against the severe adverse corona "vaccine" side effects (Schmeling, Manniche, and Hansen 2023). This revealed that the frequency of severe side effects was smaller in large batches. All batches, with more than 4.000 registered severe adverse events consisted of less than 100.000 doses, while there are many batches consisting of several hundred thousand doses, but leading to less than 1000 registered severe adverse events, sometimes even less than 100.

Note that based on registered severe adverse events we can only conjecture the real magnitude of the corona "vaccine" damage problem as only a mere fraction of severe adverse events are reported (maybe a few per mill or percent).

Still there is a good message in these analyses, namely that the large majority of all applied corona "vaccine" doses apparently were harmless, at least with regards to short and midterm severe adverse side effects.

These differences in effect between the batches cannot be due to random variability.

# I. Differences between Natural Virus-Spike and "Vaccine"-Induced Spike

Using the spike protein, the SARS-CoV-2-virus binds to ACE2-receptors on the cell surface and thus enables the virus to enter the cell. In this process the spike protein is cleaved at the so called furin-cleavage site into an S1 subunit and an S2 subunit. The receptor binding domain (RBD) that binds to the cellular ACE2-receptor is located on the S1 subunit. The S2 subunit plays and important role for facilitating membrane fusion during virus entry (Lan et al. 2020).

The spike proteins produced by our own cells after corona "vaccinations" also bind to ACE2 receptors. Blocking and destroying ACE2 receptors leads to substantial damages, as the ACE2 cascade is important for cellular homeostasis. SARS-CoV-2 infections and corona "vaccinations have the spike protein as damaging agent in common. Therefore, symptomatic overlaps between the so-called "Long Covid Syndrome" and corona "vaccination" damage are plausible and can be expected. Probably it is combinations between SARS-CoV-2 infections and corona "vaccinations that can cause particularly serious health damages.

The SARS-CoV-2-Virus offers several other targets to our immune system to control a virus infection apart from the spike-protein. Therefore, it seems plausible that a natural virus infection induces a more protective and more balanced immune response than corona "vaccinations".

Corona "vaccinations" reprogram cells of our body to become long-term, possibly permanent producers of spike proteins. This can lead to downright flooding of our body with the mass-produced spike proteins. (Seneff and Nigh 2021). Furthermore, the way leading to the body being exposed to the spike protein by corona "vaccination" is unnatural:

## Corona "Vaccine" Particles are Directly Injected into the Body Bypassing all Natural Barriers

An important difference between coronavirus infection and corona "vaccination" is the way the spike protein gets into the body and is being distributed: The SARS-CoV-2 virus enters the body with aerosols via respiratory pathways. In case of an infection with virus invasion of lung- and bronchial cells the proceedings remain constraint to the respiratory tract.

The mucous membranes in the nasopharynx and the airways down to the lungs are an important and effective protective barrier against pathogens. These mucous membranes are not only a mechanical barrier, but also have immunological competencies. Dendritic cells are phagocytes of skin and mucous membranes (inner skins) that attack foreign pathogens. They ingest microorganisms and display parts of them on their cell surfaces for antigen-recognition through other immune cells.

By attacking foreign invaders dendritic cells take on functions of the unspecific immune system. At the same time, they are at the interface to the specific immune system as displaying antigens on their cell surfaces leads to the activations of antigen specific B- and T-cells. Antigen specific B-cells multiply and become plasma cells producing specific antibodies against the specific antigen that had been presented on the surface of the dendritic cell.

The antibody system even has a distinct type of antibodies for mucous membranes, so called IgA antibodies. The infection is fought and usually terminated by immune cells in the respiratory tract. In only rare cases infectious agents overcome the mucous membrane barriers and the virus spreads throughout the whole body (Wodarg 2021).

Severe courses of covid-19 are usually occurring with virus spread throughout the whole body and then also lead to damages throughout the whole body especially in the vascular system. Such severe covid-19 courses are only a small proportion of all SARS-CoV-2 infections (which in turn are only a proportion of all positive corona testings).

#### Vascular Damages by Corona "Vaccination" Could be Expected

The so-called "vaccinations" with vector viruses (produced by Astra Zeneca and Jansen) and the "mRNA-vaccinations" (produced by Moderna and Pfizer-BioNTech) provide genetic information for the production of the spike protein.

"Vaccine" vector viruses and "vaccine" lipid nanoparticles do not have to overcome mucous membrane barriers as they are being directly injected into the muscle. If the injection needle happens to hit a vessel, something that occurs in 5-10% of all injections, the lipid nanoparticles with the modified RNA (modRNA) directly enters the blood circulation. (Wodarg 2021). The DNA "vaccines" by Astra Zeneca and Jansen carry the spike protein sequences inside vector viruses (attenuated adenoviruses) that act as transport vehicles analogous to the lipid nanoparticles.

Even if no blood vessel is punctured at least a part of the injected substances will reach neighbouring axillary lymph nodes via lymph fluids (after injection into the upper arm). Close to these axillary lymph nodes are the large lymphatic ducts draining into the upper subclavian veins. We therefore have to assume that the "vaccine" vector viruses and the "vaccine" lipid nanoparticles with their modRNA on board sooner or later reach the blood circulation.

The large majority of cells in the blood stream are red blood cells (erythrocytes), which do not have a nucleus and therefore cannot express the Spike modRNA packed in the "vaccine" lipid nanoparticles or the Spike DNA of the "vaccine" virus vectors. A nucleus is present in white blood cells (granulocytes, lymphocytes, monocytes). A particularly easy and obvious target for the "vaccine" vector viruses and the "vaccine" lipid nanoparticles are the cells that form the inner wall surface of vessels the so-called endothelial cells. These take in the spike genetic information and express the encoded spike protein. Once this spike protein appears on the cell surface of endothelial cells, its S1 subunit protrudes into the blood stream and induces the aggregation of thrombocytes and also activates the thrombocyte independent coagulation. Furthermore, an inflammation of the vessel walls due to an immune reaction against the spike protein occurs: the spike protein is considered a foreign antigen by immune cells,

such as the natural killer cells leading to destruction of spike infested cells by immune attacks. Experienced and integer scientists pointed out this danger, early (Reiss and Bhakdi 2020).

Characteristic vascular damages with lymphocytic endothelial inflammation, but also inflammation of deeper layers of the vascular walls were regularly observed by the pathologists Burkhardt and Lang in all kind of body tissues when doing microscopic examinations of histopathological specimens from individuals who had died after corona "vaccinations".

Such signs of vasculitis can also be found in biopsy samples (e.g. of the skin) from living individuals who suffered persistent injuries after corona "vaccinations" (Palmer and Bhakdi 2022).

## Unphysiological IgG-Induction Bears the Danger of Autoimmune Diseases

The physiological response against respiratory pathogens encompasses the induction of IgA antibodies on mucous membranes and usually (as the first step of the humoral rapid immune response) the occurrence of IgM antibodies in the systemic circulation. After corona "vaccination", no IgA response and no IgM production occurs, but instead it directly induces the exclusive production of IgG antibodies, which are typical for a late and long lasting humoral immune response.

The unphysiological direct induction of IgG antibodies bears an increased risk for auto immune diseases and, as we will see in a later chapter, there are strong signs for corona "vaccines" causing autoimmune diseases.

The increased risk of autoimmune diseases after direct (unphysiological) IgG induction could be demonstrated in animal models: High IgG antibody levels in the absence of corresponding IgM antibodies in Lupus autoimmune mice led to particularly severe autoimmune pathology. (Boes et al. 2000). Furthermore, it could be shown that if anti-insulin IgG and IgM antibodies are produced, the IgM antibodies protect the insulin from destructive anti-insulin IgG antibodies (Amendt and Jumaa 2021).

Already before the provision of corona "vaccines" based on spike protein induction, the epitopes of the SARS-CoV-2 virus were extensively examined regarding their autoimmune pathogenic potential. Epitopes under investigation were examined towards their homologies to human proteins. The spike protein had the highest number of 6 immunogenic epitopes and at the same time numerous homologies to human proteins. The five epitopes with homologies to human proteins that were explicitly listed in the publication were expressed in brain, hypophysis, testicles, "everywhere in the body", in the placenta and most other tissues and in the skin. When developing a corona "vaccine" based on spike protein induction, autoimmunological side effects had to be expected (Lyons-Weiler 2020).

# Spike Coding modRNA of "Vaccines" is more similar to Human RNA and more efficient in Spike Production than the RNA of the Virus

In order to optimize the spike protein production through cells of the vaccinee the modRNA was designed to 1) increase the transcription efficiency and thus the spike production by up to hundred-fold and to 2) lengthen the time the modRNS is transcriptionally active, as it is "humanized" making it less prone to degradation through the immune system.

The increased efficiency of spike protein production could be reached by increasing the content of guanine (G) and cytosine (C) bases. This codon optimization is possible because several base-triplets code for the same amino acid, with the differences most frequently occurring at the third digit of the triplet. The GC content of the natural SARS-CoV-2-mRNA is 36% and was artificially increased for the modRNA of corona "vaccines"; to 53% for the Pfizer-BioNTech BNT162b2 "vaccine" and 61% for the Moderna "vaccine" (McKernan, Kyriakopoulos, and McCullough 2021).

This GC enrichment can not only lead to a cell-overwhelming over production of spike proteins, but also lead to a modified spatial configuration of the spike protein. Especially the increased tendency of GC-rich mRNA to form so called G-quadruplexes implicates an increased risk for neurological and neurodegenerative damages. This will be addressed in a later

chapter about the prionogenic properties of the spike protein (Wang, Thombre, et al. 2021).

## "Humanised" Spike-modRNA is more stable, but can Act Autoimmunogenic

The modRNA of the corona "vaccinations" was artificially "humanised" by adding a guanine-methylated cap with 3'- and 5'- untranslated regions (UTRs) that were copied from human proteins. It also has a particularly long poly-A tail (nucleotide chain that only consist of adenines). Such a long poly-A tail further stabilizes the RNA chain. The 3'UTR used for the modRNA of the corona "vaccines" is almost omnipresent in the human body as it originates from globins that are produced in large amounts in young developing red blood cells (Kyriakopoulos and McCullough 2021; Orlandini von Niessen et al. 2019). Mature red blood cells lose their nucleus and thus their ability to produce new RNA or proteins. Therefore, they need particular long-lasting RNA and proteins as they cannot be reproduced anymore.

An important step when humanizing the modRNS was replacing all uridine (U) bases by 1-methyl-pseudouridine. This way transfected human cells are impeded from recognising the modRNA as "foreign" via so called Toll-like-receptors (TLRs), which would alert phagocytes of the innate immune system (Kariko et al. 2005; Andries et al. 2015). In both modRNA-"vaccines" (Moderna and Pfizer-Biontech) U-Bases were replaced by 1-methyl-pseudouridin (Park et al. 2021).

The innate immune system with its phagocytes (e.g. macrophages) usually eliminates foreign objects such as viruses, but also "alienated" body cells such as cancer cells without the need for a specific immune response with antibodies.

The humanisation of the corona- "vaccine" spike-modRNA was intended to trick the immune system, not to detect the modRNA as foreign thus avoiding a rapid elimination through phagocytes. When after days to weeks the specific immune system starts producing antibodies and

specific immune cells against the humanised modRNA antigens, cross-reactions with structures of the human body have to be expected.

When the modRNA does not get cleared by the innate immune system, it accumulates in such large amounts that -although it is camouflaged as human RNA- it cannot remain unrecognized by the immune system:

After avoiding the phagocytes of the innate immune system, the modRNA especially triggers the adaptive immune system with its specific antibodies and immune cells. These specific antibodies are targeted against certain epitopes of the modRNA. If such epitopes are also present on cells of the body, they unfortunately also become a target for the antibodies and the specific immune cells of the adaptive immune system. Autoimmune reactions against gene molecules of the human body are the consequence (RNA and DNA molecules are structurally very similar and interact intensively. RNA epitopes can therefore also be found on DNA molecules).

Along with corona "vaccine"induced immune responses against the abundantly produced spike protein, autoimmune attacks against human proteins with similar epitopes as the spike protein and autoimmune attacks against human genetic molecules (DNA and RNA) occur after corona "vaccination".