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The Science and the Potential Dangers behind RNA-based Vaccine Technology

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Abstract

The differences between natural mRNA and laboratory modified RNA (Mod-RNA) are remarked. The therapeutic applications of ModRNA in humans have been showing serious challenges and dangers. Considering these concerns, it's important to address the safety of mass vaccination programs that administer gene therapy treatments to healthy individuals. Robust risk-benefit analysis and long-term surveillance in preclinical and clinical trials are essential before implementing any new technology on a wide scale. Despite everything we were told, the RNA-based COVID-19 injections were made with modified RNA, not messenger RNA (mRNA).Modified RNA (modRNA) poses substantial risks to our health.

Keywords: Covid-19; Vaccines mRNA; ModRNA; Thrombotic Vasculitis

mRNA and modRNA are not the Same

The two, mRNA and ModRNA, are completely different. mRNA occurs naturally, lives in our cells for a short time, and is relatively fragile. It is a specific type of RNA that carries instructions or "messages" from our genes to help make proteins, the building blocks of our cells. It is constantly produced as part of normal cellular processes. Once the mRNA delivers the messages, its job is done and it breaks down inside the cell in the body.

When RNA from another source enters our cells, for example RNA from the virus, these cells can generate viral proteins. We've been told that COVID-19 injections are made with mRNA. However, a vaccine using "natural" mRNA would not last long enough to initiate an immune response before being destroyed by our immune system.

To make mRNA useful for routine medicine, scientists had to artificially modify the mRNA to increase both its efficiency and its lifespan. The result: ModRNA. ModRNA has been optimized for long life and maximum translation. While mRNA exhibits a cell-specific expression pattern, ModRNA can invade almost all types of cells in the body.

Simply put: mRNA carries genetic instructions from the cell's DNA (gene) to the ribosomes, which use these instructions to assemble a specific protein. Although it worked in principle, it quickly broke down and could not be used effectively for treatment purposes. This observation opened the door to synthetic or artificial modification of mRNA. The original focus of this research was to reprogram and destroy cancer cells, the only target of ModRNA prior to the COVID-19 pandemic.

Mod RNA. How is RNA Modified?

Simply put, one of the four compounds in the RNA is modified (for example, the natural nucleoside uridine is modified to produce synthetic/artificial methyl-pseudouridine). The ModRNA is then: More stable (lasts longer in the body). Less immunogenic (causes reduced stimulation of the innate immune system). More efficient (ModRNA produces more protein than the same amount of

mRNA). ModRNA is created in a laboratory. For the creation of ModRNA the Nobel prize of medicine 2023 were awarded to Dr. Karikó and Dr. Weissman.

The Therapeutic Application of ModRNA in Humans Presents Challenges and Dangers

The Role of Nanoparticles (LNPs): LNPs are lipid spheres used to deliver ModRNA into our cells. They can be thought of as a molecular "Trojan"; LNPs hide ModRNA from the immune system and facilitate its entry into any of our cells. However, some concerns have arisen regarding cationic lipids, which could potentially cause acute inflammatory responses. Due to their small size, LNPs can reach cells throughout our body, including those in the brain and heart.

Challenges and Risks of ModRNA Therapy: ModRNA contains a sequence of viral genes. Upon entering a cell, ModRNA takes control of the cellular machinery and reprograms it to produce a viral protein, for example, the SARSCoV-2 Spike protein. Perhaps most surprisingly, when creating the COVID-19 vaccines and boosters, scientists already knew that targeted delivery of ModRNA was impossible. The ModRNA cannot target specific cells. As such, it attacks perfectly healthy cells, even beyond natural barriers like the blood-brain barrier.

The continued production of an artificial viral protein robs the cell of energy, disrupts its metabolism, and renders the cell no longer able to perform its vital task for the organism as a whole.

What's worse, with the virus proteins generated in them, those cells are subsequently destroyed by our immune system.

In conclusion, ModRNA-based vaccines and boosters represent a significant advancement in medicine but come with unique challenges and potential serious risks. Understanding these complexities is essential as we navigate the world of RNA-based therapeutics.

The Impact of Spike Protein on Cells

Think of each cell in your body like a musician in an orchestra. Each has a specific role, and if one plays wrong, it disrupts the whole performance. Similarly, when cells produce foreign proteins, like the spike protein due to viral infection or nonspecific proteins like cancer cells, our immune system targets these cells for the greater good.

Consider the spike protein as an example. It acts as a signal on the cell's surface, telling the immune system to eliminate that cell. Cytotoxic T lymphocytes (the "killers") recognize cells with the viral spike, adhere to them, and release enzymes that degrade proteins and nuclei, ultimately killing these cells. Cytotoxic lymphocytes reacting to the spike protein encoded in ModRNA vaccines repeat this process, eliminating all spike protein-expressing cells.

The essence of a vaccine is to protect us from viral infections. Therefore, RNA-based vaccines lead to the production of a viral protein recognized by our immune system, resulting in the production of antibodies and cytotoxic lymphocytes against the virus.

However, keep in mind that RNA-based injections, including boosters, make healthy cells synthesize a foreign protein repeatedly, leading to damage in various organs and tissues. This also occurs in natural infections, but only cells with specific receptors for the virus are susceptible. In contrast, ModRNA vaccines, delivered with lipid nanoparticles (LNPs), can potentially enter various cell types across different tissues and organs, causing dysfunction and structural damage.

Regarding COVID-19, the spike protein is known to be by itself toxic to the body. Furthermore, repeated ModRNA-based injections can lead to non-neutralizing antibodies, hindering effective responses to variants and other related viruses, making the body more susceptible to diseases upon subsequent infections or boosters.

The Hyperinflammatory Response Caused by ModRNA Encoded Viral Protein

Having continuously synthesized viral protein in the bloodstream and cells (as it is the case with ModRNA encoded viral proteins) leads to a hyperinflammatory immune response. While natural infections tend to clear over time, booster injections of ModRNA vaccines keep the immune system in constant action, resulting in chronic inflammation. In June 2023, in response to a Freedom of Information Act request, some of these adverse effects became public when BioNTech's previously confidential reports to the European Medicines Agency (EMA) were released. The data revealed 3,280 deaths among a group of 508,351 people who received the vaccine during a combined period that included postmarketing and clinical trials. More recently, it has been reported that the ModRNA (Pfizer y Moderna) have been causally related to more than 17 millions deaths in 17 different countries that could be independently assessed. These deaths and tens of thousands of serious adverse events occurred during a period when vaccine manufacturers insisted that ModRNA-based injections were safe. Sudden deaths from arrhythmias and myocarditis from microvascular damage continue to be reported worldwide on a daily basis, especially in young people, young adults and

professional athletes.

It doesn't make sense that any cell in our body is programmed to produce as much viral protein as possible (e.g. spike) for as long as possible. This is very contrary to the natural viral infection and will result in a hyperactivation of the immune system with serious consequences.

Thus, injected ModRNA can cause thrombosis followed by cerebrovascular accident, myocardial infarction, pulmonary or cerebral embolism, myocarditis, pericarditis, central and peripheral neuropathies; since it can promote the formation of blood clots within the blood vessels and their inflammation (vasculitis) and deaths.

Recent reviews have compared the immune response to viral infection and conventional protein-based vaccination with repeated ModRNA-based injections. In short, ModRNA injections keep the body in a perpetual "fight" mode, wearing it down and causing serious health consequences.

Two studies have shown that continuous exposure to the same antigen can reduce the production of neutralizing antibodies (IgG1) and increase non-neutralizing antibodies (IgG4). This shift can lead to increased viral persistence and contribute to breakthrough infections, as part of the phenomenon of immunological imprinting.

The Potential Integration of ModRNA in Our Genome

In rare cases, a viral gene sequence can integrate into a host's genome, disrupting normal cellular functions or even transforming healthy cells into cancerous ones. This integration can remain dormant but activate during stressful times, similar to dormant viruses like herpes simplex and herpes zoster.

While some authorities claim that COVID-19 vaccines do not interact with DNA, recent research has shown otherwise. In 2022, Swedish researchers published the results of their experiments that used human liver cells (specifically, a cell line called Huh7) and made a significant finding related to the Pfizer-BioNTech COVID-19 vaccine. The researchers discovered that the ModRNA from the Pfizer-BioNTech vaccine could be converted into DNA, through a process known as reverse transcription, this could happen in just six hours and then integrated into the genome within the nucleus of Huh7 liver cells.

Furthermore, concerns have arisen about contamination of both the Pfizer and Moderna ModRNA vaccines with bacterial plasmid DNA, which shares sequences with ModRNA. DNA is more stable than RNA, increasing the likelihood of it entering cell nuclei and integrating into our genome. This raises the possibility that some spike protein in our body may originate from this contaminating DNA.

According to the European Medicines Agency (EMA) assessment report on the Pfizer-BioNTech COVID-19 vaccine, "No genotoxicity studies have been provided. This is acceptable since the components of the vaccine formulation are lipids and ModRNA that are not expected to have genotoxic potential."

This statement may come as a surprise, considering that ModRNA injections, upon cellular uptake, could potentially lead to genotoxic effects through various pathways:

1. **Cationic Lipids**: These are part of the lipid nanoparticles (LNPs) used in the vaccine. They are known to induce the formation of reactive oxygen species (ROS), which can negatively affect DNA integrity.
2. **Reverse Transcription of ModRNA**: The active ingredient of the vaccine, ModRNA, can, in rare cases, be reverse transcribed into DNA and inserted into our genome. While this is a complex process, it raises concerns about potential genotoxicity.
3. **Contaminating DNA**: ModRNA vaccines may contain traces of bacterial plasmid DNA from the manufacturing process. Separating RNA from plasmid DNA reliably can be challenging, and depending on where this DNA integrates into our genome, it may affect gene function, potentially leading to diseases, including the growth of malignant cells and cancer.

Considering these concerns, it's important to address the safety of mass vaccination programs that administer gene therapy treatments to healthy individuals. Robust risk-benefit analysis and long-term surveillance in preclinical and clinical trials are essential before implementing any new technology on a wide scale.

This sound health policy should remain unaffected by recent accolades, such as the 2023 Nobel Prize in Medicine awarded to Drs. Weissman and Karikó, the creators of ModRNA.