Review

Design Flaws Unveiled: The Risk of Autoimmunity from Defective RNA Reading Frames in Pfizer's ModRNA COVID-19 Vaccine

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Design Flaws Unveiled: The Risk of Autoimmunity from Defective RNA Reading Frames in Pfizer's ModRNA COVID-19 Vaccine

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Abstract: Recently, Mulroney,et.al., demonstrated that Pfizer's ModRNA Covid vaccine, but not AstraZeneca Covid vaccine, produce aberrant foreign proteins in vivo due to reading frame shift in ribosomes. This phenomenon could elucidate the notable surge in autoimmune diseases following the administration of ModRNA vaccines compared to Influenza vaccines between 2020 and 2023, as found in the VAERS database. These findings bear significant implications for the future application of mRNA technology, emphasizing the necessity of modifying the design of the mRNA sequence to mitigate these defects. Remarkably, Mulroney and collaborators achieved a reduction in frame shift proteins by introducing additional edits to the mRNA sequences. This adjustment is pivotal for rectifying the flawed design of the ModRNA employed by Pfizer. In light of these findings, many advocate for the immediate recall and further investigation of these products. The notion of a "future mRNA-based therapy" should be postponed indefinitely.

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A Nature publication by Mulroney et al., titled "N1-methylpseudouridylation of mRNA Causes +1 Reading Frameshift in Ribosomes" [1], was released on December 6, 2023. The authors demonstrated that N1-methylpseudouridine affects the fidelity of mRNA translation by causing ribosomal stalling. This, in turn, leads to the production of multiple unique and aberrant proteins through frame-shifting in the ribosomes. Subsequently, Wiseman et al. wrote a commentary titled "Ribosomal Frame-shifting and mRNA Misreading in COVID-19 ModRNA Vaccines Produce Off-Target Proteins and Immune Responses, Raising Safety Concerns: Commentary on a UK Study by Mulroney et al." to address concerns associated with these findings [2].

The authors argue that slippery sequences, characterized by long runs of N1-methylpseudouridines, induce an RNA reading frameshift. In this process, ribosomes slide or skip these sequences, causing a shift in the reading frame and resulting in the production of entirely different proteins [3]. According to their findings, this frame-shifting occurred approximately 8% of the time. When we contextualize this discovery in the human in vivo environment, the potential amount of aberrant foreign proteins produced after the administration of Covid ModRNA vaccines is staggering.

There is roughly a 1 in 10 chance that Pfizer's ModRNA vaccines against COVID-19 may not generate spike proteins (the target protein of these vaccines). Instead, there is a possibility of producing a series of aberrant proteins foreign to the human body and immune system [1], raising concerns about an increased triggering of autoimmune responses among the billions of ModRNA-vaccinated individuals.

The study authors observed that 8 percent of the time, Pfizer's ModRNA COVID-19 vaccines undergo mistranslation on ribosomes, leading to the generation of unintended proteins. In contrast, the AstraZeneca vaccine, devoid of a ModRNA platform, did not exhibit this issue.

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This mistranslation primarily arises from Pfizer's modification to its mRNA bases employed in its vaccine. ModRNA vaccines can be conceptualized as a set of instructions utilized to produce spike proteins. Once the vaccine enters the cell, ribosomes interpret the ModRNA instructions to synthesize proteins, such as spike proteins.

If the instructions are misinterpreted, errors can manifest in the final protein. Some errors are minor, akin to misspelling a word in a text, while others are more detrimental. This misinterpretation is termed a frameshift and occurs when one or two bases are skipped from the mRNA. Since mRNA bases are translated in sets of three, skipping one base would impact all subsequent sequences, resulting in the formation of aberrant proteins other than the target protein, in this case, the virus spike.

While most natural mRNAs incorporate uridine, Pfizer's ModRNA vaccines employ N1-methylpseudouridine. This modification renders the mRNA sequence more resistant and less prone to degradation in cells. Pfizer's selection of less frequently appearing mRNA bases is also why some scientists refer to the mRNA vaccines as modified RNA or ModRNA.

Frameshifting gives rise to the production of multiple, unique, and aberrant proteins.

This phenomenon could elucidate the notable surge in autoimmune diseases following the administration of ModRNA vaccines compared to Influenza vaccines between 2020 and 2023. These findings bear significant implications for the future application of mRNA technology, emphasizing the necessity of modifying the design of the mRNA sequence to mitigate these defects.

Remarkably, Mulroney and collaborators achieved a reduction in frameshift proteins by introducing additional edits to the mRNA sequences. This adjustment is pivotal for rectifying the flawed design of the ModRNA employed by Pfizer.

In addition to frameshift errors, the N1-methylpseudouridine modification can also impede and disrupt mRNA-to-protein translation, potentially resulting in protein sequences shorter than expected. Ideally, ribosomes translate the vaccine mRNA into the spike (S) protein. If the cellular machinery (ribosomes) detects a difference between normal uridine and N1-methylpseudouridine, it may lead to stagnation or mistranslation.

In their study, Mulroney, et.,al., initially inoculated mice with the Pfizer and AstraZeneca vaccines. They observed a significantly higher likelihood of the Pfizer vaccines producing proteins with alterations or frame-shifts. Subsequently, the researchers compared vaccine inoculations in humans, analyzing 21 participants who received the Pfizer vaccine and 20 who received the AstraZeneca vaccine. None of those vaccinated with AstraZeneca exhibited an immune reaction to the proteins produced by translation errors, whereas approximately a third of those vaccinated with Pfizer did.

Regarding the claim about the absence of adverse event outcomes in this setting, the evidence supporting such a statement is not explicitly provided.

Misdirected immunity and autoimmunity occur when the immune system attacks its own tissues, a process that can unfold over many years before symptoms manifest. Immunity directed at aberrant proteins foreign to the human organism has the potential for significant harm, and the avoidance of unwanted immune responses is crucial. While Mulroney and colleagues did not offer a detailed definition of misdirected immunity, it generally denotes a reaction in which the body's immune system targets its own tissues and organs.

Pfizer's ModRNA vaccines are not capable of selective targeting to specific cells or tissues; instead, they are expressed throughout all tissues of the human organism for extended periods, potentially lasting for years. Consequently, the expression of aberrant proteins resulting from the altered reading frame and defective translation of Pfizer's ModRNAs can activate repetitive and chronic immune responses as long as these foreign proteins persist in the affected organ or tissue. This prolonged immune activation has the potential to lead to dysfunction and organ damage over time.

In this scenario, the implication is that, rather than training the body to combat the spike proteins of the SARS-CoV-2 virus, the immune system may be stimulated to fight the unnaturally produced and aberrant proteins. Additionally, the findings from immunologist Aristo Vojdani's study suggest

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that spike proteins could induce cross-reactions, wherein the body inadvertently attacks its own tissues during the fight against other pathogens or foreign proteins. This is attributed to structural similarities between spike proteins and more than 20 different human tissues.

Moreover, there is evidence indicating that ModRNA vaccines against COVID-19 have elevated the frequency of autoimmune diseases compared to individuals vaccinated against influenza from 2020 to 2023. A query of the MedDRA code "Autoimmune Disorder" in the Vaccine Adverse Event Reporting System (VAERS) reveals an 803% increase in the reporting rate per million vaccine doses administered when comparing influenza vaccines administered between 2018 and 2020 with COVID-19 ModRNA vaccine injections administered between 2021 and 2023. It is noteworthy that these reports exclude individuals with a history of autoimmune disorders.

The emergence of autoimmune disorders in the context of unwanted protein production is a concern [4]. If an immune response is generated against off-target proteins—where the target protein for the Covid ModRNA vaccine is the spike of the SARS-CoV-2 virus—and these off-target proteins share sequence homology with self-proteins, immune mediators could potentially react spontaneously [5–8].

As a proof of concept, vaccine-induced autoimmunity has been demonstrated in the case of the hepatitis B virus (HBV) vaccine, particularly in the context of autoimmune demyelinating diseases like multiple sclerosis (MS) [9]. MS is an autoimmune disease where spontaneously reacting immune mediators damage the myelin sheath of nerve cells in the brain and spinal cord [10].

It is noteworthy that, based on a query of the MedDRA code "Multiple Sclerosis" in the VAERS database, there is an 890% increase in the reporting rate per million doses when comparing influenza vaccines administered between 2018 and 2020 with COVID-19 ModRNA injections administered from 2021 to 2023. Importantly, these reports exclude individuals with a history of multiple sclerosis.

The notable increase in reporting rates of autoimmune disorders and MS associated with ModRNA injectable products for COVID-19 raises the question of whether these increases are linked to aberrant protein production.

The concern about unwanted protein production is heightened by the discovery of molecular mimicry hotspots in the spike protein with autoimmune potential, particularly in the context of thrombocytopenia [11]. A TQLPP motif in the spike protein exhibits similar antibody binding properties to the human protein thrombopoietin. Antibodies that cross-react with thrombopoietin can induce thrombocytopenia, a condition observed in patients with COVID-19 [12].

The structure or sequence of the new proteins formed by Pfizer's ModRNA, as described by Mulroney and colleagues, is currently unknown. However, the study did identify one protein as chimeric, formed by joining together two or more genes that originally encoded separate proteins. This chimeric protein was structurally similar to human proteins, raising concerns about its potential to induce autoimmune responses.

Engler emphasized that defects in the RNA reading frame on ribosomes, leading to poor translation in ModRNA injections, represent a design error. While some argue that reading frame changes are rare, occurring, for instance, in viral infections, it's crucial to note that viral infections can also trigger autoimmune diseases. For example, the Epstein Barr virus is known to trigger Multiple Sclerosis, a clear autoimmune disease.

Mulroney and colleagues underscored that the synthetic ModRNA sequence used in the Pfizer vaccine is prone to transfer RNA reading frame errors on ribosomes and should be corrected promptly to avoid serious health problems.

The observed increase in autoimmune diseases triggered by aberrant products resulting from reading frame abnormalities in transfer RNA ribosomes makes it highly likely that more autoimmune disorders will surface in the coming years, necessitating vigilance.

In light of these findings, Mulroney et al. advocate for the immediate recall and further investigation of these products. The notion of a "future mRNA-based therapy" should be postponed indefinitely. It is noteworthy that the manufacturers (Pfizer, Moderna) had ample opportunities and resources to evaluate the dangers of off-target protein production for potential illumination and amelioration of serious adverse effects, including autoimmunity, before administering their

ModRNA COVID products to billions of people. The suggestion is made that clinical trials of these products should have spanned multiple generations to ensure the true safety of these products.

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