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Short Commentary

mRNA Covid-19 Vaccine-Induced Toxicity: Will the Real Ringmaster Please Stand Up

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The diversity of mRNA Covid-19 vaccine-induced toxicities has been the subject matter of numerous publications [1-10]. Excluding anaphylactic and allergic reactions, new onset adverse occurrences temporally related to mRNA Covid-19 immunizations generally segregate into two distinct categories: (1) autoimmune and/or autoinflammatory disorders; and [2] chronic ailments whose clinical features are strikingly similar to phenomena characteristic of post-acute sequelae of Covid-19 (long covid) in non-hospitalized SARS-CoV-2 infected individuals, as well as features seen in idiopathic neurologic fatiguing syndromes (e.g., CFS/ME). Examples of mRNA category one disorders include myocarditis, thrombotic thrombocytopenia, inflammatory systemic connective tissue diseases, demyelinating events, multisystem inflammatory syndrome, optic neuritis, Guillain-Barre syndrome, and even death. Individuals in category one typically manifest dysfunction of one or more organ systems mediated by a variety of adverse cellular and humeral inflammatory and immunologic responses. Similar organ dysfunctions and immune aberrancies have been noted in long Covid sufferers who were previously hospitalized for severe SARS-CoV-2 infections. The aggregate incidence of category one disorders has been estimated to be approximately 100 severe adverse reactions per one million mRNA vaccine doses. Such a staggering figure warrants comparison to traditional FDA vaccine approval guidelines of 1-2 severe adverse reactions per one million doses. When the swine flu vaccine was removed from the USA market 25 years ago, there were 10-11 severe adverse reactions per one million doses. Causation theories for category one mRNA induced disorders have been dominated by spike protein dissemination ("spikeopathy") and a multitude of nanoparticle-induced inflammatory and immune responses [4,5,8,11,12].

Category two disorders have also been estimated to be approximately 100 severe adverse reactions per one million mRNA Covid-19 vaccine doses. Although the majority of category one disorders will eventually improve and/or resolve with proper treatment, category two disorders comprise the vast majority of unending debilitating chronic ailments manifested by 15,000 mRNA vaccine recipients seeking recognition by the Federal Vaccine Injury Compensation Program in Washington, D.C. Attorneys who participate in this venue estimate the final number of claimants could easily exceed 50,000 chronically ailing mRNA vaccine recipients. Typical symptoms include (but are not limited to) widespread musculoskeletal pain, dysautonomia, fatigue, paresthesias, dysesthesias, weakness, palpitations, sleep disturbances, nausea, loose stools, cognitive dysfunction, headaches, dizziness, exertional malaise, itching, and muscle twitching. The clinical phenomena manifested by category two mRNA recipients exhibits 96% homology to cohorts of non-hospitalized long Covid sufferers, and these groups typically do not manifest cardiopulmonary dysfunction nor "typical" aberrant inflammatory and immunologic blood tests (e.g., +ANA; elevated ESR or CRP) [13,14]. However, category two mRNA recipients and the non-hospitalized long Covid sufferers both exhibit mitochondrial dysfunction, dysautonomia, metabolomic anomalies, GI dysbiosis, reactivation of previously acquired viruses (e.g., EBV), and dysfunction of integrative brain regions analogous to findings seen in CFS/ME patients [15,16]. In addition, ailing category two mRNA recipients often manifest a perplexing array of "bizarre" autoantibodies directed at: (a) G protein coupled receptors that regulate multiple autonomic and non-autonomic physiologic functions; (b) enzymes that regulate the interactions of multiple neurotransmitters; (c) heparan sulfate and chondroitin sulfate matrix macromolecules that bind the preformed mediators of inflammation inside mast cells, are components of sensory nerve receptors, and comprise the serine protease enzyme affinity site that cleaves BDNF into an active molecule; (d) channel proteins regulating cell membrane ion flow in nerve conduction pathways , immunocompetent cells, and mitochondria; and (e) the GAD 65 enzyme responsible for the production of GABA [10]. GABA normally assists in memory, the maintenance of emotional stability, and the regulation of muscle tone and neuronal excitability. These autoantibodies are not typically present in category one disorders, and, as will be discussed below, they do not initiate category two disorders - rather, their eventual appearance orchestrates chronicity for category two.

Causation theories for category one mRNA vaccine-induced disorders, and the pre-Covid-19 pandemic vaccine theories of

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molecular mimicry and ASIA (autoinflammatory syndrome induced by adjuvants), are woefully inadequate to explain mechanisms of disease causation for category two mRNA vaccine toxicity [2,10]. In the aggregate, these theories also do not address susceptibility for either category of mRNA Covid-19 vaccine toxicity. Stated another way, since the vast majority of mRNA Covid-19 vaccine recipients have no safety issues, why is it that some individuals develop these toxicities? Determining susceptibility could go a long way towards moderating the controversy between pro-vaxers and anti-vaxers. In the past three years a new theory for category two mRNA Covid-19 vaccine toxicity has emerged, and it arose from similar observations seen in chronically ailing Gardasil and hepatitis B vaccine recipients. It is known as the "perfect storm" [10,17,18]. This new theory also has relevance for the 3,000 SIDS cases (sudden infant death syndrome) recorded in 2022 despite three decades of preventive pediatric advice [10]. Contributing elements of the "perfect storm" include: (a) the presence in mRNA Covid-19 vaccines of hidden volatile organic compounds in the toluene and benzene families; (b) genetic cytochrome P450 enzyme deficiencies that result in impairment of the metabolism of xenobiotics, thereby allowing any hidden vaccine chemicals to hang around longer; (c) the presence of organosiloxanes (silicones) and silicon dioxide (silica) in mRNA vaccines (and at least thirteen other vaccines); (d) the presence of ethylenes in mRNA vaccines (and multiple other vaccines), which can further reduce the already low CYP450 enzyme levels; (e) variations in the levels of butyrylcholinesterase, an enzyme regulator of the interactions between acetylcholine, serotonin, dopamine, and GABA (four neurotransmitters that are crucial to the sleep-wake cycle, respiration, muscle tone, and nerve transmission in the brain); (f) the presence of one or more innate channelopathies that, in the absence of adverse chemical exposures, are typically innocuous (i.e., without impedance of ion fluxes in and out of neuronal cell membranes); and (g) the known functional existence of ion channels in mitochondria, mast cells, regulatory T cells, and various other immunocompetent cells. Susceptibility occurs when all of these components are cojoined together in the presence of mRNA vaccine administration, thereby creating multiple adverse circuitous amplification loops of biochemical and autoantibody induced disturbances that chronically disrupt routine physiologic functions. These diverse pathophysiologic processes inherent to category two illness have previously been described [2,10,19,20]. They are not mutually exclusive, and complex chronological scenarios, complex disease identifications, and broad variability regarding the exact number of mRNA vaccine exposures required to precipitate symptoms can easily be the rule rather than the exception. The eventual transitional appearance of one or more "bizarre" autoantibodies renders chronicity to category two illness. As mentioned earlier, these "bizarre" autoantibodies are not the initiators of category two disorders. That process is relegated to an array of acute biochemical disturbances caused by the persistent presence of the hidden vaccine chemicals themselves [2,10,19,20]. The normal chronological evolution of adaptive immune responses would not coincide with observed mRNA Covid-19 vaccine-induced disease onset occurring within 1-4 days following immunization. It should also be noted that category two susceptibility is not dependent on a familial autoimmune diathesis. All of the above supports the previously proposed nomenclature for category two mRNA vaccine toxicities, namely: "chronic new onset non-autoimmune rheumatic disorders following mRNA Covid-19 vaccination" [2].

The pathophysiologic mechanisms for mRNA Covid-19 vaccine-induced chronic toxicity have overlapping relevance with the causation mechanisms previously mentioned for category one disorders. Volatile organic compounds in mRNA vaccines have the capacity to cause DNA transcriptional alterations which, in turn, can lead to the translational production of protein and enzyme isoforms. Isoform induced autoantibodies that cross react with the normal IL-1 receptor antagonist appear to be causative for the myocarditis occurring after a second dose of an mRNA Covid-19 vaccine [21]. In addition, organosiloxanes (silicones) can cause disruption of the quantum tunneling electron transfer process in mitochondria (i.e., oxidative phosphorylation and ATP production), resulting in oxygen derived free radicals that precipitate epigenetic changes and subsequent alterations in DNA expression [22]. On the flip side, "spikeopathy" and nanoparticle induced neuroinflammation mechanisms inherent to category one disorders may have some relevance for the cognitive dysfunction inherent to category two disorders. And since cognitive dysfunction in category two disorders is strikingly similar to its occurrence in non-hospitalized long Covid sufferers, the identification of biochemical disturbances in the prefrontal cortex of long Covid patients creates yet another complex scenario [23]. Thus, the heterogeneity of adverse events attributable to mRNA Covid-19 vaccines (and the SARS-CoV-2 virus itself) appears to reflect diverse overlapping causation mechanisms. All of this can be augmented by the ability of silicone degradation products to biointegrate into virtually any life-sustaining molecule. Biochemical armageddon from artificial silicon-carbon bonds can ensue via molecular alteration of electromagnetic fields, thereby disrupting the functions of DNA, RNA, enzymes, proteins, hormones, endocrine receptors, carbohydrates, lipids, neurotransmitters and their receptors, matrix macromolecules, ion channels in cell membranes, components of sensory nerve receptors, cytokines, mast cell components, and even the scaffolding inside cells to assemble and transport such molecules. This is undoubtedly why silicon-carbon bonds are not present in any living organisms on earth, because such bonds are a mission impossible for normal molecular functions [24].

The "perfect storm" theory implies that plausible screening procedures for detecting the limited number of individuals at risk for new onset mRNA Covid-19 vaccination induced disorders are now capable of being implemented prior to immunization. Equally important is the legitimate recognition of mRNA Covid-19 vaccine recipients who already manifest debilitating neurologic, rheumatologic, hematologic, psychologic, endocrinologic and cardiac phenomena caused by these well-intentioned disease modifying vaccines. Congressional representative Lloyd Doggett from Austin, Texas has introduced legislation in the USA Congress to amend the 38-year-old Federal Vaccine Injury Compensation Program to include the tens of thousands of mRNA vaccine recipients seeking recognition of their chronic ailments. If eventually enacted this would enable the "Program" to extend its broad vaccine liability shield to mRNA Covid-19 vaccine manufacturers. Despite such a favorable prospect, the "Program" would simultaneously give legitimacy to mRNA Covid-19 vaccine toxicity. This, in turn, could engender opposition from the Food and Drug Administration, the Centers for Disease Control, vaccine researchers, vaccine manufacturers, immunologists, and uninformed practitioners, many of whom continue to profess absolute mRNA vaccine safety. However, three recent publications have reported on deception of the FDA, the decline of science at the FDA, and the unreliability of VAERS data (vaccine adverse event reporting system) [25-27], all of which calls into question the reliability of FDA immunization safety advice. One even wonders if the FDA recognizes the presence of organosiloxanes (silicones) in mRNA Covid-19

vaccines and multiple other vaccines, including Gardasil, hepatitis B, Shingrix, Fluad, Fluzone, Synagis, Novavax, Mosquirix, hepatitis A, Meningococcus, TDaP, PCV-13, HIV, and MMR [28]. The necessity for silicone additives involves either: (a) the need to neutralize any leftover toxic sorbitol in the manufacturing process of PS-80; and/or (b) the need to neutralize any adverse effects from an ISCOM additive (immunostimulatory complex) [29,30]. One ISCOM example is AS01, which acts as an adjuvant to boost the cellular and humeral responses to the antigenic portions of a vaccine. AS01 contains Matrix M, and Matrix M in turn is composed of Matrix A and Matrix C [31,32]. Matrix C contains QS-21, a saponin isolated from the Quillaja Saponaria tree bark. Saponins are detergents and foaming agents and are routinely added to soft drinks and beer. Silicones are routinely added to these products to control the foaming. The implications for preventing a vaccine from bubbling over are obvious. The FDA has never required any commercial product, including vaccines and organic foods, to list silicones as an ingredient. Is it therefore any surprise that pre-Covid anti vaccine movements have been fueled by the SARS-CoV-2 pandemic and mRNA Covid-19 vaccines? Individuals who have first-hand knowledge of one or more catastrophes following a variety of routine immunizations know what they have witnessed, but they have been at a disadvantage because they have not been able to deduce plausible mechanisms of disease causation. We believe that vacuum is about to change.

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