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Review Article

Assessing Risk for Chronic Disorders Caused By Human Papillomavirus Vaccines and mRNA Covid-19 Vaccines

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Abstract

The parenteral injection of hidden chemical ingredients contained in Gardasil and mRNA Covid-19 vaccines are capable of initiating a myriad of toxic biochemical disturbances. In order for these disturbances to produce chronic physical ailments they must be facilitated and amplified by several latent genetic defects, some of which allow for prolonged chemical persistence and some of which are usually considered innocuous. These "perfect storm" events may then lead to breaks in immune tolerance and the eventual production of a perplexing array of autoantibodies which, in turn, can create circuitous synergistic amplification loops to augment and chronically perpetuate the initial acute clinical phenomena. Overlapping chemical and antibody targets include G protein coupled receptors that regulate multiple autonomic and non-autonomic physiologic functions; enzymes that regulate the activities of neurotransmitters; 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; channel proteins regulating cell membrane ion flow in nerve conduction pathways, immunocompetent cells, and mitochondria; and the GAD 65 enzyme responsible for the production of GABA, which assists in memory, the maintenance of emotional stability, and the regulation of muscle tone and neuronal excitability. Plausible screening procedures for detecting individuals at risk for new onset vaccination-induced chronic disorders are now capable of being implemented prior to immunization. Equally important is the legitimate recognition of vaccine recipients who already manifest chronic debilitating neurologic, rheumatologic, endocrinologic, and psychologic phenomena caused by these two well-intentioned disease modifying vaccines.

Keywords: Autonomic dysregulation; Channelopathies; Covid-19; Cytochrome P450; Gardasil; G protein coupled receptors; Human papillomavirus; mRNA vaccines; SARS-CoV-2

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Introduction

Novel insights have recently appeared regarding the complexities inherent to new onset vaccination-induced chronic disorders triggered by Gardasil and mRNA Covid-19 vaccines [1,2]. Detailed chronological evolution of seemingly bizarre symptoms manifested by individuals afflicted with these self-sustaining immunization reactions, coupled with the knowledge of hidden toxic vaccine ingredients, have provided important clues into mechanisms of disease causation. Other insights have been gleaned from seemingly unrelated research, including investigations into: (a) long Covid and its similarities to Covid-19 vaccination-induced disorders [3-5]; (b) the exacerbation of pre-existing Parkinson's disease following SARS-CoV-2 infections [6]; (c) the relationship of volatile organic compounds to autoimmunity [7]; (d) the etiology of sudden infant death syndrome [8]; (e) the demonstration of autoantibodies to autonomic and non-autonomic G protein coupled receptors (GPCRs) in long Covid, ailing Gardasil recipients, and idiopathic neurologic fatiguing syndromes (chronic fatigue syndrome/myalgic encephalomyelitis, fibromyalgia, small fiber neuropathy, dysautonomia, complex regional pain syndrome, and postural orthostatic tachycardia syndrome) [9-12]; (f) the relationship of mitochondrial quantum tunneling dysfunction to alterations in gene expression [13]; (g) the verifiable existence of breast implant illness and breast implant associated anaplastic large cell lymphoma [14]; (h) the demonstration of isoform induced autoantibodies directed against the IL-1 receptor antagonist in myocarditis precipitated by both SARS-CoV-2 infections and the second dose of mRNA Covid-19 vaccines [15]; (i) the similarities of idiopathic neurologic fatiguing syndromes to the chronic disease manifestations initiated by both Gardasil and mRNA Covid-19 immunizations [1,2]; and (j) the impacts that the 40 month-old Covid-19 pandemic has had on virtually every medical discipline (especially immunology) [16].

Despite all of these pertinent observations, many proponents of new onset vaccination-induced chronic ailments have continued to espouse controversial theories of molecular mimicry and adjuvant-induced immune stimulation as the bases for autoantibody production and disease initiation. Critical analyses of these theories have recently been published and cast serious doubt on their validity, especially when disease onset following Gardasil and mRNA Covid-19 immunizations typically occurs over one to four days [1,2,17]. Unknown genetic defects have also been postulated to be participants, but the diversity of classical autoimmune and autoinflammatory diseases triggered by influenza vaccination (e.g., Guillain Barre, SLE, rheumatoid arthritis, polymyalgia rheumatica) have obscured the exact

nature of this factor. Our identification of multiple other overlapping mechanisms of disease causation can reconcile why some Gardasil and mRNA Covid-19 vaccine recipients develop chronic symptoms of fatigue, headaches, widespread generalized pain, palpitations, cognitive dysfunction, sleep disturbances, emotional lability, syncopal episodes, gastrointestinal disturbances, dyskinesias, muscle weakness, dizziness, reduced alertness, tinnitus, tremors, muscle twitching, seizures, menstrual irregularities, and even sudden death [1,2].

Hidden Vaccine Chemical Ingredients and Biochemical Chaos

Gardasil 4 and Gardasil 9 vaccines contain a cocktail of harmful chemicals capable of producing dozens of biochemical disruptions in the body [1]. The most noxious of these are volatile organic compounds in the toluene and benzene families. Also present are organosiloxanes (silicones), silica (silicon dioxide), and sorbitol, which are intricate parts of polysorbate-80 (PS-80) and immunostimulatory compound (ISCOM) additives [1,18,19]. The toxicity of these five xenobiotics has been extensively reviewed in prior publications [1,18-21]. Together they are capable of causing all of the chronic symptoms noted above, as well as acidosis, chest tightness, shortness of breath, dysfunction of neuronal membrane ion channels throughout the body, dysfunction of autonomic and non-autonomic GPCRs, inappropriate mast cell degranulation, activation of brain microglia cells, chelation of dopamine, and mitochondrial dysfunction. The two volatile organic compounds are also serine protease inhibitors and can alter the enzyme activities of acetylcholinesterase, butyrylcholinesterase, pancreatic digestive molecules, and the activation of brain derived neurotropic factor (BDNF). Volatile organic compounds in the form of cyclohexane and polyoxyethylene, along with organosiloxanes, silica, and sorbitol, encompass some of the ingredients in the mRNA Covid-19 vaccines manufactured by Pfizer and Moderna, and they can promote similar chaos [2,22]. Other biochemical disturbances related to the volatile organic compounds in both Gardasil and mRNA Covid-19 vaccines are (a) the inhibition of protein phosphatases, and (b) the capability to modify human proteins by inducing the production of isoform mimics. The consequences of this have also been extensively reviewed in a prior publication [1], but three disturbances stand out: (a) alterations in enzyme efficiency; (b) alterations of transcription regulators (and hence changes in gene expression); and (c) the unopposed activity of phosphorylases. Excessive phosphorylation of GPCRs can induce desensitization, thereby inhibiting stimulation by their usual ligands (e.g., adrenergic and cholinergic neurotransmitters in the brain and periphery). Many of these biochemical disturbances can account for the abrupt onset of observed vaccine-induced phenomena transpiring within 24 to 72 hours after immunization (e.g., tachycardia, muscle twitching and spasms, headaches, sleep disturbances, seizures, and even sudden death). In the aggregate, all of the above chemical-induced toxicities can paradoxically be in competition with each other, creating conflicting physiologic havoc at any point in time. These events also reinforce the reported linkage between volatile organic compounds and autoimmune diseases [7], and they have direct relevance to the isoform-induced autoantibody etiology of myocarditis caused by the second dose of mRNA Covid-19 vaccines [15].

Genetic Amplification and Facilitation Of Vaccine-Induced Chemical Chaos

The cytochrome P450 superfamily system of enzymes orchestrates the primary process of biotransformation of endogenous substrates, drugs, and xenobiotics (chemical substances that are foreign to the body) [23]. The genes that code for these enzymes exhibit a high number of polymorphisms [24]. As an example, there are more than 130 inherited single nucleotide polymorphisms identified in one or both alleles of the cytochrome P450-2D6 gene (CYP2D6). CYP2D6 is one of two genes primarily responsible for the metabolism of benzene. CYP1A2 and CYP2B6 are two of the five genes primarily responsible for the metabolism of toluene (one of the other three toluene genes is the second participant in the metabolism of benzene). We have identified the simultaneous presence of allelic missense in the CYP2D6, CYP1A2, and CYP2B6 genes in 100% of two dozen consecutive Gardasil recipients manifesting the chronic symptoms identified at the end of the "introduction" section. The sickest patients manifest allelic missense in four or more of the six genes responsible for benzene and toluene metabolism. Our preliminary data in chronically ailing mRNA Covid-19 vaccine recipients has also identified cytochrome P450 allelic missense. All of this implies that the metabolism of volatile organic compounds and other chemical additives in Gardasil and mRNA Covid-19 vaccines is either significantly compromised or absent altogether in ailing recipients. Stated another way, it seems plausible that Gardasil and mRNA Covid-19 vaccine recipients who are at risk for chronic systemic toxicity lack the ability to confront the presence of parenterally administered xenobiotics in a timely manner. Biochemical toxicity in such individuals can be circuitously enhanced by two additional mechanisms: (a) the antigenic portions of the vaccines themselves, via cytokine induction, can suppress cytochrome P450 gene functions [25]; and (b) similar suppression can occur from chemicals in the ethylene family [26]. PEG (polyethylene glycol) is present in both Pfizer and Moderna mRNA Covid-19 vaccines, and PEO (polyethylene oxide) is also present in the Moderna vaccine [22]. Even viral infections themselves can suppress cytochrome P450 gene functions [27], which may have some relevance to both (a) causation of long Covid, and (b) the clinical similarities between long Covid and mRNA Covid-19 vaccination-induced chronic ailments [4]. Other confounding factors for CYTP450 enzyme suppression, such as alcohol ingestion, cannabinoid use, estrogen use, and prescription drugs have been properly excluded in our ailing cohorts. Lastly, it should be noted that the entire family of CYTP450 genes responsible for the metabolism of endogenous and exogenous compounds are not strictly separated from each other. There are at least ten other CYTP450 genes that are capable of coding for enzymes that use xenobiotics as substrates.

The Transition to Autoantibody Formation and the Maintenance of Chronicity

Our entire chronically ill Gardasil cohort manifesting allelic missense of the CYP2D6, CYP1A2, and CYP2B6 genes simultaneously exhibit autoantibodies directed at an array of adrenergic and muscarinic cholinergic GPCRs. Not all muscarinic cholinergic GPCRs are localized solely to the peripheral and autonomic nervous systems. Some GPCRs are in the brain. As such, malfunction of these receptors or their ligands can precipitate a multitude of disorders that at times can even mimic well-defined diseases (e.g., Parkinson's disease). Preliminary observations in our chronically ailing mRNA Covid-19 vaccine recipients also demonstrate autoantibodies to the same two groups of GPCRs. GPCRs comprise the most diverse family of cell surface receptors in humans, and are essential for cell signaling via a variety of neurotransmitters, growth factors, hormones, and proteins. Activation of GPCRs leads to intracellular activation of second messenger systems, followed by physiologic responses of cells,

tissues, and organs. In addition to sympathetic and parasympathetic autonomic nervous system regulation via adrenergic and cholinergic neurotransmitters, GPCRs have essential roles in: (a) vision, taste and smell; (b) mood regulation, sleep-wake cycling, muscle coordination, and memory mediated by serotonin, dopamine, butyrcholinesterase, and GABA; and (c) immune modulation via chemokines, cytokines, and interleukins. Autoantibodies directed at GPCRs have the capability of upsetting equilibrium between active and inactive states via upregulation or downregulation of normal physiologic functions. The recent demonstration of low butyrylcholinesterase levels in infants who succumbed to sudden infant death syndrome (SIDS) may have relevance to the sleep disturbances occurring in some Gardasil and mRNA Covid-19 vaccine recipients [8]. By the age of 15 months an infant has received an average of 21 immunizations (inclusive of three hepatitis B vaccinations administered 24 hours after birth, one to two months later, and then six to twelve months of age respectively). Hepatitis B vaccines contain volatile organic compounds in the toluene and benzene families [28] which, as previously mentioned, are serine protease inhibitors. In addition, at least sixteen other routinely and commonly administered vaccines contain organosiloxanes, silica, and sorbitol incorporated into three additives: PS-80, ISCOM, and SDPD (sodium dihydrogen phosphate dihydrate) [29]. As previously noted, all five of these additives are capable of producing many serious abrupt onset ailments. Repetitive serine protease inhibition of neurotransmitters like butyrylcholinesterase in an infant with cytochrome P450 malfunction can be cumulative and life threatening. Stated another way, in SIDS the next vaccine may be "the straw that broke the camel's back." Autoantibodies alone are unlikely to initiate acute illness in the first 24 to 72 hours following immunization, because the transition to autoantibody formation via the adaptive immune response usually takes 2-3 weeks. Autoantibodies can, however, orchestrate the chronic persistence of clinical ailments once the disease process is already underway. This transition undoubtedly requires additional coexisting mechanisms (i.e., not just isoform production) to foster autoantibody development.

Channelopathies, Regulatory T Cells, and Mitochondria

Sodium, potassium, chloride, calcium, and other ions routinely fluctuate in and out of cells through pores (channels) in cell membranes. Channelopathies are diseases caused by disturbed function of ion channel components and/or the proteins that regulate ion flow. These diseases are either congenital (i.e., from a mutation in one or more genes encoding the proteins) or acquired. The latter can occur from autoimmune attack on ion channel proteins or from varied environmental exposures that adversely affect these proteins (e.g., chemical toxicity) [30]. Voltage gated sodium channels are responsible for electrical action potential initiation and propagation in nerve cells and muscle cells. A voltage gated channel is different from a ligand activated channel, and both are different from a mechanically activated channel (e.g., a pressure sensation). There are more than 400 different genetic variants that can alter channel proteins. Because channelopathies can adversely affect efferent pathways, sensory pathways, and autonomic pathways, they may cause a broad range of clinical presentations. However, many genetic channelopathies can be totally asymptomatic under innocuous conditions unless ion channel dysfunction is activated by environmental events (e.g., chemical exposures, physical injuries, or fever accompanying a viral infection). In the case of chemical exposures, organosiloxanes (silicones) and their degradation molecules (silanols) have the capacity to alter cell membrane ion channel proteins via autoimmune and non-autoimmune mechanisms, thereby bringing a channelopathy to life [21]. The same physiologic derangements can occur from isoform-induced autoantibody formation after exposure to volatile organic compounds. Even mitochondrial membranes have ion channels [31]. In the presence of a channelopathy, chemical exposures can produce stress responses that impair the ability to meet metabolic demands. Such mitochondrial compromise can cause activation of innate and adaptive immune responses (with or without DAMPs, i.e., damage associated molecular patterns). These aberrant immune responses can be further augmented when degradation molecules of silicones (silanols) interfere with the electron transfer system and quantum tunneling in mitochondria [13]. The result is the production of oxygen derived free radicals that are capable of promoting deleterious changes in epigenetic factors controlling gene expression in both mitochondrial DNA and nuclear DNA. Silanols can also readily enhance DNA methylation, further compromising proper epigenetic function and promoting breaks in immune tolerance. These observations comprise the plausible reasons why autoantibodies (e.g., positive ANA) are noted in one third of women suffering from silicone gel-filled breast implant illness. Silicones and their degradation molecules have the capacity to inhibit mitochondrial-induced cell danger responses that have been mounted against other chemical contaminants. Another "straw that broke the camel's back" [21]. Ion channels are also present across cell membranes of immunocompetent cells, including regulatory T cells, neutrophils, lymphocytes, dendritic cells, macrophages, eosinophils, and natural killer cells. Regulatory T cells routinely dampen down the natural occurrence of autoantibody production in normal individuals following immunizations [21]. If their cellular functions are compromised by chemical activation of an innocuous channelopathy, deleterious chronic immune responses can develop. The proper functioning of ion channels is also important for mast cell stabilization and degranulation. When mast cells degranulate, their inflammatory mediators can cross the blood brain barrier and activate microglia cells, thereby promoting what has been referred to as neuroinflammation. Thus, the simultaneous presence of an innocuous channelopathy, hidden chemicals in Gardasil and mRNA Covid-19 vaccines, genetic amplification of xenobiotic-induced biochemical chaos, and the latent transition to persistent autoantibody formation can foster the generation of multiple unending and circuitously interdependent amplification loops of neurologic, rheumatologic, endocrinoiogic, and psychologic dysfunction. Stated another way, the diverse pathophysiologic processes encompassing vaccine-induced toxicity are not likely to be mutually exclusive, and complex chronological scenarios and complex disease identification can easily be the rule rather than the exception. In support of this are observations that hyperphosphorylation (via chemical induced inhibition of phosphatases) can lead to chronic activation of cellular stress responses which, in turn, can produce defects in messenger RNA translation [32]. These RNA defects have been implicated in neurodegenerative diseases (e.g., dementia, Parkinson's, amyotrophic lateral sclerosis), and they are capable of inducing isoform production and the generation of autoantibodies. Autoantibodies to GAD 65 have recently been reported following HPV and mRNA Covid-19 vaccinations [33,34]. One also needs to consider that chemical-induced dysfunction of immunocompetent cells, mitochondria, cardiac conduction pathways, mast cells, sensory neurons, ion channels, and brain neurotransmitters are likely to already be underway even before autoantibodies go into "attack mode." If the autoantibodies become directed at other specific tissues and organs, then "autoimmune features" characteristic of well-defined systemic connective tissue diseases can appear.

However, it is quite clear from our previous publications that the population at risk for chronic ailments precipitated by Gardasil and mRNA Covid-19 vaccinations is not dependent on a familial autoimmune predilection nor diathesis. Rather, such individuals are victims of a biochemical mission impossible. Lastly, other overlapping and interdependent aberrations may come into play, such as microbiome disturbances, metabolomic anomalies, reactivation of previously acquired viruses, and the biointegration of organosiloxane degradation products into the matrix macromolecules heparan sulfate and chondroitin sulfate [20].

Conclusion

Although the vast majority of immunization recipients have no safety issues, that does not detract from the reality of new onset chronic disease states initiated by Gardasil and mRNA Covid-19 vaccinations. Old theories of molecular mimicry and adjuvant induced immune stimulation are inadequate to explain pathophysiologic events in these scenarios. The presence of multiple hidden toxic chemical ingredients in these two vaccines, coupled with the demonstration of reduced metabolism of xenobiotics and the likelihood of one or more innocuous channelopathies, create a "perfect storm" of events encompassing interdependent circuitous amplification loops of biochemical chaos and autoantibody production. These legitimate events, in turn, produce complex chronological scenarios of overlapping and unending physiologic disturbances that translate into a constellation of seemingly bizarre clinical complaints. Pre-vaccination genetic screening for cytochrome P450 deficiencies and latent channelopathies in potential Gardasil and mRNA Covid-19 vaccine recipients can undoubtedly detect individual risk for the occurrence of severe post-immunization ailments. Modification of the ever-expanding cocktail of harmful vaccine ingredients is also desirable.

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