MECHANISMS OF VACCINATION SEQUELAE *a sampling from scientific literature*

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Introduction

This letter does not recommend that all vaccinations be discontinued; instead, this document offers a sampling of scientific evidence delineating mechanisms by which vaccination-induced neuropathy and vaccination-induced intestinal problems occur in some individuals, including children plunged into the autism-spectrum soon after a vaccination. For reasons set forth hereinbelow, my conclusion is as follows:

> **In light of a growing body of scientific information, vaccination-exemption criteria ought be expanded, especially in regard to infants, toddlers, and women of childbearing age.**

Despite using restrictive criteria, many studies have documented a relationship between vaccinations and adverse neurologic sequelae (eg, 1-8). Some of these studies focused upon febrile seizures during short time periods after various vaccinations.

More recent studies have documented brain regions that are affected by febrile seizures (9-11); and these brain regions correspond to brain regions implicated in autism-spectrum disorders (eg, 12). In the very least, these two research domains offer a mechanism whereby some children's deterioration into the autism-spectrum may have occurred.

Interferon gamma

When a child is vaccinated, a complex physiological process is initiated. For instance, a 1997 article documented that in human infants, a primary effect of the MMR vaccination is a prolonged pulse of endogenously created interferon gamma (13).

This finding, in conjunction with other studies about interferon gamma, supports the anecdotal documentation by numerous parents of children whose gastrointestinal and/or neurologic function deteriorated subsequent to a vaccination.

One of interferon gamma's most important effects is that of increasing permeability of tissues that normally have highly restricted permeability. Two such tissues are the intestinal tract and the blood-brain barrier. Interferon gamma is now realized to increase permeability in both of these tissues (eg, 14-17); and the increased permeability can have pathological significance.

Intestinal permeability increased by interferon gamma can lead to increased

translocation of pathogens (eg, 18); and increased permeability of the blood-brain barrier is associated with a variety of pathologic states, ranging from CNS-infiltration of peripheral pathogens, to CNS-entry of activated B-cells and T-cells of the human immune system (19-24).

Measles virus and measles vaccination impair immunity

For nearly two decades, Diane E. Griffin and colleagues at Johns Hopkins have been documenting the mechanisms by which measles and measles vaccinations impair immunity, thereby increasing risk of reactivation of current infections and increasing the likelihood that a newly acquired infection will be more serious (25-29).

By subjecting an an infant to an MMR around the time of his or her 1st birthday, a physician not only causes the pre-toddler to have impaired immunity for several weeks or months thereafter, but this impairment in immunity occurs during what for some children is an extended period of normally occurring "transient hypogammaglobulinemia of infancy", ie, a time between (a) the decline of maternal antibodies in the infant's blood, and (b) the gradual strengthening of the infant's own immune defenses (eg, 30-32).

In other words, a naturally occurring period of increased susceptibility to infection in some pre-toddlers is the very time at which the MMR and its immune-impairment are mandated. To administer the MMR during a time of naturally lower immunity (in some children) means that those children would be at increased risk of having an increased pathogen load in peripheral tissues as the MMR-induced pulse of interferon gamma increased permeability in the intestinal and blood-brain barriers.

Cytomegalovirus (CMV) provides an example, because infants can be congenitally or neonatally infected but remain asymptomatic even though the CMV remains within the child (33). For some such children, a vaccination that impairs immunity would be permissive for increased viral replication. Furthermore, that same vaccination (eg, the MMR), via its pulse of endogenous interferon gamma, would increase blood-brain barrier and gastrointestinal permeability concurrently with increased viral replication occurring in the presence of vaccination-impaired immunity.

Conclusion

A large number of parents are convinced that their child's descent into the autism-spectrum began soon after a major vaccination such as the HepB, DPT, or MMR. Increasingly, medical literature is documenting the vaccination-related mechanisms by which immunity is impaired by vaccinations and by which neurologic and gastrointestinal sequelae may ensue.

As examples, this document offers citations (a) about vaccination-induced interferon gamma and its effects upon permeability of intestinal tissue and of the blood-brain barrier, and (b) about how a measles vaccination induces prolonged impairment of immunity. In addition, other concerns regarding advense vaccinal events ought be addressed by the committee. Specifically,

A. The post-vaccination time-periods studied for negative effects have been too

brief, especially (i) since the mechanisms by which vaccination sequelae can occur are diverse and, (ii) since, given the epidemiology of childhood pathogens, when combined with effects induced by a vaccination-induced pulse of interferon gamma, there is likely to be much inter-individual variation in vaccination-induced pathology and related data.

B. Febrile seizures and their sequelae are important, but they are not the only mechanism by which vaccination-induced neuropathy or gastroinestinal difficulty can occur. Interferon gamma's effects upon MHC-I and MHC-II presentation should also be considered in regard to not uncommon "asymptomatic" infections common in infants (33).

C. Some individuals have impaired antibody responses to a vaccinal antigen (34). When a child or woman of childbearing age is found to have missing antibodies for a common vaccinal antigen, there are at least two possibilities to be considered: One, that the person's vaccinal immunity has subsided, or Two, that he or she has an immune weakness specific for that pathogen-specific antigen ought be watched more closely for vaccinational responses or infectious episodes that might have neurologic or other adverse effects (35-36). For a child or woman with seemingly low vaccinal antibodies, additional immune testing ought preceed hasty decisions to vaccinate, especially since at least some vaccines impair immunity, thereby creating the possibility of a woman of childbearing age acquiring an infection she might otherwise have successfully immunosuppressed.

D. This document is but a preliminary sketch, the proverbial tip of a very large iceberg. In other words, solidly researched findings of the last ten years are revealing numerous mechanisms by which vaccination-induced pathologies can occur. Vaccination guidelines need revision.

Recommendations to the Committee

As a researcher who listens to parents of autism-spectrum children and who has perused medical literature regarding various mechanisms by which negative vaccination-induced sequelae can occur, my suggestions to the Committee are as follows:

1. In studying vaccination-induced pathologies, longer post-vaccination time periods and a variety of vaccination-pathology mechanisms ought be considered.
2. US infants and toddlers are receiving too many vaccinations too soon.
3. Sick kids or recently sick kids ought not be vaccinated.
4. The criteria for vaccination-exclusion and vaccination-delay ought be expanded significantly.

Sincerely and respectfully,

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A series of autism-related webpagesContents email to: Teresa Binstock

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