


Other Vaccination Concerns

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Concerns About Vaccine Adjuvants

Until recently, most vaccines presented antigens according to the same principals as they were 200 years ago - when vaccines consisted of the whole microorganism, alive or killed. The new generation of vaccines contains other defined antigens, called "subunit vaccines". Newly developed genetic technology gives us the means to produce the defined antigen in large enough amounts to generate a low price.

However, accessory technologies are required to make these defined antigens immunogenic, including new approaches for the optimum physical presentation of the antigen and the addition of adjuvants. An effective adjuvant formulation provides the antigen with both an optimal physical presentation and a boost to create immune recognition and reaction. A construction aimed at fulfilling these requirements is called an ISCOM, or "immunostimulatory complex".¹

The concept of immunomodulation is also important to modern vaccination principles. It includes the induction of specific antibodies of desired isotypes and IgG subclasses, the induction of selected T-helper cell responses as classified by the resulting cytokine production, the induction of cytotoxic T-cell responses, and the distribution of the immune response to various lymphatic sites - for example, mucosal surfaces. Any of these factors may be important to obtain protective immunity - the ultimate goal for a vaccine.

In addition to the efficacy of eliciting a protective immune response, there is concern about the toxicity of adjuvants. A number of adjuvants evoke strong immune responses, and are widely

used in research, but are unsuitable for human and animal vaccines because of these toxic side effects. Several substances have been tried for adjuvant activity and safety. Still, even today, adjuvants and adjuvant formulations which combine both immunoenhancing capacity and low toxicity are lacking.

Binstock² points out the potential role of adjuvants in vaccines of impairing cell mediated immunity for days or weeks after administration. This impairment could theoretically exacerbate other infections, particularly those caught just prior to or during the weakened-immunity period following vaccination.

Aluminum-adsorbed pertussis vaccine tends to induce higher pertussis IgG and IgE responses than non-adsorbed vaccine. Total pertussis IgG and IgE were highly correlated in children with allergies.³

Probably the most important theory of vaccine damage [see: [How Could Vaccines Cause Damage?](#)] relates to allergic reactions and the development of an auto-immune response, stimulated by the vaccine and its adjuvant. Vaccines now always contain adjuvants, which are substances known to amplify the body's response to the vaccine. These adjuvants are known to sometimes cause allergic and auto-immune responses on their own.

Like the material used to produce experimental allergic encephalitis, vaccines contain many substances which qualify as adjuvants. These substances initiate reactionary antibody formation. Some common adjuvants used in vaccines are aluminum hydroxide and aluminum potassium sulfate. In the body, formalin coating around the injected material dissolves, releasing all bacterial and viral particles from animal culture sources.

Substances such as thimerosal and these other adjuvant chemicals can irritate body tissues and increase the action of accompanying bacteria and viruses, as well as the reaction of the immune system to the foreign protein antigens, potentially damaging neurological membranes where the myelin sheath has only partially protected the nervous system.

This can result in mild to severe neurological damage, leading to learning disabilities and other nervous system disorders, or death, especially upon subsequent injections, since body has already been sensitized, promoting allergic reactions of increasingly severe nature. [See Alex Logia's [Treatise on the Vaccine Paradigm](#), for more information].

Also, quoting from our section on [Vaccine Induced Demyelination](#):

The argument for adjuvants evoking an auto-immune response does not hinge on any inherent neuro-toxicity of these compounds, but on the initiation of an allergic response.

The model by which adjuvants initiate an immune response is that of Experimental Allergic Encephalomyelitis (EAE). To date, EAE is recognized as the best available animal model of several degenerative human diseases, like multiple sclerosis and post-vaccinal encephalopathies. EAE⁴ is generally thought to be an autoimmune response to myelin basic protein (MBP). Oddly, MBP can also suppress EAE, and many observations suggest that an independent immune response to so-called "adjuvant" material is also necessary to EAE induction. Of course, this is why adjuvants are used in vaccines, to dramatically increase the likelihood of an immune response to the administered biological material.

Thus, EAE may be a result of a pair of interactive immune responses, one against MBP, and one against the adjuvant. If so, the adjuvant should, like MBP, suppress EAE. Root-Bernstein, et al.

(1986) presented data from experiments on strain 13 guinea pigs demonstrating EAE suppression by muramyl dipeptide, an active component of complete Freund's adjuvant. In the past, adjuvants have only been classified as immunopotentiators, not immunosuppressants. Apparently, adjuvants are both. This study strengthens the argument that adjuvants may be crucial to initiating an auto-immune response leading to post-vaccine neurological symptoms.

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Immunological Consequence of Vaccines

Multiple immune system abnormalities are found among vaccine-damaged individuals. The vaccine-adjuvant complex can interfere with the development integration of the immune, nervous, endocrine, and other body systems, leading to profound neurological damage. These derailments have also been observed with severe environmental insults, and pre- or post-natal viral infections. Genetic predisposition is certainly also important in rendering the individual susceptible to vaccine injuries.⁵

Singh reported a relationship between viral serology and a brain autoantibody in autism, supporting the hypothesis that a virus-induced (vaccine-related or wild) autoimmune response may play a causal role in autism.⁶

Singh also showed that a significant number of autistic children exhibited positive titers of measles and MMR [measles-mumps-rubella] antibody, which in a vast majority of the cases, was associated with the presence of MBP (myelin basic protein) autoantibody. A measles- and/or MMR vaccine-triggered autoimmune response to myelin could play a role in autism.⁷

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Vaccination During Pregnancy and Risks for Autism

F. Yazbak describes six mothers who received live virus vaccines and one who received Hepatitis B vaccine during pregnancy after having received an MMR booster five months prior to conception. All the children who resulted from these pregnancies have had developmental problems - six of seven (85%) were diagnosed with autism, and the seventh seems to exhibit symptoms often associated with autistic spectrum disorders.

Since we do not know from this data how many women received vaccines during pregnancy and had entirely normal children, Yazbak's observations may be spurious. Nevertheless, the observation could be important. For a copy of this observation, see:

- [Autism: Is There a Vaccine Connection? Part I: Vaccination after Delivery](#)
- [Autism: Is There a Vaccine Connection? Part II: Vaccination During Pregnancy](#)
- [Autism: Is There a Vaccine Connection? Part III: Vaccination Around Pregnancy, The Sequel](#)

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1. Uppsala University, Sweden. Uppsala Biomedical Centre. [Vaccine Research at the Virology Department](#).
2. Subject: [autism-research] Re: adjuvants; Date: Sun, 19 Dec 1999 08:36:33 -0700; From: Teresa Binstock; To: autism-research@egroups.com.
3. Odelram H, Granstrom M, Hedenskog S, Duchon K, Bjorksten B. Immunoglobulin E and G responses to pertussis toxin after booster immunization in relation to atopy, local reactions and aluminium content of the vaccines. *Pediatr Allergy Immunol* 1994 May;5(2):118-23.
4. Root-Bernstein RS; Yurochko F; Westall FC. Clinical suppression of experimental allergic encephalomyelitis by muramyl dipeptide "adjuvant". *Brain Res Bull*, 17: 4, 1986 Oct, 473-6.
5. Autism: An Immunological Perspective by Laura J. Ruede, M.L.S., Board Member, Autism Autoimmunity Project.
6. Singh VK. Serological Association of Measles Virus and Human Herpesvirus-6 With Brain Autoantibodies in Autism. *Clinical Immunology and Immunopathology*, vol. 89, number 1, October 1998, pp. 105-8.
7. Singh VK. Positive Titers of Measles and Measles-Mumps-Rubella Antibody Are Related to Myelin Basic Protein Autoantibody in Autism. Abstract of study prepared for the annual meeting of the American Association of Immunologists (AAI) / Federation of American Societies for Experimental Biology (FASEB), San Francisco, April 1998.

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