Vaccine Scene 2001
Update and Overview

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In our office we are frequently asked our opinion and position on vaccination for both children and adults. This monograph is an attempt to express a minority view and position that is contrary to current government, public and medical opinion on the subject. However, whatever position on the vaccination decision one chooses to adopt, we feel the most important point is *parental choice*! Therefore, we ardently believe the best approach to this very controversial subject is to present both the pros and cons, good and bad, known and unknown about immunizations, and then help guide the patient or parents to choose what is best for them or their children. This is termed *"informed consent"* and should be the basis of *every* medical test or treatment; vaccinations being no exception. Consequently, our Healing Research Centers honor and respect the patient's or parents' choice in this matter and will immunize or not immunize accordingly.

Any medical therapy must balance the "effectiveness" with the "safety" of its actions on the human body. For instance, aspirin therapy is effective in preventing a second heart attack after having a first heart attack; and it is quite safe, only having a small incidence of stomach or intestinal bleeding as a potential long-term side effect.

Scientific evidence *does* support the effectiveness of immunizations. They do prevent infectious diseases; some better than others, but this point is not disputed. Scientific evidence *does not* support the safety of immunizations. Safety studies on vaccinations are limited to short time periods only: several days to several weeks. There are **no (none!)** long-term (months or years) safety studies on *any* vaccination or immunization. And there is limited but rapidly growing scientific evidence of long-term adverse side effects of vaccines that need much more study.

In August, 1999 and April, 2000 Congressional hearings were held in Washington D.C. dealing with questions of vaccine safety. Congressman Dan Burton, Chairman of the US House Government Reform Committee, called the hearings. On the weekend of October 2nd and 3rd, 1999, an autism conference was held at Cherry Hill, New Jersey, sponsored by the Autism Research Institute of San Diego, California. Over 1,000 people were in attendance, the great majority of whom were parents of autistic children. At one point in the meeting, when the chairman asked those in the audience who believed that their child's autism was caused by vaccines to stand, a large majority of the audience rose to their feet. With these and other indications of growing public concerns about current childhood immunization programs, it is hoped that this review will be of help to parents and practitioners.

Are the Benefits of Vaccines Exaggerated?

From an historical perspective it is important to keep in mind that, in the early days of immunizations, there were relatively few vaccines, and for the most part they were given separately. Also, it would appear that it was in those early days that vaccines had their greatest successes, with eradication of smallpox from the world (although there are disturbing reports of current appearances in parts of the Far East), and eradication of polio from the Western Hemisphere, the last case of wild polio having taken place in 1979.

Parenthetically, the average person today believes that mass smallpox vaccines were responsible for eradicating smallpox from the world. This is not so, for the simple reason that mass vaccination programs did not take place in many areas. In some third world countries 10% or less of the populations were immunized against smallpox due to financial and other limitations, which necessitated a policy of "quarantine and containment," whereby all contacts in an infected village and outlying areas were immunized. If limited vaccines together with quarantine were effective in the case of smallpox, this raises questions about the necessity of ongoing mass vaccines in other diseases as well, a question which we believe will assume growing importance as more is learned about the adverse effects of vaccines.

Among vaccines' other successes, there were less than 100 reported cases of measles in the USA in 1998, and most of these were imported.

However, vaccine proponents would have us believe that vaccines have been largely responsible for controlling virtually all of the former epidemics of killer diseases in the USA. With the exceptions cited above, the facts do not bear this out. According to the records of the Metropolitan Life Insurance Company, from 1911 to 1935 the four leading causes of childhood deaths from infectious diseases in the USA were diphtheria, pertussis (whooping cough), scarlet fever, and measles. However, by 1945 the combined death rates from these causes had declined by 95% ***before the implementation of mass vaccine programs***.[1] Other statistical information provided much the same pattern.[2] According to a report in *Morbidity and Mortality Weekly Report*, July 30, 1999, improvements in sanitation, water quality, hygiene, and the introduction of antibiotics have been the most important factors in control of infectious diseases in the past century. Although vaccines were mentioned, they were not included among the major factors.[3]

Another factor, which is commonly overlooked, is that the virulence of micro-organisms tends to be weakened or attenuated with the passage of time and with the serial passages through human hosts.[4] Also, populations develop immunity with continued or repeated exposure. One example of this is whooping cough (pertussis) which is clearly a milder disease in Western nations than it was 100 or so years ago.

An example of this process is provided in the text, *Vaccination, 100 Years of Orthodox Research Shows that Vaccines Represent a Medical Assault on the Immune System*, by Vera Scheibner, PhD,[5] in which the author reviews the Swedish experience with whooping cough (pertussis) and the pertussis vaccine. In 1979 Sweden banned the pertussis vaccine because of a return of the disease in fully vaccinated children and also because of side effects which they considered unacceptable, including

brain damage. In spite of this ban, which remains in effect today, the infant mortality in Sweden from pertussis is no greater than in fully vaccinated populations (3 infant deaths were recorded in Sweden 1987 to 1991, as compared with 4 infant deaths in New South Wales, Australia, during a slightly longer time period).

However, it must be recognized that pertussis remains a serious illness in many third world countries, carrying significant morbidity and mortality due to factors which often include poor sanitation and lack of adequate medical facilities. Also many are "virgin populations" in which whooping cough is a relatively new infection, and therefore they are lacking in natural immunity which is present in most Western nations where there is inherited immunity from earlier epidemics.

Vaccine Safety Not Proven

It should be pointed out that today's children receive from 22 to 35 vaccines before school age, whereas most of today's senior citizens received only one, the smallpox vaccine. Some of the vaccines contain mercury, a known neurotoxin under some circumstances.

With the growing public concern about potential adverse reactions of these heavy burdens of foreign immunologic materials on the immature immune systems of children, it is reasonable to ask ourselves what is known about these reactions.

A small but growing minority of physicians and scientists are becoming aware that safety testing for the various vaccines has been woefully inadequate. As one of many examples, a 1994 special committee of the National Academy of Sciences (Institute of Medicine) published a comprehensive review of the safety of the hepatitis B vaccine. When the committee, which carries the responsibility for determining the safety of vaccines by Congressional mandate, investigated five possible and plausible adverse effects, they were unable to come to conclusion for four of them because they found that *relevant safety research had not been done.* Furthermore, they found that serious "gaps and limitations" exist in both the knowledge and infrastructure needed to study vaccine adverse events. Among the 76 types of vaccine adverse events reviewed by the IOM, the basic scientific evidence was inadequate to assess definitive vaccine causality for 50 (66%). The IOM also noted that "if research... (is) not improved, future reviews of vaccine safety will be similarly handicapped."[6]

The clear implication of this report, which in our experience is fairly representative of a haphazard pattern towards issues of safety throughout the vaccine field, is that adverse reactions to the vaccines may be occurring on a large scale without being recognized as to their true nature.

In support of this statement, two pioneering studies will be reviewed below, one from 1955 and the other from 1984, both sounding alarms on potential side effects from vaccines:

One of the most intriguing studies from older medical literature dealing with the pertussis vaccine was that of A.L. Low (Chicago, 1955) who performed electroencephalograms (EEGs) on 83 children before and after pertussis immunization. In 2 of these children he found that the EEGs turned abnormal following the immunizations without other signs or symptoms of abnormal reactions. In his report he commented: "This study shows that mild but *possibly significant* (emphasis ours) cerebral reactions may occur in addition to the reported very severe neurological changes."[7]

Another intriguing study, this one from Germany, was reported in a little-noted letter-to-the editor in the *New England Journal of Medicine*, in 1984.[8] In the study, a significant though temporary drop of T-helper lymphocytes was found in 11 healthy adults following routine tetanus booster vaccinations. Special concern rests in the fact that, in 4 of the subjects, the T-helper lymphocytes fell to levels seen in active AIDS patients.

The implications of these two studies are enormous. In regard to the latter (German) study, if this was the result of a single vaccine in healthy adults, it is sobering to think of the possible consequences of multiple vaccines (19 vaccines within the first six months of life at latest count) given to infants with their immature and vulnerable immune systems. Unfortunately, other than clinical observations, we can only speculate as to these consequences, as this test has never been repeated.

As for the Low study with EEGs before-and-after pertussis immunization, at a time when myriads of our children are suffering from various degrees and phases of brain dysfunction, it is possible that vaccine reactions may be occurring on a large scale, unrecognized as to their true nature, and contributing to this pool of impaired children.

It is both sad and shameful that neither of these studies have had follow-ups in American laboratories and medical centers, as should have been the case. Had they been done, discovering and documenting adverse neurological and immunological effects of the vaccines, they would have led to safer forms and combinations of childhood vaccines than at present.

From a careful gleaning of medical literature over many years, we have been able to find only 3 other reports in the literature of studies done before-and-after immunizations, all from foreign medical centers:

- In a study from Japan, immunizations (DPT, DT, or BCG) were given to 61 children with a history of febrile seizures or epilepsy, who had not had a seizure for one year. Following immunizations there was a significant increase in "epileptic spikes" in post-vaccine electroencephalograms as compared with those done preceding vaccines.[9]
- In January, 1993, a Czechoslovakian medical journal published the results of a study of 89 children with adverse clinical reactions following administrations of various combinations of vaccines. Detailed case histories were taken and blood tests were done to examine various parameters of cellular and humoral immunity. It was found that children with adverse reactions had marked increases in abnormal blood parameters as compared with children who had had no clinical reactions.[10]
- In 1997 a study from the University of Alberta, Canada, reported on findings from before-and-after MMR vaccine in which the effects on both the measles-specific antibodies and cell-mediated immunity, as indicated by cytokine generation, were tested.[11] The significance of this report may not rest so much on the specific findings, which will be reviewed later, as on the fact that it opens up an entirely new avenue of research, designed to reveal the specific mechanisms of actions of the vaccines, and also possibly revealing their side effects.

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With these 3 reports from reputable medical centers, published in peer-review journals, the flood-gates of medical research have been opened. The truth about vaccine mechanisms, effects, as well as adverse reactions, cannot be long in following. Although late, we would hope that our own medical and research centers would join in this search.

What is Known about Adverse Vaccine Reactions

Before turning to medical and scientific reports on adverse vaccine reactions, we must reluctantly point out an almost insuperable difficulty in getting dependable data on these reactions due to the extreme reluctance of doctors to report on vaccine reactions, a pattern which has existed since the earliest days of childhood vaccines. There are a number of reasons for this. From their earliest years of training, medical doctors have been taught to look upon vaccines as one of the greatest achievements in medical science, and any question about them is often looked upon as disloyalty to the profession. In addressing this issue in the classic text, *Shot in the Dark*, by Coulter and Fisher, the authors quoted an attorney specializing in vaccine-damaged children. In commenting on the deficiency in doctors' reporting of vaccine reactions, the attorney commented, "As is the case with many pertussis-vaccine-injured children, none of the treating physicians would commit themselves to a final etiological diagnosis. It is strange that parents of pertussis-vaccine-damaged children often can only get an etiological diagnosis by hiring an attorney and seeing one of the few recognized experts in the US on post-pertussis vaccine encephalopathy."[12]

Having seen quite a few autistic children in the past several years, more than a few of which became autistic in a time-related fashion following vaccination, we have yet to see a single case in which other doctors have implicated vaccines as a possible cause of the autism.

Recombinant Hepatitis B Vaccine – Anecdotal Reports of Adverse Reactions

A scattering of reports suggest that the hepatitis B vaccine may play a major role, as yet largely unrecognized, in hemorrhagic complications from vaccines. In a collection of abstracts from Medline research from 1990 to October, 1997 on adverse reactions from the recombinant hepatitis B vaccine, Dr. Andrea Valeri of Italy catalogued a total of 45 different types of reactions in the world literature.[13] Among these were necrotizing vasculitis,[14] vaccine-induced autoimmunity,[15] and segmentary of occlusion of the central retinal vein.[16] In addition, a report of vasculitis following hepatitis B vaccine is found in the *British Medical Journal*.[17] Thrombocytopenia is listed as a possible complication in the current *Physicians' Desk Reference*. In a report of 18 deaths of neonates following the hepatitis B vaccine by the Vaccine Adverse Event Reporting System, 1991-1998, hemorrhagic phenomena were common, including 2 with cerebral hemorrhages, 4 with pulmonary bleeding, 1 with bloody diarrhea, and several with blood in upper airway passages.[18] A report in *Post-Graduate Medicine* on acute hemorrhagic encephalitis cites vaccines as one of the possible causes.[19]

Reports of autoimmune/ neurological-type reactions from hepatitis B vaccine include the following: Polyneuropathy,[20] uveitis,[21] Guillain-Barre Syndrome,[22] myasthenia gravis,[23] erythema nodosum,[24] CNS demyelination,[25-27] optic neuritis,[28] transverse myelitis,[29] visual loss,[30] rheumatoid arthritis,[31] Reiter Syndrome and arthritis,[32] and autism and colitis.[33]

Tetanus and Hemophilus Influenza (Hib) Vaccines

The tetanus vaccine does not carry an aura of controversy which surrounds some of the other vaccines, but in 1991 a report by the National Institute of Medicine did find a causal relation between the tetanus vaccine and anaphylaxis, a potentially life-threatening allergic reaction.[34] The Hib vaccine shares with the pertussis vaccine a notoriety for its sensitizing potentials,[35] so much so that it has a paradoxical reaction in causing a temporary reduction in antibody in most adults and children following immunization, which may *increase the risk* of invasive disease should the individual be harboring H influenza micro-organisms at the time of the Hib immunization.[36]

Pertussis (Whooping Cough) and Vaccine-Induced Encephalitis

The Pertussis vaccine carries the dubious distinction of having survived the longest period of controversy among any of the current vaccines. This controversy mainly surrounds reports of pertussis-vaccine-induced encephalitis which have beset the vaccine since its earliest days in the late 1920's and 1930's. It is true that public health officialdom maintains that there is no controversy and that brain damage from the vaccine is extremely rare. However, there are many parents as well as a growing number of physicians and researchers, though still a minority, who consider the pertussis vaccine potentially dangerous.

For those who are interested in a more in-depth review of this subject, we recommend the following 3 books: *Shot in the Dark* by Coulter and Harris,[12] *Vaccination...*, by Vera Scheibner, PhD,[5] and *Vaccination and Behavioral Disorders*, by Greg Wilson.[37]

The basic question surrounding the pertussis vaccine is whether or not, by itself or in combination with other vaccines, it is contributing to the epidemic of neurobehavioral problems now taking place among American children as a result of subtle encephalitic-type brain damage from the vaccine. At the very least, the studies of Low[7] and Nuono[9] suggest this as a possibility. This question, which has never been addressed in a meaningful way, becomes of over-riding importance in view of the current adverse health trend among American children, as reflected in an article in a major news magazine which cited a "dramatic rise in learning disabilities among American children" with "one of every six suffering from autism, aggression, dyslexia, or attention deficit hyperactivity disorder."[38]

Could it be that modern medicine has a huge blind spot to a medical problem taking place on a large scale? Historically it has happened before, as in the case of the Austrian obstetrician, Ignaz Semmelweis, who in the mid-1800's was unable to convince his peers to wash their hands before delivering babies or performing surgery.

Returning to our review of the literature, medical reports of pertussis-vaccine-induced encephalitis, rare at any time in the past, have virtually ceased since the early 1990's when a series of articles appeared in major medical journals attempting to dismiss encephalitis-like events following the

ertussis vaccine, as coincidental.[39-41] For this reason, aside from earlier literature, one must search elsewhere to gain some insight into the nature and frequency of adverse pertussis-vaccine reactions taking place today. Although research in this area is largely stagnant, there are a few highly pertinent animal studies which help define the nature of pertussis endotoxin and its potentially damaging effects on the brain.

Turning to these animal models, attempts to dismiss pertussis-vaccine-encephalitis as a myth would appear to founder or should have foundered from the outset based on the simple fact that *vaccines like pertussis are actually used to induce encephalitis* (experimental allergic encephalomyelitis) in laboratory animals.[42]

Among animal models, four will be cited here:

- In an experimental encephalomyelitis performed by Munoz and coworkers, elicited in mice by injecting pertussigen, a derivative of Bordetella pertussis, along with mice spinal cord extract, there were histological findings of perivascular infiltrates, consisting largely of lymphocytes in the brain and spinal cord.[43]
- Although Munoz mentioned nothing about the presence or absence of brain edema, Iwasa stressed the finding of brain edema as a feature of pertussis-induced encephalopathy.[44] Parenthetically, there are anecdotal reports of brain edema in infants who showed signs of increased intracranial pressure, as manifested by bulging fontanelles, following DPT immunizations.[45-47]
- In a study devised to provide an animal model for the systemic and neurological complications sometimes observed following the pertussis vaccine in children, Steinman and coworkers discovered a lethal shock-like syndrome in mice after immunization with B pertussis vaccine and sensitization to bovine serum albumin. Post-mortem examination of the brains revealed diffuse vascular congestion and **hemorrhages in both cortex and white matter.**[48] (emphasis added)
- In a review of the effects of bacterial endotoxin in microcirculation of the body, McCuskey described the effects of endotoxin in causing vascular inflammation, leading to a pro-coagulation state of the endothelium.[49]

Other than articles previously mentioned, and a few to be reviewed in a subsequent section dealing with allergies, there is a virtual vacuum of meaningful information in the current literature on the pertussis vaccine and vaccine-induced encephalitis. However, there is one area which promises to be fruitful in clinical and scientific knowledge about this field, however tragic it may be from a human standpoint:

There are at present increasing rates of imprisonment of parents or caretakers on conviction of infant deaths from the "shaken baby syndrome."(SBS) From first hand knowledge of one case and familiarity with others, we believe with virtual certainty that some of these convictions have been the result of misdiagnosis, the true cause of deaths having been vaccine reactions.[50] In one case, for instance, 6 vaccines were given ➤

at 8 weeks of age to a severely compromised baby. Following a period of clinical deterioration, the baby became apneic about 14 days following the vaccines and, although later resuscitated in a hospital, died shortly after. The father was subsequently charged with death of his infant from SBS. During the subsequent jury trial, *vaccines were never mentioned by any witness or offered as a possible cause of the infant's death.* As a result of this and other factors, the father was convicted of murdering his infant son and is now serving a life-sentence. If the truth were known, probably this story could be told many times over.

The MMR Vaccine (Measles – Mumps – Rubella) and Autism

Probably the greatest concern with vaccines today rests with their possible causal relationship with the growing epidemic of neurobehavioral problems, especially autism. Parenthetically, statistics may be open to question, but one cannot question the observations of veteran elementary school teachers who, in our experience, unanimously and emphatically report a marked increase in these disorders in recent years.

In regard to autism, probably the best statistics come from California, where a survey mandated by the California state legislature found a 273% increased incidence during the previous 11 years.[51] Reports from education departments of several states and reports from the US Congress on the rapidly increasing needs of classrooms for developmentally delayed children reflect comparable changes throughout the nation.[52]

As clearly shown in a graph prepared by Bernard Rimland, PhD, founding director of the Autism Research Institute with headquarters in San Diego, sharp rises in the incidence of autism in the USA took place immediately following the introduction of the MMR vaccine in 1975, and in the United Kingdom following its introduction in 1988.[53]

In our own practice we have carried out a partial sampling of the charts of autistic children seen here in the year 2000. Among 32 charts that were reviewed, it was found that in 16 cases (50%) the onset of autistic features in a previously normal child took place in a time-related fashion following the MMR vaccine.

It is important to point out that an uncombined measles vaccine had been in use in the USA since 1961, with only a slight rise in autism from 1961 to 1975 when the combined MMR vaccine came into use, bringing with it the sharp increases in autism. As a result of this, it may be that the 3 vaccines should be given separately, about which more will be said later.

In our opinion, one of the prime researchers in the field of autism is Vijendra Singh, PhD, Department of Biology, Utah State University, who published the report of a study in which he found that a large majority of autistic children tested had antibodies to brain tissue in the form of antibodies to myelin-basic protein. He also found a strong correlation between myelin basic protein antibodies and antibodies to measles (almost all of the children had been immunized with the MMR vaccine, and none had had these diseases).[54]

If the MMR vaccine is causing autoimmune reactions, what would be the mechanism? Although research in this area is in its infancy, we do know this: Both measles and mumps fractions of the MMR vaccine are cultured in chick embryo tissue. As purely genetic material, viruses are highly susceptible to the process of "jumping genes," in which they incorporate genetic material from the tissues in which they are cultured.[55] Furthermore, protein sequences in the measles virus have been found to have similarities to those found in brain tissues,[56] so that by the process of "mimicry," the formation of antibodies against one may cross react with the other, which the work of Dr. Singh tends to confirm.

As another factor, it is possible that the reaction rates in the second-generation vaccine recipients of today may be happening on a much larger scale due to previous sensitization of mothers from *their* vaccines, this sensitization being transmitted in turn to the fetus.[57]

A second prime researcher in the field of autism, in our view, is Dr. Andrew Wakefield, Reader in experimental gastroenterology, Royal Free Hospital and University College Medical School, London. This researcher and coworkers were the first to suggest a possible link between the triple MMR vaccine and clinical combination of autism with bowel disorder, now referred to as the *autistic enterocolitis syndrome.* As a result Dr. Wakefield has become the center of a storm of controversy in the United Kingdom, as well as a highly sought speaker at conferences in the USA. Although coauthor of many peer-reviewed clinical and scientific papers, the course of Dr. Wakefield's pioneering work in this field can be found in a series of three articles,[58-60] as well as his presentation to the United States House of Representatives Committee on Government Reform, April 6, 2000.[61]

In summary, Dr. Wakefield and coworkers have studied over 150 developmentally delayed children with colitis, in which enlarged and inflamed intestinal nodes are a prime feature. Wakefield stressed that patterns in these children appear to be distinct from other forms of inflammatory bowel disease, such as Crohn's disease and ulcerative colitis.

Working in collaboration with a state-of-the-art laboratory in Ireland, subsequent molecular studies from intestinal biopsies performed on these children detected measles virus genetic material in 24 out of 25 specimens (96%), in contrast with only 5% of detected measles virus in control specimens sent in a "blinded" fashion.

In explaining the ability of the MMR-derived measles virus to establish itself in the intestinal mucosa of affected children, Wakefield cited earlier reports warning of the potential of viral interference in the triple MMR vaccine, whereby one virus could interfere with another.[62,63] Commenting on these early articles, Wakefield stated, "The ability of mumps virus to interfere with the cellular immune response to certain strains of measles virus and thereby, in particular combinations potentially to reduce viral clearance and increase the risk of persistent (intestinal) infection, is an intriguing hypothesis to some of those involved in the current debate."[61]

In an article just released in the *Adverse Drug Reaction & Toxicology Review*,[64] Andrew Wakefield and coauthor Scott Montgomery carefully reviewed the inadequacies of the early pre-licensing trials of the MMR vaccine with a maximum follow up of 28 days and even shorter periods in some of the studies. They stressed that such short periods of observation following the vaccine were totally inadequate to detect *delayed reactions,* including pervasive developmental delay (autism), immune deficiencies, and inflammatory bowel disease, which are known from earlier

published reports to occur following both the natural measles infection and the measles vaccine.

Again the authors reviewed earlier evidence of viral interference in which the near proximity in time of the natural infections of mumps, measles, chicken pox, and other viral infections in the pre-vaccine days resulted in increased incidence of autism and enterocolitis. This is particularly true because the measles virus is an enteropathic virus capable of causing acute gastroenteritis, mesenteric adenitis, and ileocolitis.

Perhaps the most interesting feature of the article is that it was reviewed by four leading British authorities, all of whom had previously held positions in the regulation and licensing of medicines.[65]

Taken as a body, the reviewers were supportive of the Wakefield/Montgomery paper, three highly so. Two of these will be quoted here: Professor Duncan Vere, former member of the Committee on the Safety of Medicines, agreed that the periods for the tests were too short. "In almost every case," he wrote, "observation periods were too short to include the time of onset of delayed neurological or other adverse events." He also added, "one not insignificant detail is whether compensation for vaccine damage is available to an injured child and family, or is denied by the authorities who advocate the vaccine whilst denying the risks on the inadequate (if extensive) evidence available."

Peter Fletcher, formerly a senior professional medical officer for the Department of Health wrote, "being extremely generous, evidence on safety (of the MMR) was very thin." Noting that single vaccines for measles, mumps, and rubella already existed, he argued, "caution should have ruled the day.... The granting of a product license was definitely premature."

Childhood Immunizations and the Increasing Incidence of Atopy (Allergies)

The increasing incidence of allergic disorders in Western nations is now universally recognized, with every third child in industrialized societies having an allergic disorder.[66] In some areas the incidence of asthma has increased 200% in the past 20 years.[67] Another survey showed a 46% increase in death rate nationwide from asthma between 1977 and 1991.[68]

There is a school of thought that the so-called minor childhood illnesses of former times, including measles, mumps, rubella (German measles), and chicken pox, which entered the body through the mucous membranes, served a necessary and positive purpose in challenging and strengthening the immune system of these membranes.[69] In contrast, the respective vaccines of these diseases are injected by needle directly into the system of the child, thereby bypassing the mucosal immune system. As a result, mucosal immunity remains relatively weak and stunted in many children, complications of which may be the rapid increase in asthma, eczema, nasal allergies, food allergies, and a general pattern of sickness in today's children.

It has not gone unnoticed that the increasing incidence of atopic disorders has coincided in a time-related fashion ➤

with the childhood vaccine programs, and reports are now appearing from widely separated geographic areas in which vaccinated children were found to have significantly more allergic disorders than children with limited or no vaccines.[70-73]

The suspected role of the pertussis vaccine in potentiating allergic disorders tends to be confirmed in animal studies[74-76] as well as a human study.[77] *Thimerosol*, an organic mercurial compound widely used as a preservative in vaccines, also has been studied for its sensitizing properties.[78]

Among these, the study by Kosecka and coworkers[74] deserves special emphasis: In the study, rats were sensitized to ovalbumin (OA) by injection of OA alone or together with a very small dose of pertussis toxin. In each group secretory responses to nerve stimulation, serum IgE levels, and intestinal mast cell counts were determined. It was found that sensitization was very transient (14 days) when OA was given alone but when the OA was combined with pertussis toxin, the *intestinal mast cell count, serum IgE levels, etc, remained elevated for 8 months*. The authors concluded that their findings indicated that when tiny amounts of pertussis toxin were administered with a food protein, it would result in long-term sensitization to the antigen and altered intestinal neuroimmune function.

Are Vaccines Skewing the Human Immune System?

In brief summary, the immune system is divided into two major classes: *Cellular immunity*, in which the mucous membranes of the body play a prominent role, and *humoral immunity*, with the production of antigen-specific antibodies by plasma cells in the bone marrow. Cellular immunity, which involves macrophage activation and the cytotoxic T lymphocyte as its major agents, is responsible for control of viruses, fungi, as well as bacteria. Humoral immunity, on the other hand, is predominantly involved in control of bacteria.

Both of these classes are governed by TH lymphocytes, the "T" referring to the thymus gland, from which they are derived, and the "H" referring to a helper or activating activity. Early in life these "naïve" or uncommitted TH lymphocytes are differentiated into either armed TH1 cells, which governs in cellular immunity or armed TH2 cells, which governs in humoral immunity. This initial differentiation, at which naïve TH cells become either armed TH1 cells or armed TH2 cells has a critical impact on the outcome of adaptive immune response, depending on whether it is dominated by macrophage activation of the former or antibody production of the latter.[79]

It has been found that this differentiation is profoundly affected by cytokines, which are produced by lymphocytes and serve as chemical messengers. The two cytokines, Interleukin 12 and Interferon gamma, *in vitro*, tend to promote the development of TH1 cells. Interleukin 4, 5, 6, and 10, on the other hand, tend to promote the differentiation of TH2 cells.[80]

Once one subset becomes dominant, it is difficult to shift the response to the other subset, as the cytokines from one subset tend to dominate the other. The overall effect is that certain responses are dominated either by humoral (TH2) or cell-mediated (TH1) responses.[81] Among the different cytokines, some have been shown to have damaging effects: Interleukin I may cause increased blood brain barrier permeability and meningeal inflammation[82] and brain damage in experimental animals.[83] Interferon-gamma has been found to reduce the intestinal barrier and increase permeability,[84,85] and to bring about profound morphological, functional, and permeability changes in human brain blood-vessel endothelial cells.[86] The study by Pabst and coworkers, previously mentioned as the first of its kind, with the testing of cytokines before-and-after the MMR vaccine, found that the predominant response was an increase in interferon-gamma.[11] As has just been shown (references 84 and 85), interferon gamma increases intestinal permeability. Does this tie in with the findings of increased intestinal permeability found in children with autism[87] and consequently with the MMR vaccine?

In both the *New England Journal of Medicine*[88] and the journal, *Thorax*,[89] articles have appeared stating that a healthy immune system has a "bias" towards the TH1 immune system, while people with allergies, asthma, and diseases of an autoimmune origin have what is known as the TH2-skewed immune response. However, either antibodies or T cells of the cellular immune system can cause tissue damage in autoimmune diseases.[90]

A study of cytokine levels in 20 autistic children by S. Gupta and coworkers found that TH1 cytokines were consistently lowered and TH2 cytokines were consistently elevated as compared with controls.[91] Once again, does this tie in with immunizations? Are immunizations tilting the immune systems into TH2-skewed immune response? Considering that vaccines are administered by parenteral injection, designed primarily to stimulate antibody response, this would appear to be the case.

However, we cannot know the answers to this and other similar questions until definitive studies are done, testing both the immediate and long-term effects of vaccines on the human system. Among these, the testing of cytokines and related lymphocyte subpopulations before-and-after immunizations appear to be the most promising.

Gulf War Syndrome, Chronic Fatigue Syndrome, and Fibromyalgia

In a study of 33 veterans suffering with symptoms of Gulf War Syndrome, there were marked increases in markers indicating increased coagulability of the blood of the subjects as compared with healthy controls.[92] The authors hypothesized that exposures to chemical, biological, warfare pathogens, and/or vaccine adjuvants (including the controversial anthrax vaccine) during the Persian Gulf War had brought about immune reactions which had activated the coagulation system by the cross reaction of antibodies with antithrombotic (anticlotting) proteins lining the endothelial surfaces of blood vessels, the end result being a deposition of fibrin within blood vessels and a reduction of blood flow. Similar hypercoagulability states have been found in patients with the chronic fatigue syndrome.[93]

At this point no one knows to what extent each of the various exposures (chemicals, biological warfare, and/or vaccines) played in the pathogenesis of the Gulf War Illness, but serious investigators have little doubt it was a combination of these exposures that caused the illness. Considering that the GWS and CFS have much in common clinically as well as in laboratory

possibility that two conditions have similar causes?

Are Vaccines Bringing about Genetic Change?

In a Letter-to-the-Editor of *Science Magazine* in October 1967, Joshua Lederberg, Department of Genetics, Stanford University School of Medicine, warned about live-virus vaccines:

"In point of fact, we (are practicing) biological engineering on a rather large scale by use of live viruses in mass immunization campaigns.... Crude virus preparations, such as some in common use at the present time, are also vulnerable to frightful mishaps of contamination and misidentification."[94]

In a larger sense, the question about the possible effects of vaccines in causing adverse genetic changes might be considered as the "black hole" of scientific knowledge. Even if it is taking place, do we have the technology to identify it? For the present, however, genetic abnormalities have been found only in persons with major vaccine-related health disorders, as reviewed below:

To date, a careful review of the world's literature has disclosed only two publications reporting on adverse genetic changes known or suspected to be related to vaccines: In a study from Italy, 30 patients with post-vaccine diseases of the central nervous system were tested for Herpes virus and tissue typing (HLA A,B,C, HLA DR-DQ). The comparison of the patients with controls showed an increased presence of HLA A3 and DR-7, reflecting genetic change in 73.3% of patients.[95] In the second report, a three-year study was done in collaboration with the University of Michigan School of Medicine involving 24 Gulf War veterans with a pattern of symptomatic health disorders that have been referred to as the Persian Gulf War-Related Illness. Among these, 50% were found to have abnormal RNA, indicating chromosomal damage after "toxic events."[96] Although the report from the University of Michigan Medical School comments only on toxic chemical exposures in the Gulf War, vaccines may also have played a role, especially the controversial anthrax vaccine.[97] Perhaps the greatest significance of these reports, aside from the findings, is simply the fact that scientific investigations have begun in this very important area.

Licensed Vaccines: According to recent revelations based on tables provided by the US Center for Disease Control,[98] among the six vaccines required during 2, 4, and 6 months ages, which include DTaP, Hepatitis B, Hib, and IPV, if one includes the 25 micrograms of mercury in most DTaP vaccines, 12.5 micrograms in some Hepatitis B vaccines, and 25 micrograms in some Hib vaccines, theoretically it is possible that some infants are receiving over 100 times the amount of mercury that the US Environmental Protection Agency says is the maximum allowable daily exposure.[99] For centuries mercury has been known to be a potent neurotoxin and one of the most toxic of the heavy metals. Recently it has also been shown to be sensitizing,[78] so that along with pertussis and the Hib vaccine,[36,74] we have 3 potentially sensitizing agents in this group of vaccines. ➤

Conclusions

By federal, state, and school policies, parents are being compelled to keep up-to-date on their children's vaccines whether they wish it or not, and then when serious health problems ensue, as appears to be increasingly the case, parents are told that the vaccines had nothing to do with it.

In more than a few instances, parents are threatened with having their children placed in a foster home if they refuse to complete the recommended course of vaccines, and in some cases this has actually been carried out.

Today we have a system in which vaccine production by the pharmaceutical companies is largely self-regulated. Naturally these companies are interested in profits from their products which, in itself, is not wrong. However, when arbitrary decisions in the mandating of vaccines are made by government bureaucracies, who are highly partisan to the pharmaceuticals, with no recourse open to parents, we have all the potential ingredients for a tragedy of historical proportions.

Nothing written here is intended to imply that immunizations, when used in judicious moderation, do not at times serve a necessary purpose. However, simple observation throws strong suspicion on childhood vaccines, in their present numbers and forms, as posing one of the major causes of the increasing pattern of sickness, allergies, autism, and other neurobehavioral problems now being seen in our youngsters.

For sake of argument, let us assume that scientific proof eventually implicates the vaccines as one of the prime sources of these problems and that, in addition, it becomes known that safer methods could have been found to accomplish the same ends if they had been sought. If we continue to enforce the vaccine programs as at present, one shudders to think what future generations will think about us. Mistakes might be forgiven, but not the enforcement of those mistakes. If such does prove to be the case, we can rest assured that they will be neither kind nor charitable in their judgement of us.

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