Vaccine Overview, Part II: Inadequate safeguards, complications from the MMR vaccine, brain hemorrhages attributed to Shaken Baby Syndrome, and are vaccines contributing to genetic change?

Harold E Buttram, MD
P.O. Box 60
Blooming Glen, PA 18911
Email: hbuttram1304@comcast.net

Abstract

This paper address the four key vaccine-related topics that follow: (1) Grave and growing concerns about our current health bureaucracies and their failures to provide adequate safe-guards in today's mandatory childhood vaccine programs, which may have contributed to the current epidemics of childhood autism, allergies, and related disorders; (2) known and suspected complications from the powerfully immunosuppressant MMR vaccine, and brain inflammation from vaccine adjuvants; (3) many cases of brain hemorrhages now being attributed to the Shaken Baby Syndrome are more likely due to unrecognized vaccine reactions; and (4) the ultimate question: Are vaccines sowing the seeds of genetic change?

Keywords: vaccines, vaccine complications, MMR vaccine, Shaken Baby Syndrome (SBS), brain hemorrhages, genetic change.

1. Introduction

As one of Today's senior citizens who grew up in a Midwestern state in the 1930s, and as a doctor who has treated many children, I may have a special vantage point of time and experience in regard to the changes that have taken place in the health of America's children since the relatively innocent times of the 1930s. At summer camps in the New Mexico mountains which I was fortunate to attend, no boy had allergies, none were on medications, and none were ill with the common ailments of today. It was much the same in the schools. I don't recall ever seeing a child with easily recognized behaviors now described as hyperactivity (ADHD) and autism, nor do I recall seeing a child with asthma

In stark contrast today, approximately one third of our youngsters are afflicted with the 4-A Disorders (Autism, ADHD, Asthma, and Allergies), as described and documented by Dr. Kenneth Bock [1]. In a bulletin sponsored by the American Academy of Pediatrics, January, 2004 entitled "AUTISM ALARM," it was announced that *1 in 6 American children were diagnosed with learning delays and/or behavioral disorders.*

Based on this perspective, it appears that we are witnessing a national tragedy of the first magnitude, the full consequences of which are yet to unfold. Today's health authorities appear to be oblivious of this trend, or if they are aware, they are not taking any meaningful action to trace out causes. There are undoubtedly many interacting factors, but this series of two articles is examining today's mandatory childhood vaccine programs, in their present forms and schedules, suspected by many as being one of the major contributory factors of these ominous health trends among our children.

The preceding vaccine overview article [2] primarily addressed the pathophysiology of adverse vaccine reactions, with emphasis on the powerfully immunosuppressive effects of the measles-mumps-rubella (MMR) vaccine and the proinflammatory effects of vaccine adjuvants. The present article in turn is directed at suspected adverse clinical outcomes. For sake of continuity and completeness, there will be some repetition in this article of material from its predecessor.

2. Concerns about adequate safeguards in today's mandatory childhood vaccine programs based on gross historical deficiencies in state-of-the-art vaccine safety tests

Future times will undoubtedly look back on the series of U.S. Congressional Hearings on issues of vaccine safety (1999 to Dec., 2004) as one of the major landmarks in the history of this country. The hearings were called and chaired by Congressman Dan Burton who had two grandchildren whom he believed to have been damaged by vaccines, one of which was autistic. As chronicled by reporter David Kirby in his book, *Evidence of Harm* [3], it was during these hearings that gross deficiencies in vaccine safety testing were disclosed, with none of the federal government health agencies (CDC, NIH, and FDA) able to produce a single vaccine safety test which would meet with current scientific standards.

By way of explanation, ***valid vaccine safety tests*** are those in which before-and-after-vaccine tests are performed that are specifically designed to test for possible adverse effects of vaccines on the neurological, immunological, hematologic, genetic, and other systems of the body, with sufficient numbers of test patients and (when applicable) controls to be statistically significant. As an example, in a little noted 1984 study from Germany by Eibl *et al.* [4], a significant though temporary drop of T-helper lymphocytes was found in healthy adults following routine tetanus booster vaccinations. Special concern rests in the fact that, in four of the subjects, T-helper lymphocytes (a class of cells that govern the immune system) temporarily fell to levels found in active AIDS patients. If this was the result of a single vaccine in healthy adults, one must wonder what the results would be in today's mandatory childhood vaccine programs (over 36 vaccines before school age).

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The above-study was far too small to be statistically significant, but otherwise it could serve as a prototype of vaccine safety tests that should be taking place. Because of the limited numbers of subjects it did not provide proof of vaccine injury, but it was an important clue which should have had follow up. Yet, to the best of my knowledge it has never been repeated.

2.1 Evidence-Based Medicine and the quality of evidence ratings

As reviewed in 2003 by Mark Donohoe [5], in recent years there has been a clear move toward basing medical practice opinions on the best available medical and scientific evidence. This process has been termed *Evidence-based medicine,* which requires a position of objectivity and neutrality in the testing of a clinical hypothesis. The process has been placed in four categories,

> "Compelling evidence comes from consistent findings in 2 or more well-constructed trials or population-based epidemiologic studies (i.e., level I or level II evidence). By contrast, clinical practice guidelines with level IV evidence (the lowest level of scientific credibility) represent consensus statements of the expert panel according to clinic experience and limited scientific data. Although these (level IV) statements may influence current practice, they are likely to be modified in response to further research findings. Data from a single case series without control subjects provide little more than a stimulus for subsequent hypothesis testing." [5].

During the Congressional Hearings on Vaccine Safety, an FDA panel was repeatedly asked, "where are your (safety) studies," The panel could only reply with unsatisfactory answers such as, "they would be very expensive." However, it was not until Jan. 14, 2009 that it became evident that the avoidance of meaningful vaccine safety studies has long been a matter of established policy by the National Institute of Health, the primary federal agency responsible for funding health research in America, as reported by the autistic support group, "Age of Autism:"

> "January 17, 2009
> National Autism Association on IACC Removal of Vaccine Safety Research, a press release from the National Autism Association.
>
> "Washington DC – In an unprecedented move on Wednesday (Jan. 14) the Interagency Autism Coordinating Committee (IACC) removed previously approved vaccine safety research from the Strategic Plan for Autism Research objectives. With apparent backing from the Centers for Disease Control and Prevention (CDC) representation, committee chair and HIMH director Tom Insel implied that vaccine research conducted by the National Institutes of Health (NIH) would constitute a conflict given the involvement of Health and Human Services with ongoing autism filed in the federal vaccine court. The committee's action is in direct opposition to the majority of its public members who support vaccine research, and to the Congressional directive of the Combating Autism Act of 2006 (CAA) which specifically called for research into "potential links between vaccines, vaccine components, and autism spectrum disorder."
>
> "In addition to the CAA's mandate for vaccine research, the legislation also called for the establishment of key research activities to arrive from "meaningful public involvement and advice "through the IACC which includes both government and private representatives.
>
> " 'Ignoring the Congressional mandate for investigation to links between vaccines and the development of autism is a slap in the face to both Congress and the citizens of this country,' said National Autism Association board chair and parent Lori McIlwain. 'Even the most basic studies comparing health outcomes in vaccination vs nonvaccinated populations are consistently ignored despite increasing support for them from legislators, physicians, and parents.'
>
> " 'Dr. Insel's ovservation that the NIH is incapable of conducting conflict-free research supports what a growing number of parents believe,' commented Ms McIlwain. 'While the motivation for refusing to allow this critical research to go forward is likely more related to fear of what such studies would reveal, it's clear that the system managing our vaccine program and vaccine safety issues is corrupt beyond repair and needs a complete overhaul'…." [6]

Based on these revelations, the claims of health authorities that there is no proof of a relationship between vaccines and autism have been technically correct, but this is due to the fact that the tests which could have proven such a relationship have been consistently boycotted by the NIH and other government health agencies. However, this is now rapidly changing, as shown below.

2.2 Evidence-Based Medicine: Examples of recent levels I and II quality ratings in vaccine testing

It has only been since the US Congressional Hearings on Vaccine Safety (1999-Dec., 2004), and undoubtedly in large measure because of them that statistically significant studies have been appearing, some examples of which are provided below along with several older studies:

> • As published in 2005 in the *Annals of Neurology* [7], Diana Vargas and colleagues examined the brains from autopsies of 11 autistic patients, ranging in ages from 5 to 44 years, in which they found the presence of extensively activated microglia and astrocytes along with elevations of inflammatory cytokines and chemokines, which are immune system proteins involved in inflammatory processes. The first study of its kind, it supports Russell Blaylock's theory that overstimulation of the brain's microglia and astrocytes for exces-

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sively prolonged periods, caused by current vaccines with their proinflammatory adjuvants, plays a central causal role in today's epidemic of childhood autism.

• Surveys from four widely separated geographic areas have shown higher rates of asthma in fully vaccinated children as compared with those with limited or no vaccines [8-11].

• A study on primary immunization of 239 premature infants with gestational ages of less that 35 weeks was conducted by M. Pourcyrous *et al.* (*Journal of Pediatrics,* 2007, [12]) to determine the incidence of cardiorespiratory events and abnormal C-reactive protein (CRP) levels associated with administration of a single vaccine or multiple vaccines simultaneously at or about two months age. (CRP is a standard blood test to measure body inflammation.) CRP levels and cardiorespiratory events were monitored for three days following immunizations in a neonatal intensive care unit sponsored by the University of Tennessee. Elevations of CRP levels occurred in 70% of infants administered single vaccines and in 85 percent of those given multiple vaccines, 43% of which reached abnormal levels. Overall, 16% of infants had vaccine-associated cardiorespiratory events with episodes of apnea (cessation of breathing) and bradycardia. *Most important, 17% of those receiving single vaccines had intraventricular brain hemorrhages, with an incidence of 24% of those receiving multiple vaccines. (This was the first study of its kind, showing that brain hemorrhages can commonly take place in vulnerable infants, now regularly being misdiagnosed as Shaken Baby/Impact Syndrome in hospital emergency rooms in the USA.)* It should be noted that each and every adverse manifestation above could be attributed to vaccine-induced brain inflammation.

• Long denied by health officials, the action of mercury in causing brain inflammation in autistic children tends to be confirmed by Sajdel, Sulkowska, *et al.* [13] (*American Journal of Biochemistry and Biotechnology*, 2008*)* Also the first of its kind, this study compared the cerebellar levels of the oxidative stress marker, 3-nitrotyrosine (3-NT), mercury (Hg), and the antioxidant, selenium (Se) between autistic and normal children. Average cerebellar 3-NT levels were statistically elevated by 68% in autistic children, cerebellar Hg by 68%, and mercury levels relative to protective selenium by 75% in autistic cases in comparison to controls.

• In a 2008 study along similar lines to the S. Sulkowska study above, X. Ming *et al.* [14] reviewed their animal model of autism, showing that oxidative stress from methylmercury or valproic acid exposures in early postnatal life of mice resulted in aberrant social, cognitive, and motor behavior. They also found that Trolox, a water-soluble vitamin E derivative, was capable of attenuating a number of these adverse neurobehavioral side effects.

• In a hair test study sponsored by pediatrician Amy Holmes in the 1990s, when vaccines still contained large amounts of mercury in the preservative, Thimerosal, hair was collected from 94 autistic children and 45 normal children as controls who had had the same vaccines, with findings that healthy children had nearly 20 times as much mercury in their hair as autistic children. It was concluded that "autistics have an inherent problem in excreting heavy metals which implies a large risk of toxicity with very small exposures." [15]

• Based on an article from a Japanese neurosurgeon reporting that clusters of nontraumatic brain hemorrhages tended to occur around ages 7 to 10 months in Japan [16], ophthalmologist Horace Gardner astutely noted that there was a distinct age difference between nontraumatic brain hemorrhages in Japan and America, where most nontraumatic brain hemorrhages largely occur during the first six months of infancy. (In American emergency rooms these hemorrhages are almost always diagnosed as Shaken Baby/Impact Syndrome in absence of major accidental trauma.) The explanation was that the Japanese do not commence their childhood vaccine programs until age seven months, whereas in America they are administered during the first six months of infancy, indicating that the true cause of these hemorrhages are from vaccines [17].

• A telephone survey commissioned by the nonprofit group, *Generation Rescue,* compared vaccinated with unvaccinated boys in nine counties of Oregon and California [18]. The survey included nearly 12,000 households with children ranging in age from 4 to 17 years, including more than 17,000 boys among whom 991 were described as being completely unvaccinated. In the 4 to 11 year bracket, the survey found that, compared to unvaccinated boys, vaccinated boys were 155% more likely to have a neurological disorder, 224% more likely to have ADHD, and 61% more likely to have autism. For older vaccinated boys in the 11-17 age bracket, the results were even more pronounced, with 158% more likely to have neurological disorders, 317% more likely to have ADHD, and 112% more likely to have autism.

• In October, 1998 the French government abandoned its mandatory hepatitis B vaccination for school children after more than 15,000 law suits were filed for brain damage and autoimmune reactions, including neurological disorders, arthritis, myasthenia gravis, and lupus.

• According to a report in *Morbidity and Mortality Weekly Report* [19], findings from a U.S./multisite study to monitor the prevalence of autistic sepectrum disorders reported an incidence of 1 in 150 children up to age 8 years. However, this figure was based on a study of children born in 1994. In a review based on U.S. Department of Education figures by Ray Gallup and F.E. Yazbak, MD, for children born six years later in the year 2000, the incidence had increased 124% to 1 in 67. [20]

• A prepublication summary of an article entitled, "Pediatric Vaccines Influence Primate Behavior, and

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Amygdala Growth, and Opioid Ligand Binding," appeared in *Age of Autism* on May 16, 2008 [21].

Methods: The effects of pediatric vaccines were studied in rhesus macaques, 13 of which received the recommended pediatric vaccines administered during 1994-1999, with doses adjusted for age and size of the macaques. Three unvaccinated macaques served as controls.

It was during 1994-1999 that a majority of vaccines contained the mercury-containing preservative, thimerosal. Universities of Pittsburgh, California at Irvine, and Kentucky, as well Washington National Primate Research Center were involved in the study, with the latter assessing primate development, cognition, and social behavior following the MMR vaccine.

Results: Compared with unexposed animals, significant neuro-developmental deficits were evident for exposed animals in survival reflexes, tests of color discrimination, learning sets, and aberrant social and non-social behaviors mimicking behaviors seen in autism. Brain MRIs showed an attenuation of amygdala growth, an important center for memory. Following necropsy, severe chronic inflammation was found on tissue exams of the gastrointestinal tracts of vaccinated animals but not in controls. In gene expression comparisons between the vaccinated and unvaccinated groups, there were 120 genes differentially expressed at 10 weeks following vaccines, 450 genes differentially expressed at 14 weeks, and 324 differentially expressed between the two groups at necropsy.

Conclusion: This animal model, which for the first time examined behavioral, functional, and neuromorphometric consequences of the childhood vaccine regimen during the 1990s, mimics certain neurological abnormalities of autism.

Also a first was the finding of significant numbers of differentially expressed genes following vaccines compared with unvaccinated macaques, indicating that the vaccines may have caused significant disruption of genetics which, even if not immediately evident, may manifest in later generations.

3. Immune Suppression from the MMR Vaccine; Brain Inflammation from Vaccine Adjuvants

It was only after the measles, mumps, and rubella live-viruses were combined into a single vaccine in the USA in 1978 and the United Kingdom in 1987 that a sharp rise in incidence of autism took place. Prior to those dates in each respective country, these vaccines had been administered separately with very little increase in autism [22, 23]. There are two plausible explanations: First, protein sequences in the measles virus have been found to have similarities to those in brain tissues [24], so that by the process of mimicry, the formation of antibodies against the measles virus would tend to cross react adversely with the brain. Second, *and probably far more important, viruses are inherently immunosuppressive* in contrast to bacterial infections, which stimulate the immune system. This is reflected in the fact that viral infections generally lower white blood cell counts in contrast to bacterial infections which raise white cell counts. The measles virus is exceptionally potent in this regard, being powerfully suppressive to cellular immunity [25-27]. Consequently the combining of three viral vaccines into a single combination may substantially increase their immunosuppressive viral effect, bringing about varying degrees of immune paralysis in the infant. It is known that combinations of toxic chemicals bring exponential increases in toxicity, such as two toxins together increase toxicity 10-fold, or three toxins together increase toxicity 100-fold [28-30]. It is also likely that combinations of viral vaccines may bring comparable exponential increases in their immunosuppressive effects, in many instances resulting in paralysis of children's immune systems. Since the MMR vaccine is comprised of live viruses, this immune paralysis may allow the live viruses to invade various organ systems of the body, including the brain. Preliminary studies have indicated that this may be taking place with the measles virus in some cases of autism [31].

Regarding ***vaccine adjuvents,*** Russell Blaylock has compiled a mass of evidence that repeated stimulation of the brain's immune system results first in the priming of microglia and astrocytes of the developing brain, followed by intense microglial and astrocyte reaction with each successive series of vaccination [32]. In explanation, microglia and astrocytes are first-line-immunological responder cells located in the brain which defend against foreign infectious invaders. Normally this response, such as to a viral infection, is of limited duration and harmless to the brain. However, when the microglia and astrocytes are overstimulated for prolonged periods, which vaccine adjuvants are designed to bring about, this extended activation can bring about chronic brain inflammation [7], which can be very destructive to the brain.

In explanation, vaccine adjuvents are substances added to vaccine formulations during manufacturing that are designed to boost and prolong the overall immune system response when the vaccine is injected. These substances include albumin, several forms of aluminum, formaldehyde, various amino acids, DNA residues, egg protein, gelatin, surfactants, monododium glutamate (MSG, and antibiotics. Although mercury content has been reduced in recent years, it is still present as a preservative in multidose vials of tetanus and influenza vaccines. It is also used in the manufacturing process of many vaccines to remove contaminants, which leave "trace amounts" in the vaccines as residues. Even these trace amounts may be significant, since aluminum is also present in many vaccines, and as previously reviewed, combinations of heavy metals may bring exponential increases in toxicity.

Among the adjuvants there is special concern for the virtually insoluble aluminum hydroxyl compounds, which dramatically boost and prolong the activation of the macrophagic immune sub-system in some people [33-38], which may last up to two years. In addition it is known that aluminum accumulates in the brain and that this accumulation is associated with Alzheimer's and Parkinson's diseases [39-41].

As taught in conferences held by the Autism Research Institute, with headquarters in San Diego [42], major risk factors for

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vaccine reactions include preterm births of less than 37 weeks, family history of autoimmune disease, viral illnesses, diets largely consisting of commercially processed foods, and deficiencies of the antioxidant vitamins and cofactors including vitamins C, A, D, and E, selenium, and reduced glutathione. These latter act as "fire hoses" in reducing vaccine-induced brain inflammation.

4. Shaken Baby Syndrome (SBS): misdiagnoses and false accusations

As reviewed by R. Uscinski [43], in 1971 Guthkelch hypothesized that subdural hematomas could be caused by manually shaking an infant without the head impacting any surface [44]. One year later Caffey alluded, in a paper describing "parent-infant traumatic stress syndrome," to manual shaking causing intracranial injury in the form of subdural hematoma and cerebral contusions in infants [45]. Two additional papers by Caffey followed over the next two years elaborating on the SBS theory [46, 47]. Soon afterwards the theory became widely accepted and remains so today, so that if an infant-in-distress is taken to a hospital emergency room and found to have brain hemorrhages by CT scans and/or retinal hemorrhages, these findings are routinely considered diagnostic of SBS in the absence of a high distance fall or a major auto accident.

By definition of the SBS, it is assumed that a parent or caretaker, out of frustration from prolonged infant crying and fussiness, loses control and picks the infant up by the feet or chest and shakes the baby with such violence that any onlooker would recognize it as excessive and dangerous.

The fundamental flaw in the SBS theory is in the weakness of an infant's neck and the relatively large size and weight of the infant head. It follows from common observation as well as by extensive research that the most vulnerable areas from such shaking would be the vital centers in the brain stem (base of the brain) and cervical spinal cord which, far more than the brain itself, would bear the full brunt of damaging forces from the shaking, and which would result in death or spinal paralysis (paraplegia) in virtually 100 percent of the cases if such shaking were actually taking place. Yet in the many thousands of SBS court convictions since the 1970s, there has never been one documented case of death or paraplegia from cervical cord/brain stem injury, nor has there ever been a witnessed case in which an infant sustained intracranial injury as a result of shaking alone.

This has been the universal and consistent conclusion of a scientific specialty known as "bioengineers," (consisting of Ph.Ds) which has evolved as a research wing of the U.S.A. Highway Department for the study of the biomechanics of head and neck injuries from auto accidents, but which has also become involved in research investigation of SBS because of their similar biomechanics. Their first publication investigating SBS was in 1987 [48]. Another came in 2003 [49]. These studies consisted of sophisticated laboratory investigations by bioengineer and medical teams based on the known biomechanics of head and neck injuries, showing first that human beings cannot achieve more than a fraction of the accelerations for causing intracranial injury in infants by shaking alone, but instead conclusively demonstrated that the spinal cord of the neck would give way long before brain injury could occur from shaking. These conclusions were summarized by bioengineers Chris Van Ee, PhD [50],Kenneth L Monson, PhD [51], and Kirk L Thibault, PhD [52] in their "Accepted Findings Will Assist Court" documents produced in defense of a specific Arizona SBS case. Each document provided extensive references of published scientific literature in the bioengineering field as a basis for their conclusions.

The following quotations from the Van Ee declaration are representative for the two others, who reach the same conclusions:

> "Scientific testing has shown that head acceleration levels from anterior/posterior human shaking of a normal 0- to 2-year-old child in the sagittal plane results in head acceleration and force levels that are much lower than those which are associated with traumatic head injury. Repeated testing of this hypothetical has shown that the head accelerations associated with shaking are far below the level associated with injury, and there is no quality data to support the SBS brain injury mechanism…….
>
> "Human shaking may cause lethal brain stem and cervical spine injuries in a 0-2-year-old child, as the forces necessary for these injuries are *well below* the levels needed for fatal brain injuries and are consistent with the forces that can be produced in shaking. Put another way, these neck injuries would be expected in any (and all) hypothetical-superhuman strength case of SBS where superhuman dynamics resulted in head accelerations leading to intercerebral trauma (if SBS were valid, which it is not)……..
>
> "The foregoing findings are based on principles universally accepted within my field……..The findings are overwhelmingly supported by the following reference list of biomechanical tests and studies……." [50]

The biomechanical findings with extensive references have been summarized in a medico-legal document entitled *Shaken Baby Actual Innocence Petition* by Kent Holcomb [53].

What then does cause brain and retinal hemorrhages in these cases? Hymel listed 74 possible causes of infant brain hemorrhages [54], the more prominent among them being prematurity, low birth weight, nutritional deficiencies (especially vitamin C), short distance falls, birth trauma, and spontaneous rebleeding of old (chronic) subdural hematomas. *However, there has been steady accumulation of evidence that many infant brain and/or retinal hemorrhages are from adverse vaccine reactions, in which brain inflammation and swelling, along with vascular inflammation and friability have been the causes for the brain hemorrhages.* Also, as reviewed below, there can be little doubt that vitamin C deficiencies are also playing a major role in virtually all of these cases.

Australians such as Viera Scheibner and Archivedes Kalokerinos were the first to recognize and research the prevalence of vaccine reactions. Dr. Scheibner performed pioneering studies of SIDS (Sudden Infant Death Syndrome) by placing infants in "Cot Watch" chambers where infants were monitored for apnea (cessation of breathing) and bradycardia (pathological slowing

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of the heart) following vaccines, documenting early, warning signs that may lead to respiratory collapse and death. (See vierascheibner.org)

The recognition that vitamin C deficiency (subclinical scurvy) may play a common and prominent role in vaccination reactions should be attributed to Dr. Archivedes Kalokerinos. In the 1960s and 1970s Kalokerinos, while working as a health officer among the Australian aborigines, he became appalled by a nearly 50% infant mortality rate. Observing signs of scurvy in some infants, and noting the infants commonly died following immunizations, especially if ill with common viral infections, Kalokerinos began administering regular vitamin C supplements, giving injectable vitamin C during crises, and avoiding vaccines when a child was ill, even if just a runny nose. Thereafter, pediatric death rates dropped to nearly zero in his district [54]. As a result of this work he was awarded the Australian Medal of Merit in 1978. Since the time of Kalokerinos' work among the aborigines, his observations have been supported academically by C.A.B. Clemetson [55].

Many years ago there was a common saying that the practice of medicine is usually about 50 years behind the science. This is certainly true as concerns the astute clinical observations of A. Kalokerinos and the indispensable value of vitamin C in his work with the aborigines, largely as yet unrecognized in industrialized nations.

Experience has shown that most practicing physicians tend to think of vitamin C deficiency and scurvy as something dating back to the days of sailing ships, but this is far from the case. Functional vitamin C deficiency is highly prevalent, and its deficiency is pivotal in many adverse vaccine reactions. This is suggested by a study of vitamin C levels of supposedly healthy people attending a Health Maintenance Organization (HMO) conference in Arizona in 1998 in which plasma vitamin C status was found to be depleted (between 0.2 and 0.5 mg/Dl) in 30 percent and deficient (<0.2 mg/Dl) in 6% [56]. Viral infections including the common cold may reduce vitamin C levels by 50% [57]. As reviewed by Clemetson, when the human plasma ascorbic acid level falls below 0.2 mg/Dl, whole blood histamine level is doubled or quadrupled [58]. It has been shown that bleeding from scurvy results from increased blood histamine, or histaminemia, which causes separation of endothelial cells from one another in capillaries and small venules [59].

Under the combined inflammatory stresses of vaccinations administered to a child with a viral illness (a common practice these days), the usually recommended 30 mgs of vitamin C daily may be totally inadequate. It is under such conditions that serious and sometimes fatal vaccine reactions may take place when complicated by grossly deficient vitamin C levels and histaminemia, these in turn resulting in brain hemorrhages now being misdiagnosed as Shaken Baby Syndrome.

As previously reviewed, ophthalmologist Horace Gardner astutely noted that non-traumatic brain hemorrhages in Japanese infants largely take place between ages 7 to 10 months(16) in contrast to American infants where most non-traumatic brain hemorrhages occur within the first six months, in each situation reflecting the age ranges in which vaccines were being administered [17].

A more definitive study is that performed by M Pourcyrous *et al.* [12] (*Journal of Pediatrics,* 2007) in which 239 preterm infants were either administered single vaccines or multiple vaccines at two months age while being closely monitored as hospital inpatients by the University of Tennessee, resulting in brain hemorrhages in 17% of those receiving a single vaccine and 24% of those receiving multiple vaccines. The first study of its kind, it conclusively proves that vaccines can and frequently do cause brain hemorrhages in infants with increased vulnerabilities.

As a final note in this section, the SBS has been primarily sponsored by members of the medical profession, and unless this is corrected and SBS revealed for the discredited myth that it is, the profession as a whole can expect a severe backlash in public opinion at some point in the future, which it can ill afford with the many other adversities of our times.

5. Are vaccines sowing seeds of genetic change?

From a conceptual standpoint, the human immune system might be compared with a medieval castle with a series of protective embattlements, all designed to protect the inner throne where the king (brain and nervous system) and queen (genetics) reside. With the powerful immunosuppressive effects from the MMR vaccine and proinflammatory effects from vaccine adjuvants, these immunological defenses might well be overwhelmed in vulnerable infants, opening the way for alien genetic engraftments. Live viral vaccines, consisting of pure genetic material, would be the most likely sources, especially retroviruses with their reverse transcriptase systems, which enables them to integrate their DNA into the genomes of many host species [60].

5.1 Genetic changes in the world about us

Barbara McLintock, the 1983 Nobel Laureate "Corn Lady," was the first to discover genetic mobility in so-called jumping genes in the 1930s. For over 50 years she pursued solitary research with corn, uncovering some of nature's innermost secrets about life. McClintock studied maize, a form of Indian corn, where distribution of red kernels and yellow kernels is genetically determined. What she first perceived was that some of the genes were moving from one place to another on the cell's chromosomes (the floating threads on which genes are lined like beads on a string). She then saw patterns in the movements, with sharply differing results in the colored kernels, and realized that some genes, once moved into position, switched other genes on or off. It followed that while most genes were workers, others were controllers or managers of genes.

According to a 1971 article in *World Medicine* [61], scientists at the University of Geneva made the startling discovery that biological substances entering directly into the bloodstream may truly become a part of us and even a part of our genetic material. The article stated in part the following observation:

> "When Japanese bacteriologists discovered that bacteria of one species transferred their own highly specific antibiotic resistance to bacteria of an entirely different species, they seemed to hit on a unique if not startling phenomenon. Dr. Maurice Stroun and Dr. Philippe Anker, with colleagues in the Plant Physiolo-

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> gy Department at the University of Geneva, have now accumulated a wealth of evidence that the transfer of genetic information is not confined to bacteria but also can occur between bacteria and higher plants and animals.
>
> "The Geneva scientists are convinced that normal animal and plant cells also shed DNA and that this DNA is also taken up by other cells in the organism.
>
> "Dr. Stroun and colleagues did most of their research on plants but have now turned to animals. In their latest experiments they used the isolated auricles of frogs' hearts [62] (1972) from which they dipped RNA extracted from the frog auricles into a bacterial suspension, resulting in a high percentage interlinkage of frog RNA with bacterial DNA."

The article concluded that the implications of this work on "transcession" are enormous, and reflect something that may be commonly taking place in our own bodies. From the standpoint of future generations, the possibility that vaccines may be bringing about genetic hybridization in our children represents far and away the greatest hazard of today's childhood vaccine programs.

5.2 Unique hazards from viral vaccines

As reviewed above, the first six months of an infant's life is a period of heightened vulnerability because of the infant's immature and rapidly growing nervous system and highly immature immune system. Although scientific investigation has barely scratched the surface in looking into possible effects of vaccines on genetics, time may prove that the choice of the first six months for multiple primary immunizations may prove to be most unfortunate, a time when a child may be relatively open and unprotected from vaccine-induced genetic hybridization.

In spite of being in a preliminary stage, some information on vaccines and genetics is available. As purely genetic material, it would be expected that viral vaccines may pose more danger of genetic hybridization than vaccines from other microorganisms. A study reported in *Virus Research* tends to support this hypothesis [63]. In the study of 24 passages of a nuclear polyhedrosis virus through cell cultures, there were both insertions and deletions in the virus, appearing to suggest that ***the virus both donated genetic material to and received genetic material from the cells in which it was cultured, thereby carrying genetic material from host to host.***

As reviewed by Janine Roberts in "The dangerous impurities of vaccines" [64]:

> "In 1998 and 1999 scientists representing the World Health Organization (WHO) met with the senior vaccine regulatory scientists of the USA and UK at the National Institutes of Health (NIH) in Washington D.C. to discuss the safety of the manufacturing methods employed to produce vaccines. No journalists were present but official transcripts were kept. What they record is that all the many experts that spoke expressed grave concern over the safety of the manufacturing process currently employed to make the licensed vaccines, such as MMR, flu, yellow fever, and polio. It was reported by leading experts that the vaccines could not be purified, were "primitive," made on "crude materials," and the manufacturers could not meet lowered government standards. WHO specialists reported the widespread and continuing presence in the MMR vaccine of chicken leukosis virus. Others spoke about the presence of foamy virus, many other viruses, toxins, foreign proteins, enzymes and possibly prions and oncogenes. It was reported that the polio vaccine had sometimes contained more monkey viruses than polioviruses. Grave concerns were expressed about the level of foreign residual DNA and RNA contaminating the vaccines. It was feared that this could be causing cancers and autoimmune diseases. It seemed possible to this writer that, given its mutagenic properties, this DNA contamination might relate to the incidence of autism and other serious disorders occurring in the vulnerable after vaccination. Experimental evidence also suggests that there could be a link of autism to environmental toxins such as acrylamide." [64]

5.3 Changes in gene expression in the Rhesus Macaque study: [20]

As noted earlier in a prepublication internet summary of this study, when a group of macaques were given the same pediatric vaccines as administered to children during 1994-1999, with doses adjusted for age and size of the macaques, there were 120 genes differentially expressed at 10 weeks following vaccines (as compared with unvaccinated macaques serving as controls), 450 genes differentially expressed at 14 weeks, and 324 genes differentially expressed at necroscopy. Although more information will be available following publication of the study, it is clear from this information that there were major impacts of the vaccines on the genetic systems of the macaques.

5.4 Howard Urnovitz and the Gulf War Syndrome; MG Montinari and immunogenetics

Dr. Howard B Urnovitz and colleagues are best known for the work they have published on the Gulf War Syndrome, where they found evidence of genetic alterations in chromosome 22q11.2, a known genetic "hot spot" for mutations, which appears to have a role in the pathogenesis of the Gulf War Syndrome [65]. Even more striking, when they sequenced their findings, many enteroviral-similar segments were found, suggesting that this may have played a role in causing the changes in 22q11.2. It is well known that most Gulf War veterans received the oral poliovirus vaccine, which is an enterovirus, possibly along with its CMV contaminant.

M.G. Montinari and immunogenetics: Dr. Montinari and colleagues are best known for investigating the relationship between postvaccine central nervous system (CNS) diseases and mutation of human leukocyte antigens, (HLA) which essentially strip the body's brain and nerve tissues of their outer coating of myelin [66]. The HLA system is one which aids an individual's immune system to differentiate that which is "self" from that which is "nonself." Although the mechanisms are

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complex, it is a system which, during embryonic life, learns to recognize healthy or normal cells of the body as "self" so that these cells will remain unmolested by the search and destroy mechanisms of the immune system, leaving the latter free from foreign invaders. Of special concern is the fact that the HLA system also carries an increased proneness to polymorphism (mutation), the mutations in turn possibly resulting in an impairment of self-recognition. This process may be the fundamental cause or one of the primary causes underlying autoimmune disorders, in which the immune system attacks the cells of its own body. The HLA system plays an integral part of this process. Montinari found that certain alleles of HLA (A3 and DR7) were more frequent in patients with postvaccine-induced illness, which implicates an immunogenetic basis for such illnesses. What caused much concern was that Montinari implicated vaccine preservatives such as Thimerosal as causing genetic mutation by modifying the amino acids in presenting antigen proteins [67-69].

5.5 Epigenetics: revolutionary new findings

The relatively new field of *epigenetics* is bringing astounding changes in concepts of genetics and heredity. Rather than being fixed in stone, it now appears that heredity is highly malleable and subject to ongoing change because of the ability of epigenetics to regulate how genes are expressed. As outlined by JV Vliet *et al.:*

> "Changes in gene expression are achieved through the methylation of DNA, the post-translational modifications of histone proteins, and RNA-based-silencing.
>
> "Changes in gene expression are achieved through the methylation of DNA, the post translational modifications of histone proteins, and RNA-based silencing." (69)(2007)

In explanation, a methyl group consists of a single carbon atom surrounded by three hydrogen atoms. Chains of methyl groups form the basis of all organic life on earth. Methyl groups are needed by all body cells, but the brain, nervous system, and chromosomes are uniquely dependent on a constant and adequate supply of methyl groups. In health and with adequate nutrition, the active forms of vitamin B-12 (methylcobalamin) and folic acid (tetrahydrofolate) serve as primary sources of methyl groups. *In summary, epigenetics has the capacity to switch inheritable gene function on or off by adding or deleting one-carbon methyl groups to or from the genetic system* [71, 72].

A beneficial examples comes from an animal (rat) study comparing the effects of devoted maternal care of the pups, in the forms of grooming and licking, as compared with those who tended to neglect their pups. The findings were consistent in that the well groomed pups had better developed hippocampi brain centers and released less of the stress hormone cortisol, making them calmer when startled. Neglected pups in contrast had much more cortisol release, less developed hippocampi, and reacted nervously when startled or in new surroundings. These effects were due to the effects of grooming in stimulating serotonin (a calming neurotransmitter) which activated serotonin receptors in the hippocampi brain centers, a trait passed down to later generations [73].

There also appears to be a degree of environmental and nutritional input into inheritable development of schizophrenia and bipolar disorders. Many studies have shown that schizophrenics have low circulating folate levels [74]. Consequently it follows that famine, maternal malnutrition, late winter/early spring births, urban environments, and low socioeconomic status, which in themselves may be proxies for folate deficiency, necessarily pose as risk factors for schizophrenia [75].

It can only be a matter of time before adverse inheritable vaccine-related disorders become revealed.

Summary and Conclusions

The basic question surrounding today's mandated childhood vaccine programs is whether or not they are causally related to today's growing epidemics of autism, attention deficit hyperactive disorder (ADHD), learning disabilities, asthma, and other forms of allergies, all of which were rare several generations ago. Future historians may well look back on the US Congressional Hearings on issues of vaccine safety (1999-Dec., 2004) as a major historical landmark, for it was during the hearings that gross deficiencies were disclosed in vaccine safety testing.

By way of explanation, a safety test is one specifically designed to test vaccines for adverse effects on the immunologic, neurologic, hematologic, genetic, and other systems of the body. The techniques involve performing before-and-after vaccine tests with sufficient numbers of test patients and (when applicable) control subjects to be statistically significant. In spite of repeated requests during the US Congressional Hearings, neither the CDC, the FDA, nor any other federal health agency was able to produce a single safety study which would meet acceptable scientific standards. Without such tests, even the most flagrant and obvious of vaccine reactions cannot be proven and therefore have remained unrecognized,

It has only been since these hearings, and undoubtedly in large measure because of them, that meaningful vaccine safety tests have been appearing with some regularity, examples of which are provided above. Virtually all of these are indicative of potential harm.

Based on these findings it is suggested that, until a thorough and reliable process of vaccine safety tests are performed and appropriate adjustments made, any further mandating of childhood vaccines will remain morally and ethically untenable.

In the meantime, the following vaccine safety rules have been publicly recommended by the Autism Research Institute [42]:

- Never vaccinate a sick child, even if just a runny nose.
- Never allow more than two vaccines to be given at the same time.
- Avoid all vaccines with the mercurial preservative, Thimerosal.
- Give vitamin C, A, and D supplements a few days before and a few days after vaccines. The fat-soluble vitamins (A and D) should not be overdosed. Pedia-

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tric texts recommend 1,500 units vitamin A and 150 units vitamin D daily.

- The MMR vaccine should be avoided. Instead, individual vaccines may be given, each separated by at least 6 months. Individual vaccines may be obtained from some compounding pharmacies.

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