

The Stepchildren of Modern Medicine, as Applied to Shaken Baby Syndrome (SBS)/Non-accidental Injury (NAI)

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Abstract: In hospital emergency rooms throughout the USA it is standard procedure to attribute infantile brain hemorrhages, with or without retinal hemorrhages, to inflicted child abuse, generally referred to as Shaken Baby Syndrome/Non-Accidental Injury (SBS/NAI) in the absence of a known major accident. However, beginning with the work of A. Kalokerinos, Australian health officer among the Australian aborigines, who reduced a 50 percent infant mortality to 3 percent by avoiding vaccines during viral illnesses, supplementing children with vitamin C, and giving vitamin C injections during crises. In a study by Pourcyrous *et al* (2006) involving 239 preterm infants, it was found that 70 percent of infants administered single vaccines and 85 percent of infants administered multiple vaccines had elevated C-Reactive proteins (markers of inflammation). Among the general population, surveys have been conducted showing general and significant inverse relations between C-Reactive proteins and blood levels of vitamin C and other antioxidants. By the inherent nature of the human infant brain, it is highly vulnerable to lipid peroxidation. Vaccine adjuvants are designed to enhance and prolong immune responses to vaccines, which are inherently pro-inflammatory. It is the hypothesis of this paper that many infant brain hemorrhages now being attributed to inflicted child abuse are actually from adverse vaccine reactions.

Key words: Kalokerinos, Clemetson, Pourcyrous study, C-reactive proteins, antioxidants, adjuvants, adverse vaccine reactions.

Historical Perspectives

Ignatz Semmelweiss was an Austrian obstetrician who practiced his profession at a birthing center in Vienna in the mid-nineteenth century, a time when maternity death rates were an appalling 30 percent from “childbed fever,” due to poor sanitary practices and conditions of the times. Semmelweiss observed that medical students would perform autopsies on the victims of childbed fever and then often go to maternity wings and deliver babies without washing their hands. Deeply troubled about the losses at the birthing center, it occurred to him that the students might be carrying some noxious substance on their hands to the mothers in the delivery wards. Acting upon this impression, he mandated that no doctor should touch a woman in labor without first washing his hands in the rather harsh soap of the times. As a result

the mortality rate soon dropped from 30 percent to approximately 3 percent, while other wings in the birthing center continued with their usual 30 percent mortalities. In spite of this enormous humanitarian contribution, his work was ignored, and he became ostracized from his colleagues and remained so until his death.

Although in the field of nutrition rather than infectious disease, the story of A. Kalokerinos, an Australian health officer who worked among the Australian aborigines in the 1960s and 1970s, is quite similar. When he first began his work Kalokerinos similarly became appalled by the nearly 50 percent infant mortality that was taking place. Noting signs of scurvy among some of the infants, and observing that they frequently died following immunizations, especially if ill with a viral illness, Kalokerinos began administering vitamin C supplements to the children, improving their diets, avoiding vaccines during viral illnesses (even if just a runny nose), and administering vitamin C injections during crises. Subsequently death rates dropped to three percent in his district.(1)

The Australian government awarded Kalokerinos a medal of merit for his work. Also, in 1989 his work gained academic validation with the publication of a 3-volume work, *Vitamin C*, by CAB Clemetson.(2) However, much after the experiences of Semmelweiss, the work of Kalokerinos has been largely overlooked or ignored by the medical profession. In my opinion this is tragic, as similar deaths among children are still taking place, although they are now in many instances being attributed to Shaken Baby Syndrome/Non-Accidental Injury (SBS/NAI).

In my 10+ years of experience with over 100 case reviews involving SBS/NAI areas, I have found record of only one case in which vitamin C blood level was tested, and even this was several weeks following hospital admission of the infant and therefore irrelevant. When the truth of this issue does become known, as it will be, I believe that vitamin C, administered orally, intramuscularly, or intravenously depending on the situation, will be found to play an indispensable protective role in the complications now being attributed to SBS/NAI.

While the recommended 30 mgs of vitamin C per day is generally adequate for a healthy infant, it may be rapidly consumed and totally inadequate when the infant is stressed or ill, as with viral or bacterial infections, or toxic chemical exposures. The common cold, for instance, has been shown to reduce vitamin C levels in the blood by 50 percent.(3) Vaccines contain numerous toxic adjuvants, (to be reviewed below) which create pro-inflammatory free radicals. All vaccine adjuvants are pro-oxidants that drain the body's supply of antioxidants including vitamin C.(4) Another risk factor may be the use of microwave ovens for heating infant formulas. Also, fruits and vegetables need to be reasonably fresh, as vitamin C content declines with their aging.

Elevated Blood Histamine as Cause of Capillary Fragility and Bleeding from Scurvy

Far from being uncommon, vitamin C deficiency still does occur in the Western World. When people attending a Health Maintenance Organization (HMO) clinic in Tempe, Arizona, were tested for plasma vitamin C, it was found to be depleted (between 0.2 and 0.5 mgs/100 ml) in 30 percent of subjects, and to be deficient (below 0.2 mgs/100 ml) in 6 percent.(5)

As reviewed by Clemetson, when the human plasma ascorbic acid level falls below 0.2 mg/ml, the whole blood histamine level is doubled or quadrupled.(6) Blood histamine is also increased by vaccines or toxoids, by stresses such as heat or cold, and by various drugs in guinea pigs.(7) Vitamin C has been shown to inactivate tetanus toxin (8) and diphtheria toxin.(9) 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*.(10) This process may result in subperiosteal hemorrhages, the latter resulting in callus-like bone swellings commonly misinterpreted as fractures, extensive spontaneous bruising, and subdural hemorrhages, which were included in early descriptions of classical scurvy.(11-12)

The Human Infant Brain: Uniquely Susceptible to Lipid Peroxidation

Although an infant's brain receives 15 percent of normal cardiac output, it utilizes nearly 25 percent of the body's oxygenation.(13) In addition to being a highly oxygenated organ, the vulnerability of the human brain to harmful peroxidation rests on the fact that it has by far the highest fat content of any organ of the body with membrane lipids constituting 60 percent of the solid matter.(14) In addition, both brain and retina contain a relatively high percentage of the omega-3 polyunsaturated fatty acid, docosahexaenoic acid (DHA),(15-21) which serves as a primary building block of the membranes of these structures. The DHA and other polyunsaturated fatty acids are high in energetics, but they are far more unstable and prone to pro-inflammatory peroxidation (rancidity) than saturated fats.(15-21)

By way of explanation, the term "lipid peroxidation" refers to free-radical generation from a series of chain reactions, which can be very damaging if the process is prolonged. "Free-radicals" in turn refer to atoms with unpaired electrons, which results in heightened instability and reactivity. The end result of abnormally prolonged lipid peroxidation may be abnormal brain inflammation and brain swelling.

In essence, the brain might be compared with highly inflammable dry grass or brush enclosed with elevated oxygen levels, needing only a spark to set off a conflagration

of inflammatory lipid peroxidation. In all likelihood, vaccine adjuvants provide this spark far more often than generally realized.

In addition, the infant's immature brain and nervous system tissues are going through an extended period of rapid growth and development, which also bring heightened vulnerability to cellular damage. As reported by R.I. Haynes *et al* (22)(2005)(*Journal of Comparative Neurology*), cerebral axons (lengthy extensions of brain cells) achieve approximately one-fourth of adult level from the 24th to the 34th weeks during pregnancy, with rapid axonal growth and elongation taking place between 21 weeks during pregnancy and 24 weeks following birth. Onset of myelin development (fatty coating that protects nerve cells and provides nerve impulse insulation), does not commence until 14 weeks following birth with gradual progression to adult-like staining at 32 to 52 weeks. *It is during this period of furious brain growth, limited myelin protection, and increased vulnerabilities that infants receive over 21 vaccines, according to today's recommended schedule.*

Hazards of Free Iron In and Around the Brain

Standard pediatric texts list prolonged labor, fetal malpresentation, and large babies as risk factors for significant brain hemorrhages. Tauscher *et al* reported an association between histologic chorioamnionitis (inflammation of the placenta) and brain hemorrhage in preterm infants.(23) Intracerebral hemorrhage occurs in up to 50 percent of very low-birth-weight infants and is thought to represent a substantial cause of morbidity and mortality in these infants.(24) Small subdural hemorrhages (SDH) are not uncommon in uncomplicated births and asymptomatic term newborns. Based on magnetic resonance imaging (MRI), Whitby *et al* (25)(2004) reported subdurals in 9 of 111 infants in 2004, all of which had resolved favorably when MRIs were repeated one month later.

V.J. Rooks *et al* (26)(2008) performed MRI scans on 101 term infants at 72 hours, 2 weeks, one month, and 3 months. *Forty-six had asymptomatic SDH within 72 hours of delivery.* All 46 had supratentorial SDH in the posterior cranium. Forty-three percent also had infratentorial SDH. Most SDH were < 3 mm in sizes, all of which were resolved within one month. Larger hematomas dissolved within 3 months.

Consequently, small hemorrhages are not uncommon even in uncomplicated childbirths, but little consideration has been given to the residual iron. As the red blood cells begin to lyse (break up) and release their iron following a hemorrhage, a process that takes place in two or three weeks, the iron is scavenged by white blood cells and carried into nearby tissues in the form of hemosiderin.(27)

Free-iron in and around the brain also may result when there are critical drops in levels of vitamin C following administration of vaccines, followed in turn by a precipitous rise in serum histamine bringing increased capillary fragility and leakage of blood into and around the brain.

It is known that iron overload in the liver, pancreas, and kidneys can be very destructive, a condition known as hemochromatosis. The concern here is that residual iron in and around the brain from an earlier brain hemorrhage, such as from birth trauma, may act as a lighted fuse that could ignite a firestorm of lipid peroxidation in the brain following vaccines.(28)

Vaccine Adjuvants and Their Role in Causing Prolonged Immune Responses to Vaccines and their Potentially Adverse Consequences

In what may be the most comprehensive review to date on the pathophysiology of adverse vaccine reactions, Russell Blaylock has compiled a mass of evidence that repeated stimulation of the systemic immune system results in intense reactions of microglial and astroglia cells, which serve as the brain's immune system, with each successive series of vaccinations. This is the result of *vaccine adjuvants* that are added for that purpose.(29-30)

In explanation, microglia and astrocytes are first-line-immunological responder cells located in the brain that 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 microglia and astrocytes are over-stimulated for prolonged periods, which vaccine adjuvants are designed to bring about, this extended activation can be very destructive to the brain.

Because of the critical dependence of the developing brain on a timed sequence of cytokine and excitatory amino acid fluctuations, according to Blaylock, sequential vaccinations can result in alterations of this critical process that will not only result in synaptic and dendritic loss, but abnormal (nerve) pathway development. *When microglia are excessively activated by vaccines, especially chronically, they secrete a number of inflammatory cytokines, free radicals, lipid peroxidation products, and the two excitotoxins, glutamate and quinolenic acid, which may become highly destructive when activated for prolonged periods.* (Emphasis added) This process was suggested as the principle mechanisms resulting in the pathological as well as clinical features of autism.(29)

Vaccine adjuvants 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, monosodium glutamate (MSG), Thimerosal (50 percent ethyl mercury, which is still in a number of vaccines)(31), and various antibiotics. Regarding mercury, even if it is not added as a preservative, it is commonly used in the manufacturing process, which leaves “traces” as residues. Even these trace amounts are potentially toxic because of the universally recognized principle of toxicology that combinations of toxins will increase toxicity exponentially; that is, two toxins will increase toxicity 10-fold, or three toxins increase toxicity 100-fold. In vaccines special attention should be given to the two toxic heavy metals, aluminum and mercury, each noted for its potential toxicity. The same principle applies in other classes of toxic chemicals.(32-34)

In view of these findings, R. Blaylock has referred to the inconsolable, high-pitched cry that commonly occurs following infant vaccinations as an “encephalitic cry.”

The Pourcyrus Study: The First of Its Kind, Presents a Unified Theory of Adverse Vaccine Reactions

It has long been known from animal studies that vaccines can cause brain inflammation,(35-37) which has now been confirmed in human infants in a study on primary immunization of 239 premature infants with gestational ages of less than 35 weeks by M. Pourcyrus *et al.* (38)(*Journal of Pediatrics*, 2007) The study was designed to determine the incidence of cardio-respiratory events and abnormal C-Reactive protein (CRP) elevations associated with administration of a single vaccine or multiple vaccines simultaneously at or about two months age. (CRP is a standard blood test indicator for body inflammation, which in the present study would represent brain inflammation.) CRP levels and cardio-respiratory manifestations 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 percent of infants administered single vaccines and in 85 percent of those given multiple vaccines, 43 percent of which reached abnormal levels. Overall, 16 percent of infants had vaccine-associated cardiorespiratory events with episodes of apnea (cessation of breathing) and bradycardia (slowing of pulse). It can be reasonably assumed that the cardio-respiratory events and CRP elevations primarily reflected brain inflammation and swelling following the vaccines. Most important for our present topic, intraventricular (brain) hemorrhages occurred in 17 percent of infants receiving single vaccines, with 24 percent incidence in those receiving multiple vaccines.

The first study of its kind, The Pourcyrus study provides evidence for a unified theory of adverse vaccine reactions:

- Brain inflammation, as indicated by elevations of C-Reactive proteins.
- Brain swelling (edema), as one of the cardinal manifestations of inflammation.
- Potentially lethal cardio-respiratory events (bradycardia & apnea).
- Intraventricular brain hemorrhages.

The study also raises a question: Why were the brain hemorrhages in the Pourcyrous study intraventricular rather than subdural? The answer is that the Pourcyrous study was performed on preterm infants, some born at less than 30 weeks term, in whom intraventricular hemorrhages are known to be characteristic. This may be due to the significant differences in the infant brain/skull interactions at these different stages of development. In preterm infants the skull would be highly flaccid, providing little if any resistance to a swollen (edematous) brain.

In term infants, in contrast, the inner surface of the skull presents a relatively firm surface, and when brain inflammation and edema takes place from vaccines,(35-37) it would require very little brain swelling for the outer surface of the brain to impact against the inner surface of the skull and, tourniquet-like, to cut off the passive outflow of blood in the subdural venous network. With cranial arterial blood coming in at much higher pressures, this would bring a precipitous rise in intracranial venous pressure, this in turn causing an extrusion of blood into the subdural spaces.

According to W. Squier and J. Mack,(39) most infant subdural hemorrhages take place as a result of blood seepage into the immature subdural membranes, which in infancy are made up of 10 to 15 layers of loosely arranged flake-like cells with fluid-filled spaces between the layers. These open spaces readily allow seepage of blood in between the subdural membranes.

As final pieces of evidence connecting the pro-inflammatory effects of vaccine adjuvants with antioxidant deficiencies, as the true cause of many subdural brain hemorrhages now being attributed to inflicted child abuse, in a cross-sectional analysis of the third National Health and Nutrition Examination Survey data, Ford *et al* (40) reported that C-Reactive Protein concentrations were inversely and significantly associated with concentrations of retinol, retinyl esters, vitamin C, alpha carotene, beta carotene, lycopene, cryptoxanthin, lutein or zeaxanthin, and selenium C after adjustment for age, gender, race-ethnicity, education, body mass index (BMI), leisure-time physical activity, and aspirin use. Furthermore, Wannamethee *et al*(41) reported a significant inverse association of dietary and plasma vitamin C and fruit and vegetable intakes with biomarkers of inflammation in a cross-sectional study of 3258 men aged 60-69 years who had no history of cardiovascular disease or diabetes. Wannamethee *et al* concluded that vitamin C has anti-inflammatory effects and is associated with an attenuation of endothelial dysfunction.

Conclusions

The human infant brain has heightened vulnerability to inflammation due to its relatively high oxygen levels and high fat content, a large portion of which consists of polyunsaturated fatty acids, which are high in energetics but relatively unstable and susceptible to damaging peroxidation.

The Pourcyrous study, the first of its kind, provides a unified theory of adverse vaccine reactions with documented brain inflammation, as indicated by increases levels of C-Reactive protein in 70 percent of infants administered a single vaccine and 85 percent of those administered multiple vaccines; brain swelling (edema) would follow as one of the cardinal markers of inflammation; the brain swelling would immediately impact against the inner surface of the skull, cutting off (tourniquet-like) the passively outflowing of blood through the subdural venous network, this in turn resulting in a precipitous rise in intravenous venous pressure, the true cause of subdural hemorrhages in many of these cases, in my opinion.

Very sadly, the potential protective role of antioxidants in these situations is being largely overlooked and ignored.

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