Empirical Data Confirm Autism Symptoms Related to Aluminum and Acetaminophen Exposure

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Stephanie Seneff, Robert M. Davidson and Jingjing Liu
This article is 27 pages long and has 121 references

BACKGROUND FROM DAN MURPHY:
FROM Salway, Metabolism at a Glance, Blackwell, 2004:
Glutathione is a tripeptide that is formed from glutamate, cysteine and glycine. Glutathione protects cells against oxidative damage. Glutathione conjugates with toxins and drug metabolites to form water-soluble products for excretion.

FROM Dan, an over simplification:
Vaccine producers have a problem. Using a weakened live virus increases risk of giving the person the disease. Using a completely dead virus does not work very well unless the vaccine is coupled with something that ramps up the immunological response, an adjuvant, such as mercury or aluminum. The problem is that these adjuvants, like mercury or aluminum are extremely toxic to the nervous system, especially the developing nervous system of a child. This is further complicated by the fact that the blood-brain barrier is not fully complete until after many such vaccines are administered (around age 2 or so).

KEY POINTS FROM THIS ARTICLE:

1) “The Vaccine Adverse Event Reporting System (VAERS) is a surveillance system implemented by the U.S. government, which allows doctors and/or patients to report any adverse reactions observed in association with vaccines.”

2) Autism (ASD) is a condition characterized by impaired cognitive and social skills, associated with compromised immune function. The incidence is alarmingly on the rise, and environmental factors are increasingly suspected to play a role.

3) This paper investigates word frequency patterns in the U.S. Centers for Disease Control (CDC) VAERS database. Results provide strong evidence supporting a link between autism and the aluminum in vaccines. A literature review showing toxicity of aluminum in human physiology offers further support. [Key Point]

4) Mentions of autism in VAERS increased steadily at the end of the last century, during a period when mercury was being phased out, while aluminum adjuvant burden was being increased. [Key Point]

5) After 2000, vaccines have been associated with increased cellulitis, seizure, depression, fatigue, pain and death, which are also significantly associated with aluminum-containing vaccines.
6) These authors propose that children with the autism diagnosis are especially vulnerable to toxic metals such as aluminum and mercury due to insufficient serum sulfate and glutathione. [Key Point]

7) A strong correlation between autism and the MMR (Measles, Mumps, Rubella) vaccine is also observed, which may be partially explained via an increased sensitivity to acetaminophen given to control fever. [Key Point]

8) “While it has been suggested that the observed increase in [Autism] rates may be due mainly to a change in diagnosis criteria, the actual criteria have changed very little from 1943.”

9) “The fact that ASD rates have been rapidly increasing over the last two decades strongly points to an environmental component.” [Key Point]

10) “The ASD community has maintained a long-standing conviction that vaccination plays a causative role in ASD, an idea that has been vehemently denied by the vaccine industry.”

11) “A study published in 2011 has confirmed a positive correlation between the proportion of children who received vaccinations in each state over the interval from 2001 to 2007 and the incidence of autism or speech and language impairment. For each 1% increase in vaccination rate, 680 additional children were diagnosed with autism or speech delay.” [Key Point]

12) In 2012, “we proposed that a causative factor in autism is an inadequate supply of cholesterol sulfate, both in utero and postnatally. Cholesterol sulfate synthesis in the skin is catalyzed by sun exposure. We hypothesized that autism may be induced by a combination of inadequate dietary sulfur and insufficient sun exposure to the skin, for both the mother and the child.” [Key Point]

13) In autism there is a consistent deficiency in glutathione, an important sulfur-based antioxidant that plays a role in detoxifying aluminum. [Key Point]

14) Cysteine is the rate-limiting amino acid in the synthesis of glutathione and sulfate.

15) ASD individuals have reduced levels of glutathione, cysteine, and sulfate, impeding the detoxification and excretion of mercury.

16) “Glutathione and sulfate are essential for the detoxification of xenobiotics and commonly administered drugs like acetaminophen in the liver.” [Glutathione attaches to toxins so that the body can eliminate them. Acetaminophen}
{like in Tylenol} is a toxin and depletes body stores of glutathione during detoxification, leaving inadequate levels of glutathione to detoxify toxins metals, like mercury and/or aluminum, etc. in vaccines]

17) Cholesterol sulfate deficiency provides an explanation for the link between autism, acetaminophen, asthma, and eczema.

18) “Many children with autism have a low amount of serum glutathione.”
19) “Increased use of antibiotics leads to an alteration in gut flora which impairs the ability to detoxify toxic metals like mercury.”

20) Vitamin D deficiency has been hypothesized to be a risk factor for autism. “The over-zealous application of sunscreen is strongly implicated in autism, not only because sunscreen interferes with the production of vitamin D3 and cholesterol sulfate but also because it often contains aluminum, particularly the high Sun Protection Factor (SPF) sunblock products.” [Wow]

21) “Aluminum, due in part to its +3 ionic charge, is highly toxic to biological systems.” [Key Point] “There are no known life forms that utilize aluminum in any biological systems.”

22) Autistic children accumulate aluminum that “would almost certainly interfere with neuron function” through these mechanisms:
   A)) Absorption through the skin because of poorly developed epidermis barrier.
   B)) As a consequence of their serum sulfate deficiency that leads to an impaired ability to dispose of aluminum.
   C)) Due to their increased permeability of the blood brain barrier.

23) “It has recently been proposed that aluminum, commonly used in vaccines as an adjuvant, may be the most significant factor in adverse reactions, and, furthermore, that the nervous system is especially vulnerable to aluminum toxicity.”

24) “Vaccine clinical trials often include aluminum in the placebo, at the same or greater concentrations than the amount found in the vaccine.” [This is crazy]

25) A highly informative study [Aluminum and Alzheimer's disease: after a century of controversy, is there a plausible link? Journal of Alzheimer’s Disease: 2011] reviews the relationship between aluminum toxicity and Alzheimer’s disease. It also discusses issues the aluminum burden in children's vaccines. “It was pointed out that children today receive a cumulative aluminum burden from vaccines that may exceed the FDA limit by a factor of 50.” [Wow!]

26) “The vaccine industry has a difficult task in designing vaccines that are both safe and effective. The use of weakened but live pathogens can lead to vaccine-induced disease in children with an impaired immune system, yet debris from dead pathogens may not always cause a sufficient reaction” to induce the required for protection against future exposure. Therefore the vaccine industry increases
immunologic success in using vaccines with dead pathogens by adding adjuvants such as [very toxic] aluminum.

27) Also, adding aluminum or mercury to vaccines increases the stability of the antigen for long-term storage.

28) Glass contains aluminum oxide. When mercury in vaccines began to be phased out in the late 1990’s, they began storing them in glass vials, yet aluminum can be leached out of the glass vial and the rubber stopper during storage.

29) “Aluminum is one of the most common elements on Earth, yet no biological system has yet found a use for it.” Its +3 charge makes it extremely destructive in water-based biological systems.

30) Aluminum is a known neurotoxin and there is no safe level. “The central nervous system is particularly susceptible to the deleterious effects of aluminum.”

31) Exposure to low concentrations of aluminum sulfate may be associated with Alzheimer’s disease. [This is the stuff municipalities put in water to filter it; aluminum sulfate causes debris to clump for easy removal, but aluminum sulfate residuals remain. Aluminum sulfate is often called alum.]

32) Aluminum exposure induces significant reactive oxygen species (ROS), even more than mercury (7X more) or lead (3X more). [Wow]

33) Aluminum damages the mitochondria, causing impaired ATP synthesis and excess production of reactive oxygen species.

34) “Mercury [and aluminum] has a great predilection for bonding to reduced sulfur atoms, especially those in thiol-containing molecules such as glutathione, cysteine, homocysteine, and albumin.”

35) Methylmercury is eliminated by binding to bio-organic sulfates. “Newborns are much more susceptible to mercury toxicity than adults.”

36) Impaired disposal of mercury and aluminum is due to insufficient glutathione.

37) Mercury builds up to toxic levels and further reduces sulfate bioavailability in the child with autism.

38) The measles, mumps, and rubella (MMR) vaccine may be contributing to the increased prevalence of autism. “Unlike many vaccines, MMR contains neither thimerosal nor aluminum. MMR is often administered simultaneously with DTaP, an aluminum-containing vaccine. The synergistic and cumulative effects of multiple vaccines would likely lead to nonlinear enhancement of adverse events.”
39) In the U.S., thimerosal still appears in several vaccinations given to young children, including Hep-B and HiB Titer. “Aluminum is present in several of the vaccines, for example, Hep-B, PREVNAR, all of the DTaP formulations, and H1N1 flu vaccine multidose vials.”

40) Recent published studies “seriously addresses the question of the safety of aluminum adjuvants in vaccines, pointing out the neurotoxicity of aluminum.”

41) There is a three-fold increased risk to autism “associated with neonatal administration of Hepatitis B (Hep-B) vaccine prior to 1999, compared with either no vaccination or a delay until after the first month of age. Notably, Hep-B contains both aluminum and mercury.”

42) “Several researchers have reported increased frequencies of either sudden death or other health crises such as anaphylaxis or cardiorespiratory problems in association with vaccines.”

43) Adults given the Hepatitis B vaccine show a significant number of adverse reactions.

44) Adult’s show profound adverse reaction to multiple vaccinations containing aluminum, including debilitating muscle pain and weakness associated with chronic fatigue syndrome and myofascitis.

45) MMR is significantly more likely to be associated with autism. MMR contains neither aluminum nor mercury. “An interesting theory relating the MMR vaccine to ASD involves a proposed toxic reaction to the acetaminophen (paracetamol) administered to control fever following vaccination.” [Key Point]

46) Acetaminophen may mediate oxidative stress and neurotoxicity in autism.

47) “An impaired ability to metabolize toxic substances via a sulfation pathway contributes to autism. If the MMR vaccine is administered simultaneously with DTaP, an aluminum-containing vaccine (as is often the case), then the acetaminophen would likely interfere with the child’s ability to dispose of the aluminum.” [Key Point]

48) “Hep-B is administered usually within 24 hours of birth, and most definitely in the first two months of life, and HiB Titer is administered three or four times before the age of 15 months. These two vaccinations would thus cause an accumulation of mercury and aluminum along with a depletion of the bioavailability of sulfate prior to the MMR vaccine in the vulnerable child, leaving them more susceptible to an infection arising from the live virus administered in MMR, and a subsequent dose of Tylenol (acetaminophen) to curb fever.”

49) “In the U.S., aluminum was allegedly phased in at the same time that mercury was phased out.” [Key Point]
50) “If the current CDC immunization schedule is followed, babies are injected with nearly 5 mg of aluminum by 18 months of age.”

51) Symptoms associated with aluminum-containing vaccines include: fatigue, seizure, blister, cellulitis, pain, swelling, injection site macule, insomnia, injection site reaction, infection, depression, and uveitis.

52) The increased sensitivity to aluminum in the population is possibly due to a “synergistic effect of cumulative exposure to multiple [vaccine] toxins.”

53) When MMR fever is treated with acetaminophen, it becomes toxic to the brain of the child predisposed toward autism because of their inability to dispose of it.

54) “Acetaminophen would also deplete sulfate needed to detoxify aluminum in any concurrent aluminum-containing vaccine such as DTaP.”

55) “In 1991, the Advisory Committee on Immunization Practices (ACIP) of the Centers for Disease Control (CDC) recommended that all infants be injected with the first dose of hepatitis B vaccine at birth. Since Hep-B contains both mercury and aluminum, and since it is administered at birth, it is likely to be a major factor contributing to the steady rise in autism-related events in the latter half of the 1990's. The practice of requiring Hep-B administration at birth is likely to be extremely dangerous to children who are born with a sulfur deficiency.”

56) “Aluminum in these vaccines administered to young children may be even more toxic than the mercury.”

57) The autistic child cannot adequately detoxify acetaminophen.

58) “ASD is a condition characterized by a serum deficiency in sulfur metabolites, particularly the sulfate anion, which results in an inability to safely dispose of mercury, aluminum, and acetaminophen.” [Key Point]

59) “While the autism community has focused on the mercury in thimerosal as the main culprit in vaccines, our studies with the VAERS database have identified aluminum and acetaminophen as being likely even more damaging than mercury.” “Because of the sulfur deficiencies, aluminum, mercury and acetaminophen likely accumulate in the autistic brain, leading to further damage.” [Key Point]

60) “We hypothesize that this unanticipated consequence is due to simultaneous increases in the aluminum content, attributed to an increased number of required vaccines, intentional addition of aluminum to achieve an adjuvant effect, as well as the likely further accumulation of aluminum as a consequence of leaching, given the new practice of storage in individual glass vials with rubber stoppers.”

61) Oral antibiotics dramatically inhibit mercury excretion to 10% of normal levels. [Important]
62) “Further aluminum exposure comes from aluminum in skin products such as high SPF sunscreen, particularly for the child whose barrier function is defective due to inadequate cholesterol sulfate and filaggrin in the epidermis. Other potential sources of aluminum are aluminum flocking agents in municipal water supplies, aluminum leaching from aluminum baby formula cans, and aluminum in the human milk supply to the breastfeeding infant, absorbed by the mother from sunscreen, antiperspirants, antacid medications, cooking utensils, etc.”

63) “The high fever associated with a reaction to MMR led to the administration of acetaminophen, whose safe disposal, like that of aluminum, depends on an adequate serum supply of bio-sulfates. The frequent presence of concurrent aluminum-containing vaccines would contribute synergistically to toxicity.”

64) “We hypothesize that the fever associated with MMR results in the administration of acetaminophen, which, in conjunction with the intense immune response to live viruses, becomes toxic to the vulnerable child.”

65) “Both women of childbearing age and children should be encouraged to consume foods that are rich in sulfur and to spend considerable time outdoors without sunscreen on sunny days. It might be prudent to implement a screening test for sulfate and/or glutathione concentration in the blood prior to administration of an aluminum-containing vaccine, and to waive the vaccine or consider a non-aluminum-containing alternative if sulfate or glutathione levels are insufficient.”

66) “The practice of including aluminum in the so-called ‘placebo’ in vaccine trials should be abolished, so that the effects of aluminum adjuvant can be formally measured in a premarket phase.”

67) “Based upon our statistical research of the VAERS database, we would encourage the vaccine industry to consider omitting aluminum adjuvant doping of all vaccines for both children and adults.”

68) “Neuronal damage due to aluminum penetration into the nervous system may be a significant factor in autism. The fact that mentions of autism rose steadily concomitant with significant increases in the aluminum burden in vaccines, is highly suggestive.”

69) Autism may be linked to other environmental toxins, like herbicides or pesticides, or aluminum in other products such as antiperspirants and antacids.

70) We “observed a strong correlation between the MMR vaccine and autism, which we suggest could be explained by the effects of acetaminophen.”

71) “We propose that simple corrective measures such as increased sunlight exposure and decreased use of sunscreen may help protect a child from a severe reaction to aluminum-containing vaccines, but we also feel that the vaccine industry should find a way to reduce or even eliminate the aluminum content in vaccines.”