

Evidence that Increased Acetaminophen use in Genetically Vulnerable Children Appears to be a Major Cause of the Epidemics of Autism, Attention Deficit with Hyperactivity, and Asthma

**Journal of Restorative Medicine
2013**

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This article has 84 references

KEY POINTS FROM THIS ARTICLE:

- 1) "The marked increase in the rate of autism, asthma, and attention deficit with hyperactivity throughout much of the world may be largely caused by the marked increase in the use of acetaminophen in genetically and/or metabolically susceptible children, and the use of acetaminophen by pregnant women."
- 2) "The marked increases in the incidences of autism, asthma, and attention deficit disorder in the United States coincide with the replacement of aspirin by acetaminophen in the 1980s."
- 3) The increased incidence of autism is not due to more effective diagnosis.
- 4) "A wide range of environmental factors has been associated with increased autism incidence, including pesticides, chemicals, phthalates, polychlorinated biphenyls, solvents, heavy metals or other pollutants."
- 5) The percentage of the population with autism in the US is 298 times higher than in Cuba. Yet, vaccines are compulsory in Cuba and Cuba has one of the most highly vaccinated populations in the world.
- 6) The association of autism with vaccines is very controversial. However, "a topic much less frequently addressed in association with autism is the therapies that are given *in conjunction with vaccines*. The practice of prescribing acetaminophen as a prophylactic fever preventative is widespread in the United States but is very uncommon in Cuba."
- 7) "In the United States, some physicians have started to advise parents to begin to take acetaminophen prophylactically daily 5 days prior to childhood vaccines; some children on such prophylactic treatment had an autistic regression that began prior to vaccination." The prophylactic use of acetaminophen for days before vaccination and for multiple vaccinations would likely be greatly toxic.
- 8) In Cuba, acetaminophen is not approved as an over-the-counter (OCT) product. It has been OCT in the US since 1959.
- 9) In Cuba, prescription acetaminophen for vaccine fever is very uncommon.

- 10) The suppression of vaccine-induced fever by antipyretic drugs, especially acetaminophen, "may have caused the autism epidemic."
- 11) Acetaminophen has been taken at least once by >85% of children under the age of 7.5 years in the UK.
- 12) In the US, nearly 80% of the population regularly takes acetaminophen.
- 13) In the US, more than 35% of pregnant women take acetaminophen.
- 14) Besides Tylenol, "the pain reliever hospitals use most," acetaminophen is found in >600 products including pain relief, cold remedies, cough syrups, and sleep aids.
- 15) Acetaminophen use appears to be linked to both autism and asthma; both disease incidences rise and fall with the use of acetaminophen:
 1980 rise with aspirin-Reye's syndrome warnings
 1982 fall with cyanide-laced acetaminophen scare
 1986 fall with cyanide-laced acetaminophen scare
- 16) Surveys show that children with autism had more adverse reactions to the MMR vaccine and are more likely to have been given acetaminophen than ibuprofen for those reactions.
- 17) The incidence of attention deficit with hyperactivity (ADHD) has also risen dramatically, also paralleling the use of acetaminophen. One study showed a 381% increase between 1989 to 2000.
- 18) Acetaminophen has a long history of serious side effects. "A PubMed search of the scientific literature indicated the presence of 2685 articles regarding acetaminophen toxicity.":
- Neurotoxic effects on brain neurons
 - "Maternal use during pregnancy is associated with teratogenic defects in testicular function and gastrointestinal tract."
 - Oxidative damage to proteins, nucleic acids, amino acids, and lipids
 - Causes increased mitochondrial and cellular damage and death
 - Severe immune abnormalities and immune response depression
 - Depletion of glutathione by acetaminophen causes severe metabolic acidosis
 - "The leading cause of liver failure in the United States."
 - 56,000 emergency room visits in the US per year
 - Increased rates of certain blood cancers
 - Prenatally or postnatally increased incidence of asthma
- 19) "Administering acetaminophen is likely to be much more toxic under fasting conditions, such as when a child has an illness that decreases appetite. Children who are sick and fasting and are administered vaccines with prophylactic acetaminophen are much more likely to suffer acetaminophen toxicity."

- 20) Glutathione (GSH) is composed of the amino acids glutamate, cysteine and glycine.
- 21) Glutathione is a "very important antioxidant, participates in detoxification of certain drugs, toxic environmental chemicals, protects against lipid peroxidation and electrophiles, has antiviral effects, is involved in the biosynthesis of DNA, proteins, and leukotrienes, cell proliferation, apoptosis, neurotransmission, and neuromodulation."
- 22) "The depletion of GSH diminishes the ability of the body to detoxify toxic chemicals."
- 23) "As of 2012, there were 170 articles that indicated an association between toxic chemical exposure and autism."
- 24) Acetaminophen toxicity is implicated in a wide range of disorders including cancer, birth defects, asthma, allergies, death of cortical neurons (especially in the cerebellum), and brain toxicity.
- 25) Between 1980 and 2003, the prevalence of pediatric asthma in the US and throughout the world nearly doubled. Frequent use of acetaminophen would deplete levels of GSH increasing oxidative stress and inflammation.
- 26) Acetaminophen decreases GSH levels primarily in the in the liver, kidneys, and lungs.
- 27) Depleting GSH in brain microglia and astroglia induces a neuroinflammatory response that results in both significant cytokine release and the release of material that is toxic to neurons.
- 28) "The beginning of the rapid increase in autism in around 1980 coincides with the rapid increase in asthma, both of which coincide with the rapid increase in the use of acetaminophen following the Reye's syndrome scare over a possible association with aspirin."
- 29) Glutathione is involved in the removal of toxic levels of mercury. First baby haircuts show hair levels of mercury is lowest in children with the most severe autistic symptoms. This suggests that normal children have higher levels of hair mercury as a detoxification mechanism. Autistic children have low glutathione, poor mercury detoxification, and thus low levels of heir mercury. The mercury is being kept in their bodies rather than being removed (as marked by hair growth levels).
- 30) "Acetaminophen is commonly used prophylactically to prevent fever in infants and toddlers who receive the bulk of their vaccines in the first 2 years of life."
- 31) Acetaminophen was introduced in 1955 and earns Johnson & Johnson an estimated US \$1.3 billion/year.

32) "Respected physicians consider that the connection of acetaminophen with asthma has been proven beyond a reasonable doubt." Dr. McBride, Professor of Pediatrics at Department of Pediatrics, Northeast Ohio Medical University states "I will recommend avoidance of acetaminophen by all children with asthma or those at risk for asthma and will work to make patients, parents, and primary care providers aware of the possibility that acetaminophen is detrimental to children with asthma."

COMMENTS FROM DAN MURPHY

We have reviewed 3 prior studies linking autism to the consumption of acetaminophen:

- Article Review 10-12: **Theoretical aspects of autism: Causes—A review**; Journal of Immunotoxicology; January 2011.
- Article Review 38-13: **Empirical Data Confirm Autism Symptoms Related to Aluminum and Acetaminophen Exposure**; Entropy; November 7, 2012.
- Article Review 16-14: **Can autism be triggered by acetaminophen activation of the endocannabinoid system?**; Acta Neurobiologiae Experimentalis; 2010.

As I was working on this Article Review, the entire full-page back cover of the current issue (10/28/13) of the political magazine *TIME* has an advertisement for the drug *Tylenol*, which contains acetaminophen. It states:

"Just what the doctor ordered."

"TYLENOL, the #1 doctor-recommended brand of pain reliever for over 20 years."

Also, an entire full-page (page A16) advertisement for *Tylenol* is found in the 10/28/13 issue of the WALL STREET JOURNAL. It shows a mother playing at the edge of a bed with her toddler child, and states:

"WE EASED YOUR BACK PAIN"

"You made it the best play date ever"

"TYLENOL"

"TYLENOL gives you strong pain relief without irritating your stomach the way Aleve or even Advil can."

Based upon these studies and on the treasure trove of additional references found in their bibliographies, I would suggest that pregnant mothers and children not be given products that contain acetaminophen, ever.