

# Toxic Environment, Auto-immunity and the cause of Autism

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In many ways autism can be seen as an environmental marker, the metaphorical 'canary in the coalmine', for the damage we humans are causing to ourselves and our planet through our pollution and manipulation of our natural environment and the unnatural and stressful lives that we are forced to lead in order to fit in to the 'modern world'.

Autism is a wake-up call to the world. In many ways it is the tip of an environmental illness iceberg. Now at 1% or more of the childhood population in many countries, the statistics hide the true scale of environmental disease below the surface – childhood obesity, asthma, diabetes, allergy, environmental and chemical sensitivities, childhood cancer<sup>1</sup>, auto-immune disease and the growing numbers of adults with mental health problems, chronic fatigue and fibromyalgia, and other diseases which point to a general breakdown in health and resilience in the human population.

Toxicity causes stress. Our immune system, whose original function was to protect the body from foreign invaders such as microbes and parasites, is now in a state of fast-track evolution as it attempts to find a way to respond to the continual increase in toxins and stressors in our environment. The detoxification pathways are overloaded, compromised by enzyme deficiencies and the immunogenetic changes that result from vaccination and toxicity. Even as we are developing in the womb, we may be exposed to countless chemical pollutants as they circulate through the mother's bloodstream, causing distress and immune activation even in the developing foetus.<sup>2</sup>

This toxic overload is now manifesting as social, psychological and behavioral as well as physical conditions. As we become totally overloaded, the body defences kick in at a higher level, shutting down social functioning to protect our vital functions. That can be true for any of us – we withdraw from the fabric of social life when we are overwhelmed. We are constantly told that we need to chill out, detoxify, recover our vitality and well-being, but in the stressed-out world we now live in, ‘shutting-down’ becomes a chronic condition for more and more people.

### **Chronic Stress Response**

Autism can be seen as a monumental chronic stress response to environmental overload in the human population, which is being passed on as an immunogenetic modulation, or evolution of the ourselves as much as we can from the daily influx of toxins from the environment, and from substances that are unnatural and harmful. We need to see that we are getting all of the nutrients our body needs to build its defences. Then we need to see if there are substances that our immune system is responding to in an unusual way. immune system.<sup>3</sup> Clearly our first response must be to protect

### **An immune response to pigment?**

In 1994, Sandra started to remove a pigment called lutein from her diet, because she realised that all the foods that made her ill contained this pigment or similar carotenes - oranges, spinach, egg yolk among others. In a moment of inspiration, she felt that the same diet could help her adopted daughter, Sara, who suffered from autism and epilepsy. The results were astounding. Within 2 weeks, most of Sara’s autistic behaviours were gone. She began to walk normally, engage in normal interactive conversations, her oppositional defiant behaviours stopped. The transformation seemed miraculous. In an attempt to see if these results could be repeated, she shared her information with parents over the internet. Soon, hundreds more children were

showing signs of recovery, many achieving the same level of improvement as Sara.

As time went on, the idea that autists can recover using diet spread over the internet. However, it was the gluten-free casein-free (GFCF) diet that became most well-known, as news of Sara's recovery faded. Use of mega-vitamins, enzymes and chelation became popular, and are still widely promoted on the internet. However these methods only have occasional or limited success, and parents quickly become frustrated by the lack of progress.

So, does the immune system of the autist have a problem with lutein and to a lesser extent with other pigments that are related to it, such as beta-cryptoxanthine and beta-carotene? The reaction we experience and have it described by others on the spectrum is not obvious to the observer, or the autists themselves in most cases. Only when lutein is removed for a period of time, and then re-introduced, or when the removal of gluten and casein reduces the opiation effect of the morphine-like substances that Dr. Kalle Reichelt<sup>4</sup> discovered in the blood of autistic children, do we begin to see the scale of the underlying immune reaction.

Many parents we talked to describe the battles they went through to get their autistic children to eat their 'veggies'. Many autists avoid colored fruits and vegetables altogether, saying they make them 'feel yucky.' Many who went gluten and casein free describe the horrible reactions they witnessed to colored fruits and vegetables within a few weeks of starting the GFCF diet. This phenomenon became known as the phenol problem, and a link was made to the discovery by Dr. Rosemary Waring, that many autists have a PST-P (Phenol-Sulphur Transferase) enzyme deficiency<sup>5</sup>, and to the work of Dr. Feingold<sup>6</sup> who saw improvements in ADHD children when they removed food dyes and salicylates (or phenols) from their diets.

Dr. Feingold agrees with our hypothesis that the reaction is '*an immunological - not an allergic - response.*'<sup>6</sup> This is a subtle but important distinction. Firstly, it means that it will not be

detectable by normal allergy panel methods. Secondly, and more importantly, an immune system response occurs when the immune system recognises a non-self pathogen and unleashes a multi-system response to dealing with it, as it does with a flu virus or other pathogen. A comparison to Chronic Fatigue Syndrome has been noted in the past, and that is not surprising – a virus-like illness that won't go away could also be caused by a substance the body sees as a 'pathogen' and is in foods eaten regularly.

Lutein is known as a pigment that protects the eyes, yet only a tiny amount is found in the macular area known as the 'yellow spot', and it is likely that it is converted from zeaxanthine, so it is unlikely that it is essential in the human diet. We have suggested that the autists' immune system is removing lutein from their eyes, causing the unusual sideways gaze and other vision problems seen in autism.<sup>7</sup>

Certainly the idea that an immune response to colored fruits and vegetables is responsible for autistic problems has not gone down well. There has only been anecdotal evidence for it, and no trials have ever been conducted. It does not seem to make sense. However, our results suggest to us that the pigment issue is more central to the autism phenomenon than simply an association to a phenol problem caused by a PST-P deficiency. The results have been too profound to be simply dismissed as a reduction in phenol overload, as we can see in these reports:

*'Jonathan's eyes went from cloudy to very clear and sparkly. We have seen no adverse responses to food since we started. His speech is much better. Every therapist is thrilled, because his ABA sessions are going so well. We took him for his 6 month standard evaluation at University of Iowa Hospital this past week. The Head of Pediatric Psychology said that Jonathan has caught up in all deficit areas. More importantly, he said he saw NO AUTISTIC SYMPTOMOLOGY whatsoever during the testing. Jonathan (4 years and 3 months) was outgoing, charming,*

*talkative, focused and cooperative for over two hours.' (Parent's report)*

*'Within 4 weeks I noted significant changes in Charlie's response level and behavior during music therapy sessions as demonstrated by increased eye-contact, attention span, attention to task, spontaneous speech and language usage, motor skills, social interaction, and compliant behavior. Decreased mood swings were also noted. Charlie's ability to understand and follow directions with minimal verbal and/or physical prompt improved significantly.'* (Music Therapist)

*'Stephen no longer has the chronic abdominal pain; he sleeps through the night; stools no longer loose; he is a happy affectionate child and has lost his sensory defensiveness to people, touch, lights, commotion, as opposed to constant screaming. Able to go to new places, shows curiosity and exploration, wants to interact with people, likes to be held and will seek comfort when hurt, instead of not noticing when he gashed his head open. Within 2 months of diet intervention, he has developed gross motor skills to nearly age appropriate. Eyes changed color, eczema patch going away, skin good color, rear not broken down. He is a totally different child. His Neurologist is surprised, but also surprised that Stephen's sister Sara (ADHD) is off her 100 mg Ritalin with no ill effects.'* (parent report).

Interestingly, a client with Hashimoto syndrome (an autoimmune condition of the thyroid) and Asperger syndrome saw recovery of Hashimoto's as well as improvement in Asperger's:

*'I just wanted to give you an update on my progress with the lutein-free diet. I had my thyroid antibodies tested this past weekend and just got the amazing results--they are now*

*negative! I'm so excited by this and had to gloat to the nurse just a little because my Dr. had been hesitant to test me again stating that once levels are elevated, they will remain so . . . I should also mention that I've seen great improvement in my ADD/Asperger symptoms as well-- greater ease in eye contact, feeling more present and alert, more patience, and a much more normal ability to shift my focus. As well, my constipation is a thing of the past. I can't tell you how pleased I am with all these exciting results. I will happily continue my lutein-way of life!' (Client testimony)*

An interesting side-note to this, is that lutein was first identified as a pigment associated with transthyretin<sup>8</sup> – a protein responsible for distributing thyroid hormone throughout the body.

So all-in-all, we can see that autism is more than just a group of symptoms caused by toxic overload. There is something specific to autism, and we believe it to be an immune system error or choice, that sees lutein as a non-self pathogen. How or why that came about is unclear, but it is likely that by sensitizing itself to this small chemical structure, the immune system was altered from one that is primarily concerned with biological pathogens to one that is primarily concerned with toxic chemicals as it's greatest threat. That would be an evolutionary step that can be understood in the context of a species faced with an unprecedented rise in toxic chemicals in it's environment, as well as a response to the practice of vaccination that combines toxins with virus material and injects it into infants.

By removing the primary trigger, we see an immune system calming down, and able to respond in a more normal way, restoring balance to the digestive metabolism, removing heavy metal toxins and candida yeast, and a child that wakes up as if from a long illness and begins to interact with it's environment

again, in a more natural way, in a learning and communicating way, and in a way that begins a long road to recovery.

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