Written Public Comments

IACC Full Committee Meeting

October 22, 2010

List of Written Public Comments

Marian D

August 16, 2010

Subject: For your information (FYI): Autism + autoimmunity

Hi -

My 22 year-old autistic son complained, as he has often before, about his "sore bones" -- mostly in his hands.

In conversations with others it has come up that - - although you don't usually think of it with a young person, [PII redacted] might be suffering from some kind of "arthritis."

I AM A CELIAC -- that may or may not be relevant.

Here is an article that may be of interest and offer some insight (?) --

Moose Offer Trail of Clues to Causes of Arthritis

By PAM BELLUCK
Published: August 16, 2010

In the 100 years since the first moose swam into Lake Superior and set up shop on an island, they have mostly minded their moosely business, munching balsam fir and trying to evade hungry gray wolves.

A male moose on Isle Royale in February.

But now the moose of Isle Royale have something to say — well, their bones do. Many of the moose, it turns out, have arthritis. And scientists believe their condition's origin can help explain human osteoarthritis — by far the most common type of arthritis, affecting one of every seven adults 25 and older and becoming increasingly prevalent.

The arthritic Bullwinkles got that way because of poor nutrition early in life, an extraordinary 50-year research project has discovered. That could mean, scientists say, that some people's arthritis can be linked in part to nutritional deficits, in the womb and possibly throughout childhood.

The moose conclusion bolsters a small but growing body of research connecting early development to chronic conditions like osteoarthritis, which currently affects 27 million Americans, up from 21 million in 1990.

Osteoarthritis's exact cause remains unknown, but it is generally thought to stem from aging and wear and tear on joints, exacerbated for some by genes. Overweight or obese people have greater arthritis risk, usually attributed to the load their joints carry, and the number of cases is increasing as people live longer and weigh more.

But the moose work, along with some human research, suggests arthritis's origins are more complex, probably influenced by early exposures to nutrients and other factors while our bodies are developing. Even obesity's link to arthritis probably goes beyond extra pounds, experts say, to include the impact on the body of eating the wrong things.

Nutrients, experts say, might influence composition or shape of bones, joints or cartilage. Nutrition might also affect hormones, the likelihood of later inflammation or oxidative stress, even how a genetic predisposition for arthritis is expressed or suppressed.

"It makes perfect sense," said Dr. Joanne Jordan, director of the Thurston Arthritis Research Center at the University of North Carolina." Osteoarthritis starts way before the person knows it, way before their knee hurts or their hand hurts. It's very clear that we're going to have to start looking back" at "things in the early life course."

Such research could lead to nutritional steps people can take to protect against osteoarthritis, a condition that is often painful or debilitating, and according to federal data, costs billions of dollars annually in knee and hip replacements alone.

"It would be helpful to know if we want to make sure pregnant moms are taking certain vitamins or if you need to supplement with such and such nutrition," said Dr. David Felson, an arthritis expert at Boston University School of Medicine. "The moose guy is right in that we probably should study weight or some other nutritional factor almost through adolescence when the bones or joints have stopped forming."

The "moose guy" is Rolf Peterson, a Michigan Technological University scientist on the Isle Royale project, which began in 1958 and is reportedly the longest-running predator-prey study.

For half the year, Dr. Peterson and his colleagues are the only humans allowed on the 45-mile-long island, part of a national park. They stay in yurts, a log cabin or a wood-stove-heated lodge, navigate the wilderness without roads or cars, and share a single staticky phone line. They analyze everything from wolves' moose-hunting strategies to moose feces. Collecting bones of more than 4,000 moose, they noticed that out of 1,200 carcasses they analyzed, more than half had arthritis, virtually identical to the human kind. It usually attacked the hip and instantly made the moose vulnerable.

"Arthritis is a death sentence around here — you need all four legs," Dr. Peterson said. "Wolves pick them off so quickly that you don't even see them limping."

What is more, the arthritic moose were often small, measured by the length of the metatarsal bone in the foot. Small metatarsals indicate poor early nutrition, and scientists determined that the arthritic moose were born during times when food was scarce, so their mothers could not produce enough milk.

Dr. Peterson said if the arthritis were caused by excess wear and tear on the moose's joints, that would have meant that times of food scarcity occurred when the moose were already grown, since the extra wear would have happened to moose walking farther to find edible plants. But the arthritic moose had had plentiful food as adults.

For people, several historical cases may suggest a nutritional link. Bones of 16th-century American Indians in Florida and Georgia showed significant increases in osteoarthritis after Spanish missionaries arrived and tribes adopted farming, increasing their workload but also shifting their diet from fish and wild plants to corn, which "lacks a couple of essential amino acids and is iron deficient," said Clark Larsen, an Ohio State University anthropologist collaborating with Dr. Peterson. Many children and young adults were smaller and died earlier, Dr. Larsen said, and similar patterns occurred when an earlier American Indian population in the Midwest began farming maize.

British scientists studying people born in the 1940s found low birth weight (indicating poor prenatal nutrition) linked to osteoarthritis in the men's hands, Dr. Felson said. And Dr. David Barker, a British expert on how nutrition and early development influence cardiac and other conditions, said "studies of people in utero during the Great Chinese Famine" of the late 1950s found that "40, 50 years later, those people have got disabilities."

Overeating can be as problematic as undereating. Dr. Lisa A. Fortier, a large-animal orthopedist at Cornell University's College of Veterinary Medicine, said she saw "abnormal joint and tendon development from excessive nutrition" in horses overfed "in utero or in the postnatal life," probably ingesting "too much of the wrong type of sugar that may cause levels of inflammation."

Dr. Peter Bales, an orthopedic surgeon affiliated with University of California, Davis Medical Center, who has written about nutrition and arthritis, sees similar problems in overweight patients. He said the causes were not as "simplistic" as "carrying more weight around," but might involve nutritional imbalances that could hurt joints and erode cartilage. Much is unknown about nutrition's relevance. Isle Royale moose, for example, also seem to have genetic predispositions for arthritis, suggesting that nutrition might be amplifying or jump-starting the genes.

"Genes are not Stalinist dictators," said Dr. Barker, now at Oregon Health and Science University. "What they do, how they're expressed, is conditional on the rest of the body. The human being is a product of a general recipe, and the specific nutrients you get or don't get."

Studying nutrition in people is much more complicated than in moose. Dr. Peterson said the early moosehood developmental window occurred in utero through 28 months, but humans' developmental time frame lasted into the teens. Some experts say prenatal nutrition is most critical; others see roles for nutrients after birth and beyond.

"Up until the growth plates close, which is through adolescence and even early adulthood, the effects of nutrition are magnified," said Dr. Constance R. Chu, director of the Cartilage Restoration Center at the University of Pittsburgh, who said nutrients might affect the number of healthy cells in cartilage and its thickness. "But in my opinion, it's relevant throughout life."

Advancing Futures *for* Adults *with* Autism

September 09. 2010

Dear Dr. Insel:

We are writing on behalf of Advancing Futures for Adults with Autism (AFFA), a national consortium seeking to create meaningful futures for adults with autism, and our individual autism organizations, regarding the upcoming IACC Services Workshop. The undersigned organizations would like to highlight several important activities and request that the IACC consider these activities during the planning of the Services Workshop scheduled for later this year.

As you may know, public and private organizations have been engaged in comprehensive efforts to analyze the environment of services that are currently available for individuals with autism across the lifespan, and to develop strategies to enhance and expand the availability of appropriate services. Recent and ongoing efforts include but are not limited to: CDC Act Early Summits; HRSA and MCHB State Implementation Grants; Adult Task Force reports and task force recommendations from many states including, for example, California, Missouri, New Jersey and Pennsylvania; AFAA Congressional Briefing Public Policy Agenda; and SARRC's Opening Doors study. We encourage the IACC to leverage efforts now underway, and capitalize on the grassroots and political support already in place to promptly advance the public policy changes urgently needed.

In addition, we welcome the opportunity to provide input on the agenda and presenters at the November workshop. We would greatly appreciate any information you could offer us relating to these matters.

Through the leadership of the IACC, and in partnership with the autism community, we must share your commitment to assimilate the important work that has already been achieved, and we stand ready to support this effort. As a starting point, attached is the AFAA Policy Agenda presented at the Congressional Briefing hosted by Senator Robert Menendez (NJ) and Congressman Michael Doyle (PA) on July 15, 2010. The primary goal of AFAA is to advocate for change that empowers adults living with autism to lead independent and productive lives.

We look forward to working with you and your esteemed Services Sub-Committee to assist in bringing to the table recent policy recommendations that achieve the advancement of needed supports and services for people with autism. You have our support to participate actively as individual organizations, and through our AFAA partnership.

Sincerely,

Alpine Learning Group
The Autism Program of Illinois
Autism Speaks
The Daniel Jordan Fiddle Foundation
Easter Seals
Global Communities of Support
Hallmark Community Solutions
New York Center for Autism

Southwest Autism Research & Resource Center (SARRC)
Trinity Services, Inc.
CC: Ellen W. Blackwell, Lee Grossman, Della Hann, Susan Daniels

ATTACHMENT

ADVANCING FUTURES *for* ADULTS *with* AUTISM

National Public Policy Agenda

July 15, 2010

The primary goal of ***Advancing Futures for Adults with Autism (AFAA)*** is to advocate for change that will enable adults living with autism to lead independent and productive lives. This change must occur in public policy and in partnership with the private sector. The National Public Policy Agenda is one outcome of the AFAA effort. AFAA provides the following recommendations to federal policy makers and urges their immediate adoption.

1. Adults with autism need access to services and supports to develop skills to live safe, independent, and successful lives. AFAA urges federal policy makers to:

- Amend the Individuals with Disabilities Education Act (IDEA) to include life skills/social skills training as part of individualized education program (IEPs).
- Enact the Frank Melville Supportive Housing Investment Act to design and develop new residential models.
- Expand the capacity of Community Development Financial Institutions.
- Expand the implementation and enforcement of the Americans with Disabilities Act (ADA) and Olmstead decisions to ensure least restrictive and most appropriate housing for adults with autism.
- Expand the Workforce Investment Act (WIA) and Developmental Disabilities Assistance and Bill of Rights Act (DD Act) to encourage public/private collaborations that create meaningful and diverse vocational opportunities for adults with autism.
- Expand Medicaid to include ongoing residential, vocational and community living supports.
- Create/expand federal incentives to encourage investment in housing options for adults with autism.
- Establish a new priority within the DD Act to provide appropriate and ongoing vocational supports for adults with autism.

2. Adults with autism need access to skilled direct care personnel. AFAA urges federal policy makers to:

- Prioritize the training of direct care workers to provide vocational and residential assistance to adults living with autism.
- Expand the Combating Autism Act (CAA) to include training demonstration projects to teach service providers to work effectively with adults with autism.

3. Adults with autism need access to and choice within the funding of services. AFAA urges federal policy makers to:

- Change existing and establish new funding streams so that financial assistance follows the person and can be used to meet unique and evolving needs.

- Expand both public and private funding for residential, vocational, and community integration services for adults with autism. Funding should follow the individual and be person centered to meet the varying and unique needs of adults with autism.
- Enact the Achieving a Better Life Experience (ABLE) Act.
- Increase the amount and flexibility of funding allowing individuals with autism and their families to make the most effective decisions.
- Develop a cost effective process that allows cross-state portability and uniformity of person-centered funding.

Note: Personally Identifiable Information (PII) has been redacted in this document

Tara Terminiello

September 21, 2010

Subject: housing and service, employment solution for the autistic

Good morning.

My husband and I have been trying to push this idea since my son was three. Never any luck. [PII redacted] is 22, now, and since graduating his special needs school spends most of his time in his room as there is nowhere to place him and no money has been forthcoming. If only they had listened to us.....

http://www.disneyshercs.com/FORTHANCOCK.htm
Tara Terminiello

JMITCH955

September 23, 2010

Subject: ari ne'eman

Why do you allow ari ne'eman to be on the IACC when he is opposed to curing autism? I have mild autism and I long for a cure.

Anne Schwartz

September 27, 2010

Subject: RE: Upcoming IACC Full Committee Meeting - October 22, 2010 - Bethesda, Maryland (MD)

In view of the accumulating research on organo pesticides and developmental disabilities that have just been published this year, I hope the pesticide issue will be addressed. In one study a ten percent increase in organo pesticides such as chlorpyrifos in urine tested, was associated with a 55% to 77% increased incidence of attention deficit hyperactivity disorder (ADHD) behavior in children tested. The levels found in the urine were well below amounts allowed in fruits and vegetables so the difference were very small in the parts per billion/trillion. It would be interesting to measure the urine content in autistic children and compare results to childrens own amounts after they have been put on an organic low pesticide residue diet to see if behaviors improve. In any case since these pesticides are known neuro toxins they should be addressed especially for children living in rural areas where historically they have been used and persist in the soil. This issue is especially important since fruits and fruit juices are highest in these substances and are a favorite food of most children and something that parents think is healthy.

Best,

Anne Schwartz Master of Science (MS) CD

Note: Personally Identifiable Information (PII) has been redacted in this document

Jean Public

September 29, 2010

Subject: public comment on federal register

the womb. mother. yourself in time the week of October 4 2010 shows how vital the body and womb is in developing health for life. for a body like this one to deny that vaccines injected into those bodies for flu or any other reason is beyond belief. for you to authorize mercury, aluminum, formaldehyde to be injected into that tiny body is beyond belief [offensive Language redacted]. those are my comments for the record. some people at this committee is [offensive Language redacted] or bribed beyond belief by big pharma and big medicine to ever allow vaccines into tiny babies or pregnant mothers.

Jean public
[PII redacted]

Robin Clarke

September 29, 2010

Subject: Seriously misleading testimony about mercury and autism

To the IACC:

I am concerned to see some extremely misleading information in the testimony from Dr Linda Birnbaum to the Environment and Public Works (EPW) committee hearing this year:

http://epw.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_id=1ab3cf42-802a-23ad-4a3a-686da83bf6d0 (IACC Note: URL is not valid.)

That is where she stated that the Childhood Autism Risks from Genetics and the Environment (CHARGE) study had found no difference in mercury levels between autistic and controls.

Sure that is true as a plain fact, but she was presumably referring there to the study of Irva Hertz-Picciotto et al in which they used blood levels of mercury as their only measure. It has been known for many years that blood is a rather useless test for mercury poisoning. Even my ordinary general practitioner back in 2004 was able to tell me that there was no useful test of mercury poisoning, including of blood levels. It is mercury in the brain and cells that causes harm, not mercury in the blood. I am concerned that this "leading" "excellent" toxicology researcher is unaware of such a most basic fact about mercury toxicity.

Furthermore, notwithstanding the delusions of the anti-thimerosal campaigners, there is already more than enough evidence that mercury has been majorly involved in the autism increase. I have summarised that in the preprint of the update review of my unchallenged autism theory. (I can send you a copy of that preprint on request.)

A preoccupation with blood measures of mercury has been characteristic of those who have concocted pseudo-scientific reports designed to deceive people that dental amalgam is safe (such as the fraudulent Scientific Committee on Emerging and Newly Identified Health Risks [SCENIHR] report).

I don't think it useful to get into the competing conspiracy theories according to which one or other faction of allegedly profiteering crooks is trying to mislead people about autism. But Dr Birnbaum's grossly misleading reference to that misleading information, with no reference to any of the other information on mercury/autism, tends to give an impression that she could be in the business of deceiving people rather than informing them.

This is all the more so in view of her supposedly being some outstandingly expert toxicologist as per the quotations below from her webpage. It truly beggars belief that someone can really be such an outstanding "expert" and yet give such an outstandingly misleading testimony in denial of the most basic facts of the subject.

And even more so in the context that there is an urgent need to find ways to ameliorate the autism crisis and that all the evidence is pointing towards mercury chelation as being the prime

therapeutic candidate, in respect of which honest competent research is needed rather than this credibility-defying rubbish from Dr Birnbaum.

"Dr. Birnbaum has received numerous awards, including the Women in Toxicology Elsevier Mentoring Award, the Society of Toxicology Public Communications Award, [....] A board certified toxicologist, [...] senior staff fellow at the National Toxicology Program [....]"

Sincerely,
Robin P Clarke
www.autismcauses.info
[PII redacted]

Eileen Nicole Simon

October 8, 2010

Attached is a file I want to submit as "written comments" for the IACC meeting on Oct 22. The first page is the 10-item list I submitted two days ago that I want to present orally. I have added references to several additional page-length comments.

I had hoped to hear discussion of some of my comments at the Apr 30 meeting, and was disappointed that members of the committee were only asked if they wanted to discuss any of the comments made. Since the Autism Summit in 2003, I have urged that the obstetric practice of clamping the umbilical cord immediately at birth be investigated, and stopped. I continue to find evidence that this can cause a serious disruption of neonatal transition from placental to pulmonary respiration.

Eileen Nicole Simon's attachment can be viewed here:
Attachment (PDF – 1 MB)

Thomas Lynch

October 12, 2010

Subject: Austism .. an unexplored risk factors

I am a scientist though in the field of computer architecture. I have watched as friends and relatives have had children who are affected by this disease. I would like to suggest some risk factors that I do not believe have been explored. I understand there has been an increased effort to solve this problem, so perhaps some fresh ideas might be useful.

The increased use of X-ray scanners in security. This a fairly well-kept secret for fear of public backlash. I know about it because an engineer friend builds them. X-ray guns and other scanners have been used on crowds with increasing frequency for almost 20 years. It is largely believed by the manufacturers that the low doses and infrequent exposure makes them safe. Those scanned are unaware of the activity. I wonder what happens to pregnant woman and those who stand in the wrong place for too long. I suspect that the dissemination of their use follows the same curves as for autism, because they probably show up in the place as new technology at the same time the vaccines do (as do other new technologies and related pollution).

1. Perchlorate. I heard the highest incidence in the United States (U.S.) was in a town near Saratoga California. It was in a news blurb. I looked up, there used to be a flare plant in the town until the 1950s. They left quite a mess. There are high levels of perchlorate in the water there. Now last week there is an article in the paper talking about the problem of the spread of perchlorate. It is anecdotal, but a military family tells me that the military has been avoiding autism diagnosis on bases. They believe it is to hide the fact that the disease is occurring in higher rates at bases - which are full of perchlorate.

2. The same can be said of cell phone towers as for the X-ray scanners, though probably not surprising. I reported one tower that was on a steep hill. The radiator was pointing directly into the window of a neighboring office building. I have wondered what happened to the person who sat in a Gigawatt microwave beam daily. Fever problems perhaps? The tower was raised, but it is hardly the only such situation. Cell phones also go on when placed in pockets. They are constantly co-ordinating with towers. In addition smart antenna technology points microwaves at the phone.

Please excuse my kibitzing, I hope you find this useful. Please let me know where this is forwarded.

Sincerely Yours

Thomas W. Lynch
www.ThomasWLynch.com

Thomas Lynch

October 14, 2010

Subject: Austism .. an unexplored risk factors

Perchlorate might best be tested in the presence of mercury.

Kerry Lane

October 14, 2010

Dr. Kerry Scott Lane mailed a printed copy of his 2010 PowerPoint presentation, "Glutathione Loss by Gliotoxin, then Acetaminophen, Results in Metal Intoxication and Oxidative Stress – Causing Autism" and a collection of related scientific articles. These documents are available upon request in hard copy or on compact disk (CD).

Kerry Lane's presentation can be viewed here. (PDF – 4 MB)

Note: Personally Identifiable Information (PII) has been redacted in this document

Donna Young

October 16, 2010

Subject: Open Letter to President Obama – re Autism Contributing Factors and failed questions.

Re: Your Support at this url: www.medical-truths.com

Please see and visit the links to other references.

I may be contacted for the medical research so stated, for full reports.

I believe the public's best interest is to have a Public Inquiry on what may be the contributing and common factor to all internal disorders of children, or the youth today. This ranges from brain tumors to the autism(s), which are preventable if the future mothers are informed of the risk factors of not stopping, generally, an element of surprise, any early umbilical cord clamping. This is any man or woman's choice of umbilical cord compression (finger-thumb-squeezing, cord tying, or cord clamping) before the completion of the child's birth. This is described that the baby is first wrapped head to toes, to keep the child from being chilled, and the cord is not cosmetically being clamped or cut until the placenta is birthed, and all pulsation in the umbilical cord has ceased.

The time period is generally from 10 to 20 minutes. So an investigation of Active Management process to hurry up the third stage of labor must be part of the National Inquiry, a Commissioned Inquiry, that is causing brain damaged and testable anemia.

The evidence of how much blood is being criminally deprived infants, is noted to be from the 1930's to have been stored in private blood banks, from 50 cubic centimeters (ccs) to over 150 ccs. (W. F. Windle's Anemia Report, 1940 is still factual, today). Today, the practice to store the infant's placenta blood is being documented by organized private cord blood banks, worldwide, to be from 80 ccs to 250 ccs. The umbilical cord must be instantly cord clamped to get this amount of blood from a child's placenta and cord.. This almost always sends the child to revival units, where they are given oxygen treatments, some are given artificial blood, like Ringer's Lactate, or partial blood, plasma, or fluids of sugar, starch, water, and electrolytes.

Taxpayer's Cost for Impaired Children:

The average costs to revive a child often exceeds the cost of the birth, and over $70,000.00. The annual care of an autistic child often exceeds $70,000.00 per damaged child.

Any revived child is going to be from serious to minor brain damaged, along with Cerebral Palsy of various stages.

The children were being knowingly exploited for their own private property, blood. The child is not to be imposed on, or exploited to give their blood to the cause of others, be it a parent, or older sibling, or stranger's needs.

It would be appreciated if you would contact your President for his concerns and directions, or forward President Obama and his First Lady, a copy of this letter.

Thank you for your time and possibly reading the 30-pages of documented research. Please reply at your earliest convenience in a signed letter, copy to be emailed, thank you.

Yours truly,

President, Natural Birth Education [PII redacted]

Eileen Nicole Simon

October 18, 2010

Subject: Re: Submission of comments for the IACC meeting

Revision of oral comments, plus additional written comments for the October 22 IACC meeting
Eileen Nicole Simon
[PII redacted]

Additional written comments for the October 22 IACC meeting:

1. Interdisciplinary insights on autism

At the IACC meeting on April 30, there was discussion of seeking the expertise of professionals from other disciplines that might help provide insight on autism. Immunology was suggested, and I would like to also suggest audiology.

People who are deaf are for the most part of normal intelligence and have normal social skills. Nevertheless, two essential human qualities are based on the auditory sense: (1) attention to the environment, and (2) language.

The auditory sense appears to have evolved as an alerting system for visual attention [1]. Vigilance for change in the surroundings may have been an evolutionary stage beyond simple alerting, and active listening for change a step beyond vigilance and continual awareness [2]. Listening is an information seeking activity. Language should be regarded as the pinnacle of the human information-seeking instinct.

Children with autism are deficient not only in language skills, but also awareness. Social and communication skills may both derive from defects in neural pathways that normally connect auditory sensation to areas of the cerebral cortex that (a) control attention and (b) respond to verbal information.

The higher brainstem pathways may be intact in most people who are deaf due to impairments in the ear or at the level of the cochlear nucleus. Language activates the same areas of the cerebral cortex in deaf and hearing subjects [3].

References

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2. Angelo R. Physiologic acoustic basis of speech perception. *Otolaryngol Clin North Am*. 1985 May;18(2):285-303.
3. Capek CM, Woll B, MacSweeney M, Waters D, McGuire PK, David AS, Brammer MJ, Campbell R. Superior temporal activation as a function of

linguistic knowledge: insights from deaf native signers who speechread. *Brain Lang*. 2010 Feb;112(2):129-34.

2. Malformation of the superior olive in autism

Kulesza et al. (2010) have reported malformation of the superior olivary complex in 9 children with autism compared with 4 controls of the same age [1]. This research was conducted using brainstem sections from the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD), Harvard, and New York State (NYS) tissue banks. Kulesza et al. cite the literature on auditory problems in children with autism, and chose to examine tissue from the superior olives based on the report by Rodier et al. of malformation of this structure observed in a 21-year-old woman with autism [2]. Brain injury in this subject was likely caused by prenatal exposure to alcohol and Dexedrine; Rodier et al. provided the following information:

> "The child was born two years after the delivery of a normal sister. Her mother was a chronic abuser of alcohol and Dexedrine during the patient's infancy, but she could not remember whether the addiction problems arose before or after the birth. It is certain that the patient was not exposed to thalidomide, because she was born before it was marketed, or to valproic acid, because her mother was not treated for seizures. The mother was hospitalized repeatedly for psychiatric illness, with many different diagnoses, including hysterical disorder, depressive neurosis, chronic anxiety neurosis, and drug addiction to barbiturates and amphetamines." [2, p250]

The simplistic explanation of heredity in this case is countered by the known and specific effects of prenatal exposure to alcohol [3-5]. The article by Kulesza et al. provides evidence that the developmental language disorder of children with autism may be due to difficulties in auditory processing.

References

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3. Vingan RD, Dow-Edwards ML, Riley EP. Cerebral metabolic alterations in rats following prenatal alcohol exposure: a deoxyglucose study. Alcohol Clin Exp Res. 1986 Jan-Feb;10(1):22-6.
4. Church MW, Eldis F, Blakley BW, Bawle EV. Hearing, language, speech, vestibular, and dentofacial disorders in fetal alcohol syndrome. Alcohol Clin Exp Res. 1997 Apr;21(2):227-37.
5. Roebuck TM, Mattson SN, Riley EP. A review of the neuroanatomical findings in children with fetal alcohol syndrome or prenatal exposure to alcohol. Alcohol Clin Exp Res. 1998 Apr;22(2):339-44.

3. Perinatal problems associated with autism

New reports on perinatal problems associated with autism have just been published [1, 2]. I submitted an e-Letter response to the article by Maimburg et al. on their finding of increased risk for autism in infants who developed jaundice in the neonatal period [3]. I pointed out that in their first experiments with monkeys on asphyxia at birth, Ranck and Windle (1959) reported finding ischemic lesions of select brainstem nuclei in a pattern that most closely resembled that found in cases of kernicterus, but without the yellow discoloration caused by bilirubin [4]. Lucey et al. (1964), and others, later determined that bilirubin only enters areas of the brain where the blood-brain barrier (BBB) has been damaged by asphyxia [5-7].

Not just bilirubin, but any other potentially harmful substance in the circulation might gain entry to the same brainstem nuclei following breakdown of the blood-brain barrier. Silverman et al. (1956) reported infants affected by kernicterus following antibiotic treatment in the neonatal period [8]. To his credit, Silverman followed the development of infants who survived the course of dual antibiotic treatment [9].

References

1. Burstyn I, Sithole F, Zwaigenbaum L. Autism spectrum disorders, maternal characteristics and obstetric complications among singletons born in Alberta, Canada. Chronic Dis Can. 2010 Sept;30(4):125-134.
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3. http://pediatrics.aappublications.org/cgi/eletters/peds.2010-0052v1
4. Ranck JB, Windle WF. Brain damage in the monkey, Macaca mulatta, by asphyxia neonatorum. Exp Neurol. 1959 Jun;1(2):130-54.
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8. Silverman WA, Andersen DH, Blanc WA, Crozier DN, A difference in mortality rate and incidence of kernicterus among premature infants allotted to two prophylactic antibacterial regimens. *Pediatrics*. 1956 Oct;18(4):614-25.
9. Silverman WA. The status of 2-year-old children who had received sulfisoxazole in the neonatal period after premature birth. *J Pediatr*. 1959 Jun;54(6):741-7.

4. Relevance of brainstem damage?

Damage of the inferior colliculi was found in monkeys subjected to severe total asphyxia at birth [1]. Myers (1972) reported:

> "The brain centers earliest damaged are the inferior colliculi as illustrated in Fig. 3. Thereafter, in a monotonously repetitive rank order, follow other brainstem structures including the superior olives, the sensory nuclei of the trigeminal nerve, the gracile and cuneate nuclei, the medial and spinal vestibular nuclei, and the posterior and lateral ventral thalamic nuclei." [1, p251]

Unlike Ranck and Windle (1959), who compared the brainstem pattern to that observed in cases of kernicterus [2], Myers claimed that brainstem damage was not characteristic of human perinatal asphyxia:

> "The· brainstem injury pattern produced in the monkey fetus *by* total asphyxia bears no relation to the brain pathology typifying human perinatal damage. In actuality, this distinctive brainstem injury pattern appears only rarely in the human brain. When seen, it appears almost exclusively in infants or young children following cardiac arrest." [1, p256]

Myers was able to produce damage of motor areas of the cerebral cortex (comparable to that seen in cases of cerebral palsy) by partial constriction of the maternal aorta, thus subjecting fetal monkeys to a prolonged period of hypoxia just before birth. This probably was the greater danger, until immediate clamping of the umbilical cord became a routine practice in the 1980s.

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5. Reports of brainstem damage in human children

There are several reports of brainstem damage in human infants and children [1-11]. The case reported by Leigh (1951) is thought to be due to aerobic defect caused by a mitochondrial disorder [11]. Mitochondrial disorders now appear to be among autism's many causes.

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