

Wireless Radiation in the Etiology and Treatment of Autism: Clinical Observations and Mechanisms

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FROM ABSTRACT

Background

Autism is an enigmatic, disabling neurodevelopmental disorder that has increased in incidence almost sixty-fold since the late 1970s, but with the most dramatic increase occurring over the past decade.

There is no consensus on the cause of Autism, and thus there are few reliable approaches to either preventive or therapeutic intervention.

Objective

This study was conducted to assess mechanistically the role of wireless device associated EMR in the etiology and treatment of Autism. Specifically, the relationship between molecular weight-specific heavy metal clearance in children receiving detoxification intervention including energetic nutrition for Autism and the length of time the children were treated in an electro-magnetic radiation (EMR) free environment was evaluated.

Design

Data were recorded from clinical records and arranged according to the intervention regimen followed by each subject. The pattern of heavy metal clearance was assessed through the three distinct excretion pathways of urine, skin [hair] and feces. The first child subjected to the EMR-sensitive protocol was the sentinel indicator. Data from this subject were analyzed as a pilot to assess whether or not any clinical indications were present supporting the working hypothesis that time and molecular weight dependent heavy metal clearance was associated with symptom amelioration. Records were gathered from 20 other subjects in the clinic following the same intervention protocol in subsequent months.

Results

The sentinel subject's history suggested that the efficiency of heavy metal detoxification was dramatically increased when EMR was eliminated.

For the larger groups, data indicated that heavy metals were cleared in a time and molecular weight-dependent manner after EMR was eliminated from the treatment environment.

Conclusions

The findings suggest a significant role of EMR in both the etiology of Autism and the efficacy of therapeutic interventions.

The mechanism of EMR impact could be direct by facilitating early clinical onset of symptoms or indirect, including trapping heavy metals in cells and both accelerating the onset of symptoms caused by heavy metal toxicity as well as impeding therapeutic clearance.

These data also suggest that wireless device EMR is a synergen in the etiology of Autism, acting in conjunction with environmental and genetic factors, and offer a mechanistic explanation for the correlation between concurrent increases in the incidence of Autism and the use of wireless technology.

THESE AUTHORS ALSO NOTE:

“Autism is an enigmatic, disabling neurodevelopmental disorder that has increased in incidence almost sixty-fold since the late 1970s, but with the most dramatic increase occurring over the past decade.”

Autism commonly presents in early childhood and occurs in males four times more frequently than in females.

Etiologic hypotheses for Autism include:

- 1) Genetic predisposition to Autism including impaired methylation capacity with resultant inability to clear heavy metals
- 2) Increased vulnerability to oxidative stress
- 3) Environmental exposures including mercury preservatives in vaccines
- 4) Trans-generational accumulation of heavy metals
- 5) Biological conditions including Lyme disease

The incidence of Autism is increasing.

Autism symptoms include:

- 1) Diminished language skills
- 2) Deficits in social interactive ability
- 3) Liver and kidney function deficits
- 4) Gastro-intestinal disease
- 5) Autoimmune disease
- 6) Mental retardation

“Heavy metal toxicity has emerged as a primary etiologic focus, with most emphasis on mercury exposure derivative of vaccines, dental amalgams and environmental load from ingestion of contaminated seafood.”

Mercury and mercury vapor inhibit the growth of neurons, “making it a strong causal factor in neuronal degeneration.”

Concurrent with the increased incidence of Autism, there has been a dramatic increase in mobile telephone and wireless communication device usage.

“Between 1998 and 2007, wireless technology usage has increased from 200 million worldwide to more than 3 billion.”

“Recent environmental impact data regarding migratory birds and honey bee colony collapses suggest that the background concentrations of wireless technology related electro-magnetic radiation (EMR) are reaching saturation points where exposures can not be avoided in most populated areas.”

“The concern here is that increasingly high ambient exposures to EMR over the past decade portend in utero, post-natal and early childhood exposures that are unabated or for which normal physiologic compensatory mechanisms are inadequate.”

There is evidence that wireless device electromagnetic radiation (EMR) is a synergen in the etiology of Autism.

The electromagnetic radiation (EMR) emissions from wireless technology devices are biologically active.

The pathology mechanisms underlying wireless device-related health effects include disruption of intercellular communication through cell membrane active transport channels, “resulting in decreased cell membrane permeability, deficits in cellular energy, intra-cellular free radical build-up, disruption of normal DNA repair and a wide range of consequent symptoms.”

“Both EMR induced disruption of intercellular communication and lowered cell membrane permeability would be clinically relevant to the etiology and the treatment of Autistic patients with respect to symptom severity (intercellular communication) and diminished ability to clear metals (decreased permeability would result in higher intracellular concentrations of heavy metals).”

“There is a general consensus emerging among clinicians that first level treatment regimens for Autistic patients should include heavy metal detoxification.”

A primary challenge in managing Autism cases is efficient heavy metal clearance without harmful sequelae.

There is a possible link between wireless device emissions and interference with both intercellular communication and heavy metal clearance capacity.

These authors postulate that heavy metal clearance in an electro-magnetic radiation free environment would improve detoxification and improve clinical improvement in Autistic children.

In this study, heavy metal clearance was evaluated by assessing urine, hair and feces.

The clinical protocol included 40 intervention sessions of 4 hours in duration, 2 to 3 times weekly in the EMR-free clinic environment.

"The EMR-free clinical environment was constructed by eliminating all wireless communication devices from the building, requiring that cell phones be turned off on the premises, and installing various electro-magnetic radiation filters to electrical circuits and appliances in the clinic." "The premises were tested with appropriate EMR detection devices including gauss meters and radio frequency radiation detection equipment to ensure that the clinic was indeed EMR-free." Each subject's home environment was also without EMR interference.

THE SENTINEL SUBJECT

The sentinel subject was a 10-year old male with severe Autism diagnosed at the age of 3. He had been treated by many top practitioners in the Autism field. He could not talk; had many urination accidents; did not hold utensils to feed himself very well. His anxiety level was extremely high. He would freeze while transitioning from indoors to outdoors, holding his head (as if he were having a brain freeze from a cold drink) and at the same time he would close his eyes and wait until he had a sense of where he was spatially. He had strong histamine reactions to foods, and would crave the foods that gave him the reactions. After eating certain food items he would immediately turn red, begin to have stray arm movements and quickly become giddy and uncontrollable.

Prior to presentation at the clinic, he had been chelated, virally provoked, detoxed with far-infrared sauna therapy, been given Secretin and IVIG, but still had made no progress in his symptoms.

"No appreciable levels of heavy metals had been cleared despite several years of attempts with various procedures."

This subject began an intensive detoxification regimen, with controls for chemicals in the home and in the environment that he would be treated in, including electrical, water, and air pollution, use of cleaning chemicals, laundering criteria, and controls for scents and bedding. "He was treated with two 40-session intervention cycles that included the EMR free environment."

"While metals began to clear immediately during the first intervention series, his symptoms remained severe until near the 35th session. During the second intervention series, metals continued to clear significantly and his symptoms began to subside as observed by both his parents and validated by the clinicians attending to him."

The subject showed “no appreciable change or improvement in heavy metal clearance for seven years prior to the implementation of the EMR-free intervention protocols. After the implementation of the new protocols, his condition steadily improved clinically during the end of the first intervention series and into the second.”

“The qualitative measures scored toxicity on a scale from 0 to 100, with his initial readings at 90. At the conclusion of the second series, his electro-magnetic radiation toxicity score was 10. It is clear that the EMR toxicity was concurrent with his inability to excrete cellular toxins and to heal his central nervous system.”

Clinically, the subject began to speak and told of such occurrences as “the noise was gone from his head.”

“Clinically, the EMR-free environment was an important facilitator of heavy metal clearance, including mercury. There also appeared to be a direct correlation between significant heavy metal clearance and amelioration of his symptoms.”

The heavy metals were cleared “after EMR was eliminated from the clinic and home environment.”

“The finding suggests a significant role of EMR in the etiology of Autism as well as in the efficacy of therapeutic interventions to control the disease.”

[Key Point]

The authors propose two mechanisms of impact of the EMR exposure:

- 1) Direct: Facilitating earlier clinical onset of symptoms related to genetic predispositions.
- 2) Indirect: The result of trapping heavy metals in cells and thus accelerating the onset of symptoms mediated by those metals.

There are two distinct types of electro-magnetic radiation plumes capable of contributing to the development of Autism in children exposed to wireless technology exposures in utero and in early childhood:

- 1) The near-field plume from mobile phones, base stations and other electro-magnetic radiation generators.

This plume is within six to eight inches from the center of the antenna generating a radio frequency signal from a cell phone.

The plume extends several hundred feet for a base station antenna, and “contains the most intense energy and is therefore able to penetrate more deeply into biological tissue.”

- 2) The “ambient [far-field] exposure plume that derives from the enormous numbers of simultaneously switched-on wireless devices, has less energy associated with it, although studies indicate that energy intensity is not the primary

determinant of adverse biological impact." Three studies suggest that genetic effects can result from this ambient exposure.

"Every person who uses a mobile phone or uses wireless connections to access the Internet is exposed to both the near-field and far-field radiation. Those living or working in the vicinity of base-stations or masts are exposed also to ambient far-field EMR, and that includes children who may subsequently develop Autism."

Neuronal heavy metal exposure increases the generation of free radicals. Increased free radicals "harden" the neuronal membrane, intracellularly trapping the heavy metals because the active transport channels cannot be opened enough to accommodate their excretion. This "membrane hardening" causes a build-up of intracellular waste products, including the highly reactive free radicals.

The composite effect of cellular dysfunction caused by exposure to EMR is disruption of intercellular communication which is consistent with the presentation of Autism.

Additionally, electro-magnetic fields (EMFs) produce current in metals and these fields are capable of passing through the cell membrane, reaching intracellular metals and causing intracellular heating. This also alters neuronal physiology.

"This study presents the first clinical data to link wireless technology-related EMR in the environment to Autism."

"From a clinical perspective, it is clear that heavy metal detoxification was greatly facilitated by the elimination of electro-magnetic radiation from the treatment environment."

KEY POINTS FROM DAN MURPHY

- 1) "Autism is an enigmatic, disabling neurodevelopmental disorder that has increased in incidence almost sixty-fold since the late 1970s, but with the most dramatic increase occurring over the past decade."
- 2) Autism occurs in males four times more frequently than in females.
- 3) "Heavy metal toxicity has emerged as a primary etiologic focus, with most emphasis on mercury exposure derivative of vaccines, dental amalgams and environmental load from ingestion of contaminated seafood."
- 4) Mercury and mercury vapor inhibit the growth of neurons, "making it a strong causal factor in neuronal degeneration."

- 5) Concurrent with the increased incidence of Autism, there has been a dramatic increase in mobile telephone and wireless communication device usage. "Between 1998 and 2007, wireless technology usage has increased from 200 million worldwide to more than 3 billion."
- 6) The "background concentrations of wireless technology related electro-magnetic radiation are reaching saturation points where exposures can not be avoided in most populated areas."
- 7) "The concern here is that increasingly high ambient exposures to electro-magnetic radiation over the past decade portend in utero, post-natal and early childhood exposures that are unabated or for which normal physiologic compensatory mechanisms are inadequate."
- 8) There is evidence that wireless device electromagnetic radiation is a synergen in the etiology of Autism.
- 9) The electromagnetic radiation emissions from wireless technology devices are biologically active.
- 10) The pathology mechanisms underlying wireless device-related health effects include disruption of intercellular communication through cell membrane active transport channels, "resulting in decreased cell membrane permeability, deficits in cellular energy, intra-cellular free radical build-up, disruption of normal DNA repair and a wide range of consequent symptoms."
- 11) "Both electro-magnetic radiation induced disruption of intercellular communication and lowered cell membrane permeability would be clinically relevant to the etiology and the treatment of Autistic patients with respect to symptom severity (intercellular communication) and diminished ability to clear metals (decreased permeability would result in higher intracellular concentrations of heavy metals)."
- 12) These authors showed that heavy metals can be cleared from Autistic children "after electro-magnetic radiation was eliminated from the clinic and home environment," and that this resulted in significant improvement in clinical presentation.
- 13) "The finding suggests a significant role of electro-magnetic radiation in the etiology of Autism as well as in the efficacy of therapeutic interventions to control the disease." **[Key Point]**
- 14) There are two mechanisms of impact of the EMR exposure:
 - A)) Direct: Facilitating earlier clinical onset of symptoms related to genetic predispositions.
 - B)) Indirect: The result of trapping heavy metals in cells and thus accelerating the onset of symptoms mediated by those metals.

15) There are two distinct types of electro-magnetic radiation plumes capable of contributing to the development of Autism in children exposed to wireless technology exposures in utero and in early childhood:

A)) The near-field plume from mobile phones, base stations and other electro-magnetic radiation generators.

This plume is within six to eight inches from the center of the antenna generating a radio frequency signal from a cell phone.

The plume extends several hundred feet for a base station antenna, and "contains the most intense energy and is therefore able to penetrate more deeply into biological tissue."

B))) The "ambient [far-field] exposure plume that derives from the enormous numbers of simultaneously switched-on wireless devices, has less energy associated with it, although studies indicate that energy intensity is not the primary determinant of adverse biological impact." Three studies suggest that genetic effects can result from this ambient exposure.

16) "Every person who uses a mobile phone or uses wireless connections to access the Internet is exposed to both the near-field and far-field radiation. Those living or working in the vicinity of base-stations or masts are exposed also to ambient far-field electro-magnetic radiation, and that includes children who may subsequently develop Autism."

17) Neuronal heavy metal exposure increases the generation of free radicals. Increased free radicals "harden" the neuronal membrane, intracellularly trapping the heavy metals because the active transport channels cannot be opened enough to accommodate their excretion. This "membrane hardening" causes a build-up of intracellular waste products, including the highly reactive free radicals.

18) "From a clinical perspective, it is clear that heavy metal detoxification was greatly facilitated by the elimination of electro-magnetic radiation from the treatment environment."

19) These data suggest that wireless device electro-magnetic radiation is a synergen in the etiology of Autism, acting in conjunction with environmental and genetic factors, and offer a mechanistic explanation for the correlation between concurrent increases in the incidence of Autism and the use of wireless technology.