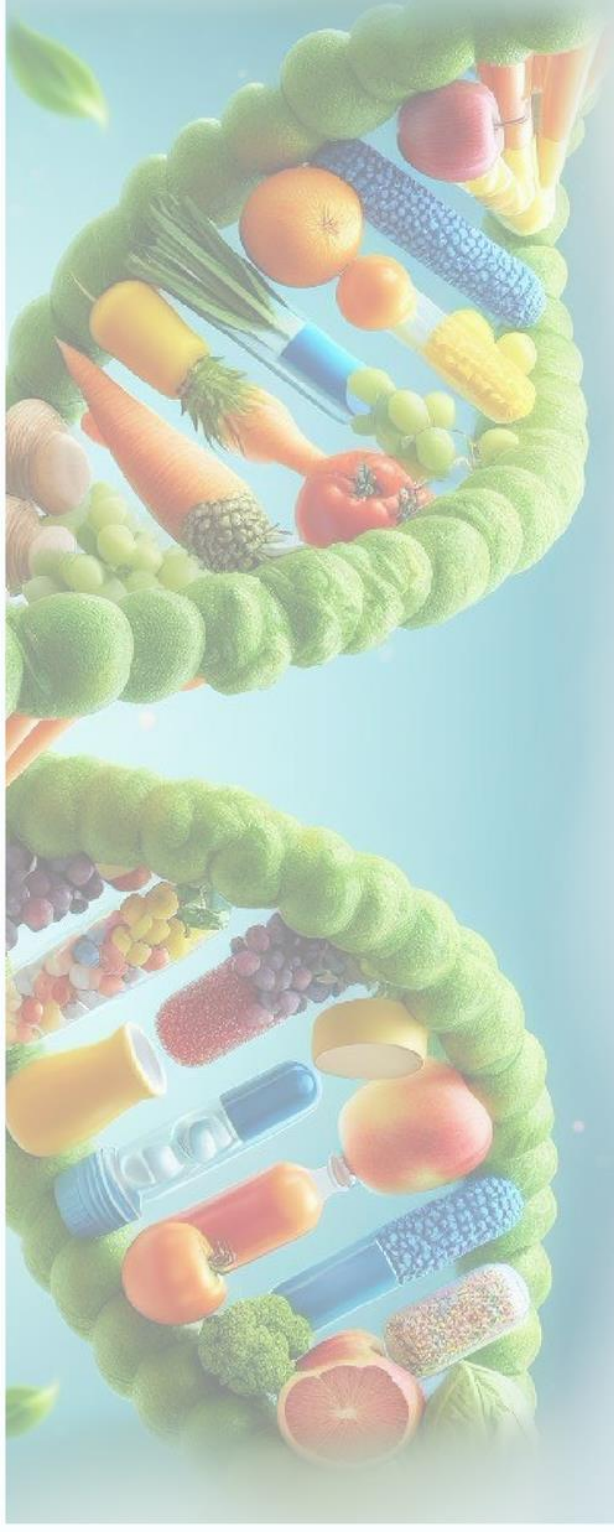
Programa de Actualización de Nutriólogos

Linca

Liga de Intervención Nutricional
contra Autismo e Hiperactividad A.C.



ABORDAJE NUTRICIONAL EN AUTISMO

Lcda. en Nutrición Lismary García
Venezuela

Linca

DIETA

- **Genérica**: Las dietas suelen ser planes estandarizados que no toman en cuenta las necesidades individuales.
- **Temporal**: Muchas dietas están diseñadas para seguirse durante un corto período.
- **Restricciones**: Frecuentemente, las dietas imponen restricciones severas en tipos o cantidades de alimentos.
- **Foco en Objetivos a Corto Plazo**: La mayoría se centra en resultados rápidos más que en cambios a largo plazo.

INTERVENCIÓN NUTRICIONAL INDIVIDUALIZADA

- **Personalizada**: Adaptado específicamente a las necesidades y condiciones del individuo.
- **Flexible**: Se ajusta y cambia según la respuesta del cuerpo y los objetivos en evolución.
- **Integral**: Considera todos los aspectos de la salud y el bienestar, no solo la alimentación.
- **Sostenible a Largo Plazo**: Diseñado para ser un cambio de estilo de vida más que una solución temporal.

¿POR QUÉ ES IMPORTANTE LA INTERVENCIÓN NUTRICIONAL EN LOS PACIENTES CON TEA?

LO QUE COMEMOS IMPACTA EN EL FUNCIONAMIENTO CEREBRAL

Adams *et al. Nutrition & Metabolism* 2011, **8**:34
http://www.nutritionandmetabolism.com/content/8/1/34

Nutrition&Metabolism

RESEARCH Open Access

Nutritional and metabolic status of children with autism vs. neurotypical children, and the association with autism severity

James B Adams[1*], Tapan Audhya[2], Sharon McDonough-Means[3], Robert A Rubin[4], David Quig[5], Elizabeth Geis[1], Eva Gehn[1], Melissa Loresto[1], Jessica Mitchell[6], Sharon Atwood[1], Suzanne Barnhouse[1] and Wondra Lee[1]

Abstract

Background: The relationship between relative metabolic disturbances and developmental disorders is an emerging research focus. This study compares the nutritional and metabolic status of children with autism with that of neurotypical children and investigates the possible association of autism severity with biomarkers.

Method: Participants were children ages 5-16 years in Arizona with Autistic Spectrum Disorder (n = 55) compared with non-sibling, neurotypical controls (n = 44) of similar age, gender and geographical distribution. Neither group had taken any vitamin/mineral supplements in the two months prior to sample collection. Autism severity was assessed using the Pervasive Development Disorder Behavior Inventory (PDD-BI), Autism Treatment Evaluation Checklist (ATEC), and Severity of Autism Scale (SAS). Study measurements included: vitamins, biomarkers of vitamin status, minerals, plasma amino acids, plasma glutathione, and biomarkers of oxidative stress, methylation, sulfation and energy production.

Results: Biomarkers of children with autism compared to those of controls using a t-test or Wilcoxon test found the following statistically significant differences ($p < 0.001$): Low levels of biotin, plasma glutathione, RBC SAM, plasma uridine, plasma ATP, RBC NADH, RBC NADPH, plasma sulfate (free and total), and plasma tryptophan; also high levels of oxidative stress markers and plasma glutamate. Levels of biomarkers for the neurotypical controls were in good agreement with accessed published reference ranges. In the Autism group, mean levels of vitamins, minerals, and most amino acids commonly measured in clinical care were within published reference ranges. A stepwise, multiple linear regression analysis demonstrated significant associations between several groups of biomarkers with all three autism severity scales, including vitamins (adjusted R^2 of 0.25-0.57), minerals (adj. R^2 of 0.22-0.38), and plasma amino acids (adj. R^2 of 0.22-0.39).

Conclusion: The autism group had many statistically significant differences in their nutritional and metabolic status, including biomarkers indicative of vitamin insufficiency, increased oxidative stress, reduced capacity for energy transport, sulfation and detoxification. Several of the biomarker groups were significantly associated with variations in the severity of autism. These nutritional and metabolic differences are generally in agreement with other published results and are likely amenable to nutritional supplementation. Research investigating treatment and its relationship to the co-morbidities and etiology of autism is warranted.

Background and Significance

Vitamins, minerals, and essential amino acids are, by definition, essential for human health, primarily due to their critical function as enzymatic cofactors for numerous reactions in the body, such as the production of neurotransmitters and fatty acid metabolism Historically attention has focused on inadequate intake of vitamins and minerals due to poor diet as a major contributing factor to many child health problems in the US and around the world, including anemia (low iron), hypothyroid (low iodine), scurvy (vitamin C deficiency), and rickets (calcium and/or vitamin D deficiency). However, nutritional status depends not only on intake, but

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ESTADO NUTRICIONAL Y METABÓLICO DE NIÑOS CON AUTISMO VERSUS NIÑOS NEUROTÍPICOS Y SU ASOCIACIÓN CON LA SEVERIDAD DEL AUTISMO

MUESTRA:

55 NIÑOS CON AUTISMO.
44 NIÑOS CONTROL.
TODOS DE ARIZONA, NO ERAN HERMANOS.
EDAD, GÉNERO Y DISTRIBUCIÓN GEOGRÁFICA SIMILARES.
NINGUNO DE LOS GRUPOS HABÍA TOMADO SUPLEMENTACIÓN EN LOS 2 MESES ANTERIORES A LA RECOLECCIÓN DE LA MUESTRA.

HALLAZGOS:

EL GRUPO DE AUTISMO TENÍA MUCHAS DIFERENCIAS ESTADÍSTICAMENTE SIGNIFICATIVAS EN SU ESTADO NUTRICIONAL Y METABÓLICO, INCLUIDOS BIOMARCADORES INDICATIVOS DE INSUFICIENCIA VITAMÍNICA, AUMENTO DEL ESTRÉS OXIDATIVO, CAPACIDAD REDUCIDA DE TRANSPORTE DE ENERGÍA, SULFATACIÓN Y DESINTOXICACIÓN.

Adams, J.B., Audhya, T., McDonough-Means, S. *et al.* **Nutritional and metabolic status of children with autism vs. neurotypical children, and the association with autism severity.** *Nutr Metab (Lond)* ***8***, **34 (2011). https://doi.org/10.1186/1743-7075-8-34**

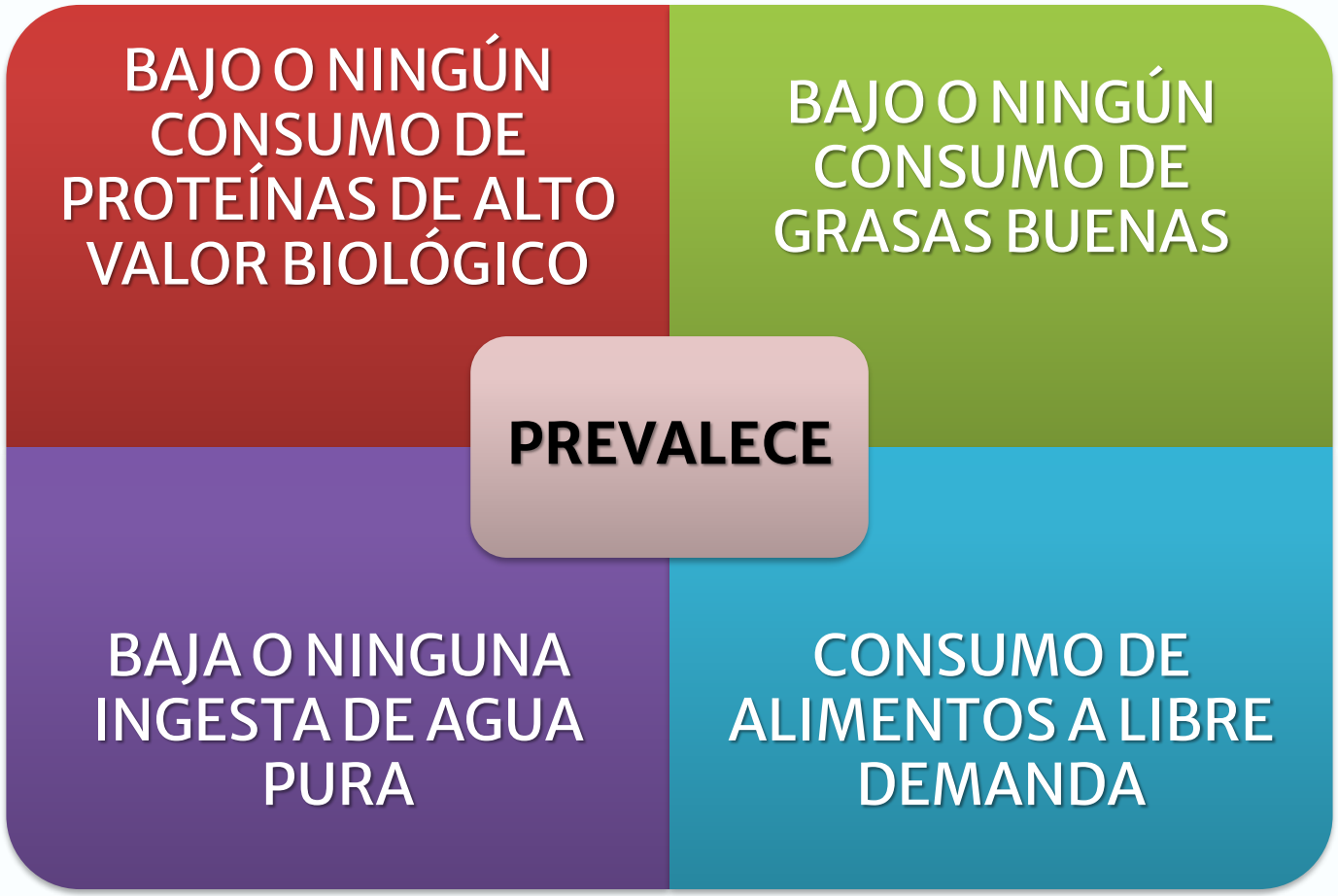
TRES SITUACIONES QUE OBSERVAMOS EN LOS PACIENTES QUE LLEGAN A NUESTRO PROGRAMA

ULTRAPROCESADOS

GFCF + ULTRAPROCESADOS

GFCF + CHO DE ALTO IG

PERFIL CÓMUN



RECORDATORIO 24 HORAS (EJEMPLOS)

INGESTA	Px. Masculino / 3 años (Consulta sep-23) Malnutrición por Déficit	Px. Masculino / 7 años (Consulta ene-24) Malnutrición por Exceso	Px. Masculino / 5 años (Consulta mar-24) Malnutrición por Déficit
Desayuno	Dos platanos amarillos	Cereal: Honey Bunches / Jugo de Manzana comercial	Dos biberones de leche (nestum)
Merienda matutina	Una taza de sandía	Galletas de chocolate o chispas de chocolate comerciales/ Cheetos/ galletas dulces comerciales	Un yogurt comercial de 180 gr
Almuerzo o Comida	Una taza batata	Será discutido en consulta	Dos biberones de leche (nestum)
Merienda vespertina	Un platano amarillo	Galletas de chocolate o chispas de chocolate comerciales/ Cheetos/ galletas dulces comerciales/ Helado de Vainilla o Chocolate/ Dona de Glaseado	Yogurt y galleta comercial.
Cena	Una taza de sweet potatoes	Pizza de queso (preferiblemente crocante, finita, estilo italiana) / French Fries	Dos biberones de leche (nestum)
Merienda nocturna	No aplica	Jugo	Dos biberones de leche (nestum)

¿QUÉ NOS LLEGA A LA CONSULTA?

DIETAS DE ELIMINACIÓN

Linca

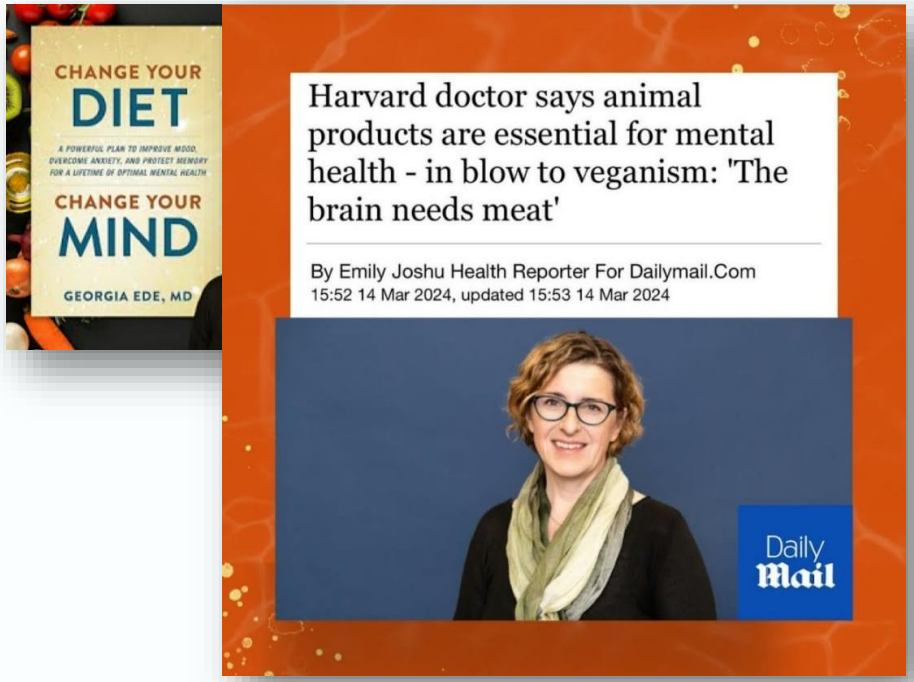
ABORDAJE NUTRICIONAL INDIVIDUALIZADO

ENFOQUE BASADO EN DENSIDAD NUTRICIONAL

Georgia Ede

Psiquiatra nutricional

La Dra. Georgia Ede es una psiquiatra formada en Harvard que se especializa en ciencias de la nutrición, metabolismo cerebral y salud mental. Tiene más de dos décadas de experiencia clínica, incluidos muchos años como psiquiatra universitaria y consultora de nutrición en Smith College y Harvard University Health Services, donde fue la primera psiquiatra en ofrecer enfoques basados en la nutrición como alternativa a la atención convencional para estudiantes, profesores y personal. Su experiencia premédica incluye siete años como asistente de investigación en el Joslin Diabetes Center en Boston, el Institut für Diabetesforschung en Munich y otros laboratorios académicos en los campos de la bioquímica, la inmunología y el metabolismo.



"La carne es el único alimento entero que contiene todos los nutrientes que necesitamos, en su forma correcta, sin antinutrientes – y es incapaz de causar picos de azúcar en sangre insalubres. Nutramos nuestros cerebros con la nutrición completa que necesita para prosperar"

Dra. Georgia Ede

Libro: ***Cambia tu Dieta, Cambia tu Mente.***

EL CEREBRO NECESITA PROTEÍNA ANIMAL

DEFICIENCIA NUTRICIONAL	RIESGOS PARA LA SALUD MENTAL
VITAMINA B12	Cambio de conducta, psicosis, deterioro cognitivo (1)
HIERRO	TDAH (2), ansiedad, depresión, psicosis, trastornos del sueño (3)
ZINC	TDAH (4), depresión (5), psicosis (5)
YODO	Hipotiroidismo, ansiedad (6)
DHA/EPA	TDAH, autismo, trastornos del estado de ánimo, esquizofrenia, demencia (7)

Fuente: Dr. Georgia Ede

(1) Kennedy DO, Nutrients, 2016; (2) Granero R et al. *Nutrients*, 2021; (3) Lee H-S et al. *BMC Psychiatry*, 2020; (4) Ghoreishy SM et al. *Sci Rep*, 2021; (5) Petrilli MA et al. *Front Pharmacol*, 2017; (6) Turan E, Karaaslan O. *Oman Med J.* 2020; (7) Lange KW. *Glob Health J.* 2020.

GRASAS SALUDABLES

frontiers in Pediatrics

REVIEW
published: 11 May 2021
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A Ketogenic Diet and the Treatment of Autism Spectrum Disorder

Qinrui Li[1], *Jingjing Liang*[1], *Na Fu*[1], *Ying Han*[2]* *and Jiong Qin*[1]*

[1] *Department of Pediatrics, Peking University People's Hospital, Beijing, China,* [2] *Department of Pediatrics, Peking University First Hospital, Beijing, China*

Autism spectrum disorder (ASD) is characterized by stereotyped behavior and deficits in communication and social interaction. There are no curative treatments for children with ASD. The ketogenic diet (KD) is a high-fat, appropriate-protein, and low-carbohydrate diet that mimics the fasting state of the body and is proven beneficial in drug-resistant epilepsy and some other brain diseases. An increasing number of studies demonstrated that a KD improved autistic behavior, but the underlying mechanisms are not known. We reviewed the neuroprotective role of a KD in ASD, which is likely mediated *via* improvements in energy metabolism, reductions in antioxidative stress levels, control of neurotransmitters, inhibition of the mammalian target of rapamycin (mTOR) signaling pathway, and modulation of the gut microbiota. A KD is likely a safe and effective treatment for ASD.

Keywords: autism spectrum disorder, ketogenic diet, neuroprotection, gut microbiota, blood-brain barrier

OPEN ACCESS

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INTRODUCTION

Autism spectrum disorder (ASD) is a lifelong neurodevelopmental disorder that is characterized by stereotyped behavior and deficits in communication and social interaction. ASD affects 3.4–6.7 per 1,000 children (1). Boys are four times more likely than girls to have ASD (1). The core features of ASD patients are social communication deficits and repetitive sensory–motor behaviors (2). According to the Diagnostic and Statistical Manual of Mental Disorders (DSM) 5, patients who are diagnosed with ASD must have persistent deficits in social communication and repetitive and unusual sensory–motor behaviors (2). Comorbidities in ASD are common and include epilepsy, sleep disorders, gastrointestinal (GI) symptoms, and psychopathologies such as anxiety, depression, attention deficit hyperactivity disorder, and intellectual disability (3). Sleep disturbances occur in 50–80% ASD children, and sleep disorder is associated with behavioral dysregulation (4). Epilepsy is also one of the most common comorbidities in ASD children, and the average prevalence reaches 26% (5). ASD individuals who have epilepsy are likely to exhibit more severe autism-related symptoms (6). GI symptoms, which range from 23 to 70% in ASD children, are related to the severity of ASD (7). Approximately 31% of children with ASD have intelligence quotient scores below 70 (7). The cost of raising a child with ASD is 1.4–3.6 million dollars according to the level of intellectual disability, and the largest expenses are special education costs and the loss of parental productivity. When children grow up, supportive living accommodations and the loss of individual productivity become the highest costs (8). Therefore, ASD places a large burden on society and the affected families. There are no effective drugs for ASD. Several interventions, such as special education and behavioral interventions, provide some benefits, but these interventions do not improve all core symptoms of ASD and have less effects on comorbidities, including epilepsy. Therefore, new therapies are urgently needed to broaden the management options and improve

UNA DIETA CETOGÉNICA Y EL TRATAMIENTO DEL DESORDEN DEL ESPECTO AUTISTA

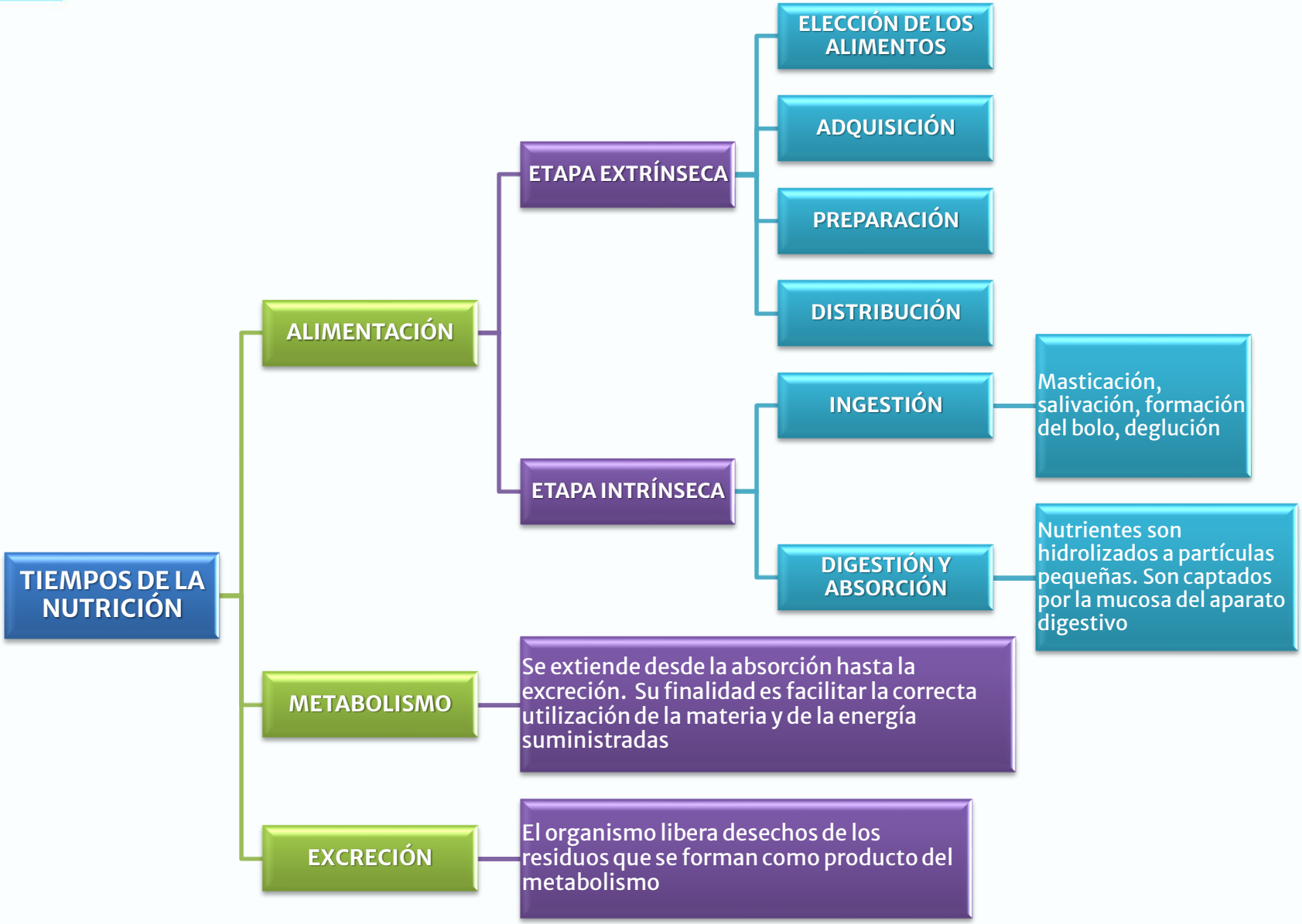
REVISIÓN DEL PAPEL NEUROPROTECTOR DE UNA DIETA RICA EN GRASAS, ADECUADA EN PROTEÍNAS Y BAJA EN CARBOHIDRATOS.

HALLAZGOS:
UNA ALIMENTACIÓN CETOGÉNICA PUEDE MEJORAR EL COMPORTAMIENTO SOCIAL DE LOS NIÑOS CON TEA AL NORMALIZAR EL GABA, MEJORAR LA FUNCIÓN MITOCONDRIAL, MEJORAR LA ACTIVIDAD INFLAMATORIA Y EL ESTRÉS OXIDATIVO EN EL CEREBRO, INHIBIR LA VÍA DE SEÑALIZACIÓN DE mTOR Y REAJUSTAR LA MICROBIOTA INTESTINAL.

Li Q, Liang J, Fu N, Han Y, Qin J. A Ketogenic Diet and the Treatment of Autism Spectrum Disorder. Front Pediatr. 2021 May 11;9:650624. doi: 10.3389/fped.2021.650624. PMID: 34046374; PMCID: PMC8146910.

CARBOHIDRATOS

EXISTEN OTROS FACTORES QUE DEBEMOS TENER MUY PRESENTES...


TIEMPOS DE LA NUTRICIÓN
ALIMENTACIÓN
ETAPA EXTRÍNSECA
ELECCIÓN DE LOS ALIMENTOS
ADQUISICIÓN
PREPARACIÓN
DISTRIBUCIÓN
ETAPA INTRÍNSECA
INGESTIÓN
Masticación, salivación, formación del bolo, deglución
DIGESTIÓN Y ABSORCIÓN
Nutrientes son hidrolizados a partículas pequeñas. Son captados por la mucosa del aparato digestivo
METABOLISMO
Se extiende desde la absorción hasta la excreción. Su finalidad es facilitar la correcta utilización de la materia y de la energía suministradas
EXCRECIÓN
El organismo libera desechos de los residuos que se forman como producto del metabolismo

Linca

HORARIOS DE LAS COMIDAS

- Reposo digestivo
- Eliminación del "picoteo"
- Control del apetito voraz

INGESTA HÍDRICA

- Regularización del consumo de agua
- Sustitución de aguas saborizadas por agua pura

EXPOSICIÓN SOLAR

- Es tan fundamental como la alimentación
- Regula los ciclos circadianos
- Vitamina D3

ACTIVIDAD FISICA Y RECREATIVA

- Mejora la cognición
- Favorece el crecimiento fisico
- Ayuda a reducer la ansiedad y el estres
- Regula el sueño

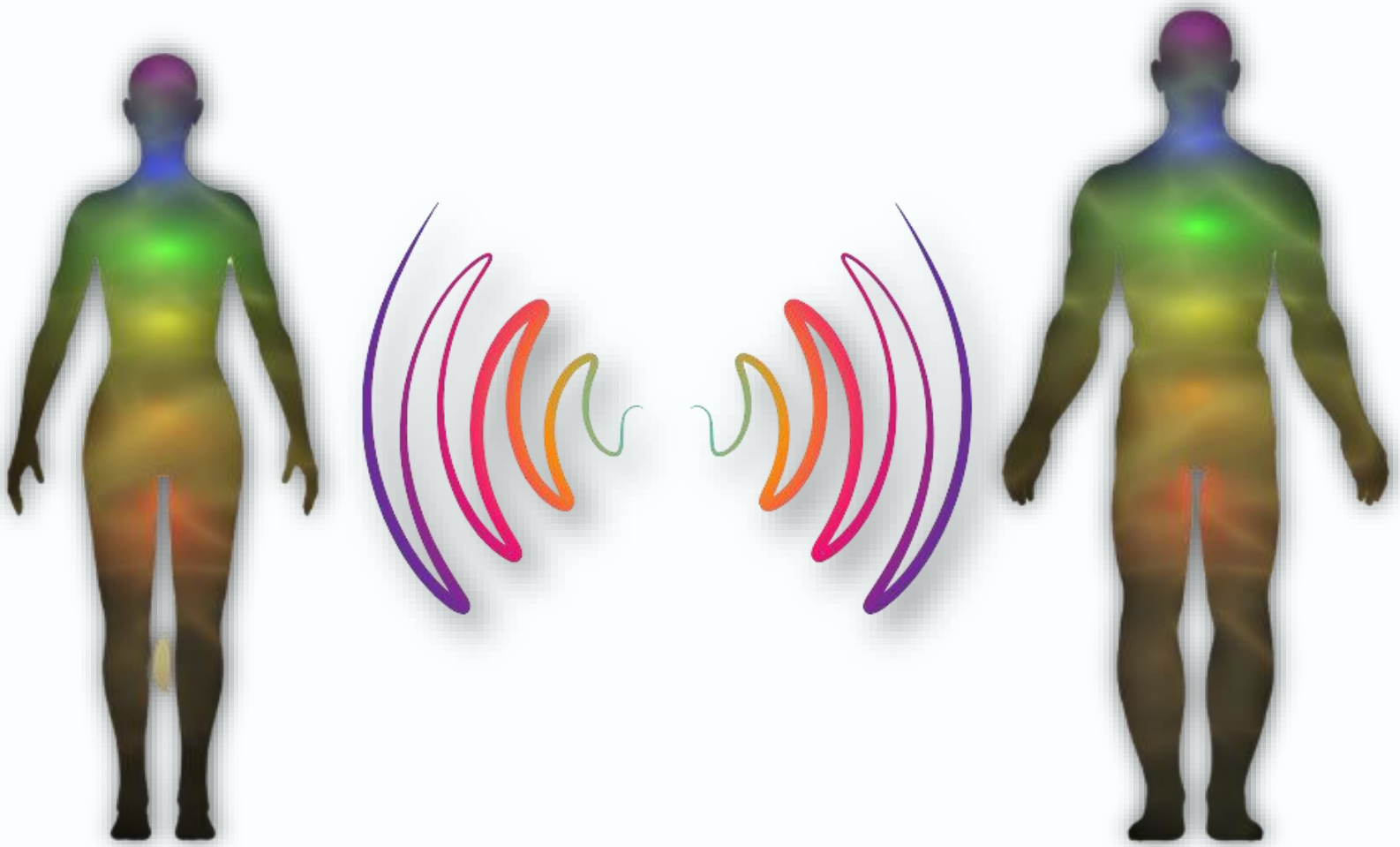
GROUNDING

- Neutraliza los radicales libres
- Reduce la inflamación
- Equilibra el sistema nervioso

DISMINUCIÓN CARGA TÓXICA AMBIENTAL

- Alimentos limpios y frescos
- Productos de limpieza del hogar
- Productos de aseo personal
- Utensilios de cocina
- Calidad del agua
- Higiene electromagnética

NUTRICIÓN ELECTROMAGNÉTICA



EMF NATIVAS Y NO NATIVAS

ELECTROSMOG = TOXINA AMBIENTAL

IMPACTO DEL ELECTROSMOG EN LA SALUD

- Produce alteraciones en la absorción de nutrientes
- Altera la absorción del oxígeno celular
- Interrumpe la adecuada comunicación celular
- Altera el sistema nervioso central
- Impacta directamente sobre la microbiota intestinal
- Reduce la fertilidad
- Incide sobre el cáncer
- Altera el funcionamiento correcto del cerebro
- Desregula la función hormonal

ELSEVIER

Pathophysiology xxx (2013) xxx–xxx

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Autism and EMF? Plausibility of a pathophysiological link – Part I

Martha R. Herbert [a,*], Cindy Sage [b]

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[b] Sage Associates, Santa Barbara, CA, USA

Received 10 February 2013; received in revised form 6 May 2013; accepted 15 July 2013

Abstract

Although autism spectrum conditions (ASCs) are defined behaviorally, they also involve multileveled disturbances of underlying biology that find striking parallels in the physiological impacts of electromagnetic frequency and radiofrequency exposures (EMF/RFR). Part I of this paper will review the critical contributions pathophysiology may make to the etiology, pathogenesis and ongoing generation of core features of ASCs. We will review pathophysiological damage to core cellular processes that are associated both with ASCs and with biological effects of EMF/RFR exposures that contribute to chronically disrupted homeostasis. Many studies of people with ASCs have identified oxidative stress and evidence of free radical damage, cellular stress proteins, and deficiencies of antioxidants such as glutathione. Elevated intracellular calcium in ASCs may be due to genetics or may be downstream of inflammation or environmental exposures. Cell membrane lipids may be peroxidized, mitochondria may be dysfunctional, and various kinds of immune system disturbances are common. Brain oxidative stress and inflammation as well as measures consistent with blood–brain barrier and brain perfusion compromise have been documented. Part II of this paper will review how behaviors in ASCs may emerge from alterations of electrophysiological oscillatory synchronization, how EMF/RFR could contribute to these by de-tuning the organism, and policy implications of these vulnerabilities. Changes in brain and autonomic nervous system electrophysiological function and sensory processing predominate, seizures are common, and sleep disruption is close to universal. All of these phenomena also occur with EMF/RFR exposure that can add to system overload ('allostatic load') in ASCs by increasing risk, and worsening challenging biological problems and symptoms; conversely, reducing exposure might ameliorate symptoms of ASCs by reducing obstruction of physiological repair. Various vital but vulnerable mechanisms such as calcium channels may be disrupted by environmental agents, various genes associated with autism or the interaction of both. With dramatic increases in reported ASCs that are coincident in time with the deployment of wireless technologies, we need aggressive investigation of potential ASC – EMF/RFR links. The evidence is sufficient to warrant new public exposure standards benchmarked to low-intensity (non-thermal) exposure levels now known to be biologically disruptive, and strong, interim precautionary practices are advocated.

Keywords: Autism; EMF/RFR; Cellular stress; Oxidative stress; Mitochondrial dysfunction; Oscillatory synchronization; Environment; Radiofrequency; Wireless; Children; Fetus

1. Introduction

The premise of this review is that although scant attention has been paid to possible links between electromagnetic fields and radiofrequency radiation exposures (EMF/RFR) and Autism Spectrum Conditions (ASCs), such links probably exist. The rationale for this premise is that the physiological impacts of EMF/RFR and a host of increasingly well-documented pathophysiological phenomena in ASCs have remarkable similarities, spanning from cellular and oxidative stress to malfunctioning membranes, channels and barriers to genotoxicity, mitochondrial dysfunction, immune abnormalities, inflammatory issues, neuropathological disruption and electrophysiological dysregulation – in short, multi-scale contributors to de-tuning the organism. Additional support may be found in the parallels between the rise in reported cases of ASCs and the remarkable increases in EMF/RFR exposures over the past few decades

Reviewing these similarities does not prove that these parallels imply causality. Moreover, the physiological processes affected by EMF/RFR are also impacted by other environmental factors, and are known to be present in myriad other chronic illnesses. A set of in-depth reviews on the

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http://dx.doi.org/10.1016/j.pathophys.2013.08.001

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¿AUTISMO Y FRECUENCIAS ELECTROMAGNÉTICAS? PLAUSIBILIDAD DE UN VÍNCULO FISIOPATOLÓGICO – PARTE I

La parte I del artículo documenta una serie de paralelismos entre los impactos fisiológicos y genotóxicos de las radiaciones por radiofrecuencias y frecuencias electromagnéticas y los fundamentos fisiopatológicos de la condición del espectro autista.

Daño al ADN, alteración de la barrera inmune y hematoencefálica, estrés oxidativo y celular, canal de calcio, alteración del ritmo circadiano, desregulación hormonal y cognición degradada, el sueño, la regulación autónoma y la actividad de las ondas cerebrales tienen puntos en común entre la condición del espectro autista y las radiaciones por radiofrecuencia y frecuencias electromagnéticas.

Todo esto aboga por una reducción de la exposición y una investigación mejor coordinada en estos ámbitos.

Herbert MR, Sage C. Autism and EMF? Plausibility of a pathophysiological link - Part I. Pathophysiology. 2013 Jun;20(3):191-209. doi: 10.1016/j.pathophys.2013.08.001. Epub 2013 Oct 4. PMID: 24095003.

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Pathophysiology xxx (2013) xxx–xxx

ISEP PATHOPHYSIOLOGY

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Autism and EMF? Plausibility of a pathophysiological link part II

Martha R. Herbert [a,*], Cindy Sage [b]

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[b] Sage Associates, Santa Barbara, CA, USA

Abstract

Autism spectrum conditions (ASCs) are defined behaviorally, but they also involve multileveled disturbances of underlying biology that find striking parallels in the physiological impacts of electromagnetic frequency and radiofrequency radiation exposures (EMF/RFR). Part I (Vol 776) of this paper reviewed the critical contributions pathophysiology may make to the etiology, pathogenesis and ongoing generation of behaviors currently defined as being core features of ASCs. We reviewed pathophysiological damage to core cellular processes that are associated both with ASCs and with biological effects of EMF/RFR exposures that contribute to chronically disrupted homeostasis. Many studies of people with ASCs have identified oxidative stress and evidence of free radical damage, cellular stress proteins, and deficiencies of antioxidants such as glutathione. Elevated intracellular calcium in ASCs may be due to genetics or may be downstream of inflammation or environmental exposures. Cell membrane lipids may be peroxidized, mitochondria may be dysfunctional, and various kinds of immune system disturbances are common. Brain oxidative stress and inflammation as well as measures consistent with blood–brain barrier and brain perfusion compromise have been documented. Part II of this paper documents how behaviors in ASCs may emerge from alterations of electrophysiological oscillatory synchronization, how EMF/RFR could contribute to these by de-tuning the organism, and policy implications of these vulnerabilities. It details evidence for mitochondrial dysfunction, immune system dysregulation, neuroinflammation and brain blood flow alterations, altered electrophysiology, disruption of electromagnetic signaling, synchrony, and sensory processing, de-tuning of the brain and organism, with autistic behaviors as emergent properties emanating from this pathophysiology. Changes in brain and autonomic nervous system electrophysiological function and sensory processing predominate, seizures are common, and sleep disruption is close to universal. All of these phenomena also occur with EMF/RFR exposure that can add to system overload ('allostatic load') in ASCs by increasing risk, and can worsen challenging biological problems and symptoms; conversely, reducing exposure might ameliorate symptoms of ASCs by reducing obstruction of physiological repair. Various vital but vulnerable mechanisms such as calcium channels may be disrupted by environmental agents, various genes associated with autism or the interaction of both. With dramatic increases in reported ASCs that are coincident in time with the deployment of wireless technologies, we need aggressive investigation of potential ASC—EMF/RFR links. The evidence is sufficient to warrant new public exposure standards benchmarked to low-intensity (non-thermal) exposure levels now known to be biologically disruptive, and strong, interim precautionary practices are advocated.

Keywords: Autism; EMF/RFR; Cellular stress; Oxidative stress; Mitochondrial dysfunction; Oscillatory synchronization; Environment; Radiofrequency; Wireless; Children; Fetus; Microwave

1. Recap of part I and summary of part II

Part I of this two-part article previously documented a series of parallels between the pathophysiological and genotoxic impacts of EMF/RFR and the pathophysiological, genetic and environmental underpinnings of ASCs. DNA damage, immune and blood–brain barrier disruption, cellular and oxidative stress, calcium channel dysfunction, disturbed circadian rhythms, hormone dysregulation, and degraded cognition, sleep, autonomic regulation and brainwave activity—all are associated with both ASCs and EMF/RFR; and the disruption of fertility and reproduction associated with EMF/RFR may also be related to the increasing incidence of ASCs. All of this argues for reduction of exposures now, and better coordinated research in these areas. These

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http://dx.doi.org/10.1016/j.pathophys.2013.08.002

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¿AUTISMO Y FRECUENCIAS ELECTROMAGNÉTICAS? PLAUSIBILIDAD DE UN VÍNCULO FISIOPATOLÓGICO – PARTE II

La Parte II de este artículo documenta cómo los comportamientos en la condición del espectro autista pueden surgir de alteraciones de la sincronización oscilatoria electrofisiológica y cómo la radiación por radiofrecuencia y la exposición a las frecuencias electromagnéticas podrían contribuir a esta alteración al desintonizar el organismo.

Todo esto no prueba que las exposiciones a CEM/RFR causen autismo, pero genera preocupaciones de que podrían contribuir, aumentando el riesgo y empeorando los problemas y síntomas biológicos desafiantes en estos individuos vulnerables.

Herbert MR, Sage C. Autism and EMF? Plausibility of a pathophysiological link part II. Pathophysiology. 2013 Jun;20(3):211-34. doi: 10.1016/j.pathophys.2013.08.002. Epub 2013 Oct 8. PMID: 24113318.

HIGIENE ELECTROMAGNÉTICA

EDUCACIÓN Y SOPORTE PSICOLÓGICO PARA LOS PADRES

EL SEGUIMIENTO ES LA CLAVE

RESUMEN

- ✓ Debemos tener claro que un abordaje o intervención nutricional va más allá de una dieta.
- ✓ El abordaje nutricional es importante porque lo que comen nuestros niños afecta directamente su cerebro.
- ✓ Existe evidencia de deterioro del microbioma intestinal, intestino permeable, inflamación y respuesta inmune causada por los alimentos en niños con autismo.
- ✓ El perfil dietético típico de los pacientes que llegan a nuestra consulta se caracteriza por elevado consumo de CHO de alto índice glicémico, bajo consumo de proteína animal y grasas buenas, y poca o nula ingesta hídrica.
- ✓ La literatura nos ofrece diferentes alternativas dietéticas para intervenir a nuestros pacientes, no obstante, el abordaje debe ser individualizado y adaptado a las necesidades biológicas de cada individuo.
- ✓ Nos enfocamos en una dietoterapia basada en la densidad nutricional, ya que encontramos que tiene mayor poder metabólico y bioquímico.
- ✓ Priorizar el consumo de proteína animal (alto valor biológico) y las grasas buenas ha sido clave en el éxito de nuestro abordaje.

RESUMEN

- ✓ Los CHO de bajo índice glicémico ayudan a controlar los picos de azúcar en sangre.
- ✓ Los CHO como almidón resistente, tienen efectos prebióticos y promueven la síntesis de ácidos grasos de cadena corta.
- ✓ Es importante evaluar los trastornos o dificultades de masticación o deglución, así como, cualquier otro problema que pueda afectar el proceso de alimentación.
- ✓ Un abordaje nutricional exitoso debe atender aspectos que son importantes para la respuesta biológica del paciente como son: los horarios de las comidas, la ingesta hídrica, exposición solar, actividades físicas o recreativas, grounding, disminución de la carga tóxica ambiental y una adecuada higiene electromagnética.
- ✓ Las ondas electromagnéticas no nativas o artificiales producen electrosmog que es una toxina ambiental con importantes consecuencias negativas sobre la salud.
- ✓ Se ha estudiado científicamente un posible vínculo fisiopatológico entre el autismo y el electrosmog.

RESUMEN

- ✓ Debemos proteger a nuestros pacientes del impacto de estas radiaciones, a través de una adecuada higiene electromagnética y con medidas adicionales de protección y filtrado.
- ✓ Debemos educar a los padres y representantes de nuestros pacientes sobre todas las condiciones subyacentes asociadas al TEA para lograr su compromiso y eventualmente recomendar soporte terapéutico para aquellos padres que lo requieran.
- ✓ El seguimiento de la evolución del paciente y su respuesta a la intervención es clave para un abordaje exitoso.

Linca

Liga de Intervención Nutricional
contra Autismo e Hiperactividad A.C.

¡GRACIAS!