

Medical Issues for Children with Autism

Desiree V. Rodgers, M.P.H., M.D., F.A.A.P

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Diagnostic Center Central California

Disclaimer

- The purpose of this lecture is to provide current medical information on evaluating, diagnosing, and treating a child with autism.
- General questions regarding information presented in this lecture will be answered. However, questions of a personal nature regarding the diagnosis and treatment of autism in relatives of members of the audience will not be entertained.

What Is Autism?

- Autism is a neurodevelopmental disorder characterized by marked impairment in social interaction and communication and a restricted repertoire of activity and interests.

Etiology of Autism

- Prevalence of autism 1 in 88
- No clear cause for autism
- Possible genetic and environmental interaction
- A small number of cases may be due to an underlying metabolic, infectious, or genetic disorder (untreated PKU, congenital CMV, fragile X syndrome)

Diagnostic Criteria for Autistic Disorder

Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR) definition:

- (1) Qualitative impairment in social interaction, as manifested by at least 2 of the following:
 - (a) Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression
 - (b) Failure to develop peer relationships appropriate to developmental level

Diagnostic Criteria for Autistic Disorder

- (c) A lack of spontaneous seeking to share enjoyment, interests, or achievements with other people
- (d) Lack of social or emotional reciprocity

Diagnostic Criteria for Autistic Disorder

(2) Qualitative impairments in communication as manifested by at least one of the following:

(a) Delay in, or total lack of, the development of spoken language

(b) In individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

Diagnostic Criteria for Autistic Disorder

- (c) Stereotyped and repetitive use of language or idiosyncratic language

- (d) Lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

Diagnostic Criteria for Autistic Disorder

- (3) Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:
 - (a) Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

Diagnostic Criteria for Autistic Disorder

- (b) Apparently inflexible adherence to specific, nonfunctional routines or rituals
- (c) Stereotyped and repetitive motor mannerisms
- (d) Persistent preoccupation with parts of objects

Diagnostic Criteria for Autistic Disorder

- B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years:
- social interaction
 - language as used in social communication
 - symbolic or imaginative play
- C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder

Diagnosing Autism

- Complete history and physical examination (search for etiology—tuberous sclerosis, fragile X, Angelman syndrome)
- Audiologic Evaluation
- Comprehensive speech and language evaluation
- DNA for routine chromosomes, DNA for fragile X testing
- ?? Lead level, EEG, MRI, plasma amino acid assays

Diagnosing Autism

- Use DSM-IV-TR criteria and standardized assessment tools to gather information from parents/teachers regarding their observations of the child.

- Childhood Autism Rating Scales (CARS)
- Autism Behavior Checklist (ABC)
- Gilliam Autism Rating Scale (GARS)
- Autism Diagnostic Interview-Revised (ADI-R)
- Autism Diagnostic Observation Schedule (ADOS)

Differential Diagnosis of Autism

- Global developmental delay/mental retardation
- Developmental language disorder
- Hearing impairment
- Landau-Kleffner syndrome (acquired aphasia in association with an abnormal EEG)

Differential Diagnosis of Autism

- Rett's syndrome (mutation in MeCP2 gene)
- Childhood disintegrative disorder
- Severe early deprivation/reactive attachment disorder
- Anxiety disorders/obsessive compulsive disorder

Medical Conditions Associated with Autism

- Epilepsy—prevalence 11%-39%
- GI problems—
constipation/diarrhea
- Insomnia—associated with
daytime behavioral difficulties

Medical Conditions Associated with Autism

- Intellectual Disability—prevalence 41%
- Motor impairments—hypotonia, apraxia, clumsiness, toe walking, gross motor delay
- Sensory processing disorder

Psychiatric Conditions Associated with Autism

- Anxiety
- Mood disorders
- Obsessive-compulsive-like behaviors
- Aggressive behavior
- ADHD
- Self-injurious behaviors

Conventional Medicine Treatments for Autism

- Autism is a chronic neurodevelopmental disorder
- No cure presently
- Current treatment includes:
 - Behavioral management
 - Parent training
 - Habilitative therapies (speech, OT, and PT)
 - Medication (AEDs to treat seizures, psychotropic meds for psychiatric disorders)

Behavior Management in the Treatment of Autism

- Applied Behavioral Analysis (ABA)—structured, repetitive, intensive
- Floor time model—focuses more on engaging young children in social interactions, speech and language therapy, and occupational therapy

Parent Training

- Parents require support from child's primary care physician
- Community support through local regional center
- Support through national organizations (Autism Society of America, The National Autism Association, Unlocking Autism, etc.)

Medications Used in the Treatment of Autism

- Currently, no medication has been shown to directly treat the core symptoms of autism
- **October 6, 2006** – FDA approved the use of, **RISPERDAL®** (antipsychotic medication) for the treatment of irritability associated with autistic disorder, including symptoms of aggression towards others, deliberate self-injuriousness, temper tantrums, and quickly changing moods, in children and adolescents ages 5 to 16 years.

Medications Used in the Treatment of Autism

- Medications used to treat various symptoms found in autism:
 - Inattention/hyperactivity (stimulants, Atomoxetine)
 - Aggression and disruptive behavior (atypical antipsychotics, alpha-adrenergics, antiepileptics)
 - Symptoms of anxiety/OCD (SSRI's)

Complementary and Alternative Medicine

- Definition: A group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.

Complementary and Alternative Medicine

- Complementary Medicine:
 - Used with conventional medicine
 - Example: Use Aromatherapy to lessen a patient's discomfort after surgery
- Alternative Medicine:
 - Used in place of conventional medicine
 - Example: Use a special diet to treat cancer instead of surgery or radiation

Complementary and Alternative Medicine Therapies

➤ Alternative Medical Systems

- homeopathic medicine
- naturopathic medicine
- traditional Chinese Medicine

➤ Mind-Body Interventions

- meditation
- prayer

Complementary and Alternative Medicine Therapies for Autism

- Supplementation with high-dose vitamins and minerals (Vit C, Vit B6, Vit B-12, Mg)
- Nutritional supplements (DMG)
- Elimination Diets (gluten-free, casein-free diets)
- Polyunsaturated Fatty Acid (PUFA)
- Immune globulin therapy (IVIG)
- Antibiotic or Antifungal therapy

Complementary and Alternative Medicine Therapies for Autism

- Secretin therapy
- Chelation therapy
- Sensory integration training
- Auditory integration training
- Facilitated communication

Complementary and Alternative Medicine Therapies for Autism

- Current evidence present in medical literature does not support the use of CAM therapies as sole treatment of Autism
- Some CAM therapies may be harmful (megadose vitamin/supplement therapy, chronic administration of antiviral agents, chronic use of antifungal agents, chelation therapy)
- More placebo-controlled, double-blind, randomized clinical trials need to study various CAM therapies for Autism

Summary

- Autism is a neurodevelopmental disorder characterized by marked impairment in social interaction and communication and a restricted repertoire of activity and interests
- No clear cause for autism
- Possible genetic and environmental interaction
- No cure for autism-- Medications used to treat various symptoms found in autism
- Risperdal recently approved by FDA to treat aggressive and self-injurious behaviors in autistic children
- Current evidence present in medical literature does not support the use of CAM therapies as sole treatment of Autism

Resources for Families

- CAM Resources:

- National Center for Complementary and Alternative Medicine (www.nccam.nih.gov)
- The Longwood Herbal Task Force (www.mcp.edu/herbal/default.htm)

- Autism Resources:

- Autism Society of America (www.autism-society.org)
- National Institute of Mental Health (www.nimh.nih.gov)
- Centers for Disease Control and Prevention (www.cdc.gov/ncbddd/autism/actearly)
- Autism Speaks (www.autismspeaks.org)