

The Use of Medication in Autism

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Medication Indications

- Unresponsive to nonpharmacologic intervention
- Behavior has a negative impact on function
- Medication-responsive problem
- Benefits outweigh potential side effects
- Understanding it is symptomatic treatment, not a cure
- Not a substitute for appropriate educational and behavioral programming

Problem Behaviors in Autism

- Aggression
- Tantrums
- Agitation
- Self injury
- Irritability
- Rigidity/desire for sameness
- Hyperactivity
- Repetitive actions/thoughts

Causes of Problem Behaviors in Autism

- Attention deficit hyperactivity disorder
- Anxiety
- Obsessive-compulsive disorder
- Affective/mood disorders
- Seizures
- Tic disorder
- Sleep disturbance
- Unclear etiology

Anxiety

- Apprehensive anticipation of future danger or misfortune out of proportion to the perceived threat
- Anticipated danger may be internal or external
- Somatic features present
- Inability to relax

Anxiety Disorders

- Separation anxiety disorder
- Generalized anxiety disorder
- Social phobia
- Specific phobias
- Obsessive compulsive disorder

Anxiety - Treatment

- Cognitive behavioral therapy
- Medication
 - Antidepressants
 - Anxiolytics
 - Adrenergic drugs
 - Antipsychotic drugs
 - Gabapentin (Neurontin)

Antidepressants

- Imipramine (Tofranil)
- Clomopramine (Anafranil)
- Fluoxetine (Prozac)
- Sertraline (Zoloft)
- Paroxetine (Paxil)
- Fluvoxamine (Luvox)
- Citalopram (Celexa)
- Escitalopram (Lexapro)

Antidepressants

Side Effects

- Lethargy
- Change in appetite
- Insomnia
- Disinhibition
- Unmasking/aggravation of bipolar disorder
- Serotonin withdrawal syndrome

Serotonin Reuptake Inhibitors

- Serotonin withdrawal syndrome
 - Somatic features
 - Disequilibrium
 - GI symptoms
 - Flu-like symptoms
 - Paresthesia, electric shock
 - Insomnia, vivid dreams
 - Psychological symptoms
 - Anxiety/agitation
 - Crying spells
 - Irritability
 - More likely with shorter half-life drugs and longer use

Anxiolytic Drugs

- Benzodiazepines
 - Diazepam (Valium)
 - Lorazepam (Ativan)
 - Clonazepam (Klonopin)
- Buspirone (BuSpar)

Obsessive-Compulsive Disorder

- Obsession - recurrent or persistent idea, impulse or image that is intrusive and recognized as being inappropriate
- Compulsion - repetitive behavior based on rules and with a stereotypic pattern performed to suppress or diminish dysphoria related to obsession
- Occur for more than 1 hour daily and interfere with functioning
- Recognized as excessive or unreasonable
- Not single thought or action

Obsessive-Compulsive Disorder Treatment

- Behavioral intervention
 - Cognitive behavioral psychotherapy
- Pharmacotherapy
 - Serotonin reuptake inhibitors
 - Clomipramine (Anafranil)
 - Benzodiazepines
 - Antipsychotic drugs
 - Buspirone (BuSpar)

Affective Disorders

- Depression
 - Disturbance of mood with depressive feelings and vegetative symptoms
- Bipolar disorder
 - Distinct period of abnormally and persistently elevated, expansive or irritable mood

Depression - Core Features

- Depressed or irritable mood
- Loss of interest in activities
- Concentration problems
- Change in sleep pattern
- Change in appetite
- Lack of energy or excessive agitation
- Suicidal ideation

Bipolar Disorder

Core Features

- Inflated self-esteem or grandiosity
- Decreased need for sleep
- More talkative than usual or pressure of speech
- Flight of ideas or racing thoughts
- Distractibility
- Increased goal-directed activity or psychomotor agitation

Bipolar Disorder

Core Features

- Excessive pleasurable activities with potential for painful consequences
- Functioning
 - Mania - marked impairment in functioning
 - Hypomania - no marked impairment in functioning
- Not due to substance effect or general medical condition

Depression - Treatment

- Psychotherapy
- Antidepressants
 - Tricyclic antidepressants
 - SSRI's
 - Venlafaxine (Effexor)
 - Bupropion (Wellbutrin)
 - Nefazadone (Serzone)
 - Mirtazapine (Remeron)
 - Duloxetine (in development)

Bipolar Disorder Treatment

- Anticonvulsants
- Lithium (Eskalith, Lithobid)
- Antipsychotic drugs
 - Haloperidol (Haldol)
 - Risperidone (Risperdal)
 - Olanzapine (Zyprexa)
 - Quetiapine (Seroquel)
 - Ziprasidone (Geodon)
 - Aripiprazole (Abilify)

Bipolar Disorder

Anticonvulsants

- Valproate (Depakote, Depakene)
- Carbamazepine (Tegretol, Carbatrol)
- Lamotrigine (Lamictal)
- Topiramate (Topamax) as add-on?
- Gabapentin (Neurontin) for sleep?

Tic Disorder

- Sudden, rapid, recurrent, nonrhythmic stereotyped motor movement or vocalization
- Types
 - Motor
 - Phonic (vocal)
 - Simple or complex
- Classification
 - Transient tic
 - Chronic motor or vocal tic
 - Tourette's syndrome

Tic Disorder - Treatment

- Clonidine (Catapres)
- Guanfacine (Intuniv, Tenex)
- Haloperidol (Haldol)
- Pimozide (Orap)
- Risperidone (Risperdal)
- Olanzapine (Zyprexa)
- Ziprasidone (Geodon)
- Fluphenazine (Prolixin)

Sleep Disturbance

- Disorder of sleep initiation
- Disorder of sleep maintenance
- Parasomnias

Sleep Disturbance Treatment

- Regular bedtime routine
- Analysis and elimination of triggers
- Medication
 - Melatonin
 - Clonidine (Catapres)
 - Diphenhydramine (Benadryl)
 - Benzodiazepines
 - Antidepressants
 - Antipsychotics

ADHD Treatment

- Stimulants
 - Concerta, Focalin XR, Daytrana, Metadate CD, Ritalin LA
 - Vyvanse, Adderall XR, Dexedrine
- Non Stimulant therapy
 - Strattera
 - Intuniv

Seizures in Autism

Generalized tonic – clonic or complex
partial in type

Medication to treat Seizures in Autism

- Partial Seizures

Lamotrigine (Lamictal)

Levetiracetam (Keppra)

Oxcarbazepine (Trileptal)

Generalized Seizures

- Lamotrigine (Lamictal)
- Valproic Acid (Depakote)
- Levetiracetam (Keppra)
- Rufinamide (Banzel)
- Clobazam (Onfi)

Side effects of AED's

- Behavioral
- Skin rash
- Liver toxicity
- Bone marrow toxicity
- Sleepiness
- Metabolic changes