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)
  – Buproprion (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)
  - Leveteracetam (Keppra)
  - Oxcarbazepine (Trileptal)
Generalized Seizures

- Lamotrigine (Lamictal)
- Valproic Acid (Depakote)
- Leveteracetam (Keppra)
- Rufinamide (Banzel)
- Clobazam (Onfi)
Side effects of AED’s

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