**Autism Spectrum Disorders and Psychopharmacology:** Planning for Success while Managing Expectations

**Objectives**
- Identify key symptoms of autism spectrum disorders (ASD)
- Outline proposed changes for diagnosis of ASD in DSM 5
- Review scope of impact of ASD on child/adolescent and family functioning
- Examine the evidence of varied psychopharmacologic treatments for children and adolescents with ASD
- Contrast risk (side effects) versus benefit (efficacy) of varied psychopharmacologic agents used with children and adolescents with ASD

**Case: Sebastian**
- Waiting room meet and greet
- 11 year old mixed ethnicity male
- Presenting symptoms:
  - Mood instability, crying, whining, withdrawal
  - Regression (toileting), sleep disruption, suicidal thoughts
- Developmental backdrop
  - IQ normal to intelligent range, home schooled, only child, cultural and familial concerns

**Family**
- Mom
  - Speaking quite adult
  - Sebastian is her friend
  - Source of pride
  - Marital concerns
  - Parenting challenges
  - History of mental health care
- Dad
  - Distant, Chinese
  - High emotion
  - Works a lot, travels a lot
  - Very invested in achievement
  - Extended family who travels to states
  - Mother describes as labile
  - Disengaged from treatment

**My thoughts......**
- What do I do about these developmental concerns?
- How do I help this mom?
- How will I help this child?
- To what extent?
- What about family work?
Sebastian: What I did....

- Start Lexapro
- Connected with Autism group
- Encouraged mother to explore supports
- Referred mother for therapy
- Restrained myself
- Follow up
- Interfaced with school

- Follow up:
  - Cycling of mood
  - Family work
  - Social network
  - Strengths based work
  - Language building
  - Addition of Lamictal
  - Education/symptom tracking

Autism Spectrum Disorders

- Neurodevelopmental disorder with core domains: impaired social interaction/communication, restricted repetitive behaviors and interests

Epidemiology

- 1 IN 88, UP FROM 1 IN 55 IN 2008
- Boys 3-4X more than Girls
- Detection rates are lower than prevalence

44% of PCPs report caring for at least 10 children with ASD; however, only 8% routinely screen

DSM-IV TR

- Autistic Disorders
- Asperger’s Syndrome
- Childhood Disintegrative Disorder
- Rett syndrome
- Pervasive developmental disorder
- Trend towards spectrum

Changes for DSM V

- Exclusion of Retts syndrome
- Autistic Disorder: merges childhood disintegrative disorder, Asperger syndrome, pervasive developmental disorder NOS
- Criteria for autistic disorder
  - Social/communication deficits (social interaction, communication)
  - Fixed interests/repetitive behaviors (restricted interests)

DSM V all criteria must be met

- Deficits in nonverbal and verbal communication
- Lack of social reciprocity
- Lack of peer relationships
- 2 out of three required for fixed interests criteria
  - Stereotypic behaviors or unusual sensory symptoms
  - Adherence to routines
  - Restricted interests
Unique but similar....

- Misdiagnosis is common
- More so in African Americans
- Stress on families is significant
- Burden of care is heavy
- Educational systems catching up to need

Aspergers

- High functioning form of autism
- Difficulty interacting socially, repeat behaviors, and often are clumsy
- Motor milestones may be delayed. The condition appears to be more common in boys than in girls.
- Difficulty socially
- Above-average intelligence
- May excel in fields such as computer programming and science
- There is no delay in their cognitive development, ability to take care of themselves, or curiosity about their environment.

What does it look like?

- Abnormal eye contact
- Aloofness
- Failure to turn when called by name
- Failure to use gestures to point or show
- Lack of interactive play
- Lack of interest in peers

Comorbidity

- 9-10% or up to 70%
- 43% two or more disorders
- Social anxiety, ADHD, ODD, most common

Dual Diagnosis

- Dual diagnosis 10%-91%
- Presentation masked by poor communication skills-reliance on caregivers
- Symptoms mistaken for aberrant behaviors
- Profound> greater incident than mild, moderate, severe
- 20-30% develop epilepsy by adulthood
- LD, ADHD, Tourettes Disorder

Dual Diagnosis

- Dual diagnosis 10%-91%
- Presentation masked by poor communication skills-reliance on caregivers
- Symptoms mistaken for aberrant behaviors
- Profound> greater incident than mild, moderate, severe
Higher Prevalence Rate Related to……

- Fewer Support networks
- Increased experience of loss, rejection, isolation
- Low self esteem
- Lack of Control Over one’s Life
- Poor ability to manage stress
- Poor problem solving/conflict resolution skills
- Biological vulnerabilities

Diagnostic Scales

- ADOS
- ASRS
- CARS
- GARS 2
- PDD Assessment
  - Clinician observation, parent report of social affect, repetitive behaviors

Medications in ASDs

- Core symptom control
  - Aggression/irritability
  - ADHD like symptoms
  - Repetitive behaviors

Will not help developmental concerns-unless if co-morbid

Medications FDA approved for use with children and adolescents

Medication Efficacy

- Medications do not always work with ASD kids as they do in “neurotypical children”
- Side effects more prominent
- Positive effects less pronounced
- Work best in “comorbid cases”

- Irritability
- ADHD
- Repetitive Behaviors
### Irritability

**MOST STUDIED**
- Atypicals
  - FDA approved: Risperal (3 RCTS), Abilify
  - Olanzapine, Quetiapine, Ziprasidone, Clozapine
- Typical
  - Haloperidol, Chlorpromazine, Fluphenazine
- SSRIs
  - Citalopram, Fluoxetine, Fluvoxamine

**LESS STUDIED**
- Alpha agonists
  - Guanfacine, Clonidine
- Mood stabilizers
  - Lithium, Valproic Acid, Lamotrigine
- Psychostimulants (associated with impulsivity and hyperactivity)

### Findings particular to children with ASDs: irritability

**ANTIPSYCHOTICS**
- Risperdal: Most efficacy for irritability
  - High risk of weight gain
- Abilify: Efficacy with 20% less weight gain
- Geodon: probably effective, cardiac arrhythmias

**MOOD STABILIZERS**
- Lithium: helpful for mania like symptoms
- Depakote: mixed
- Lamotrigine: ? (hyperactivity or insomnia possible)
- Response best when symptoms are like Bipolar: irritable+hyperactive+mood labile

### ADHD symptoms

**STIMULANTS**
- Disappointing trials
  - More sensitive to side effects most common agitation, depressed mood, aggression
  - Less effect on attention, hyperactivity, impulsivity than non-ASD children
- Typical response: 60-70%, those with ASDs 24%
- Methylphenidate demonstrated efficacy

**Agonists**
- Clonidine, Guanfacine
  - Clonidine (mixed), Guanfacine (effective)
  - Decreased irritability
  - Side effects: sedation, irritability, sleep disturbance, constipation
- Kapvay, Intuniv
- Straterra
  - Effective

### Repetitive Behaviors

**OVERLAP WITH OTHER DISORDERS**
- OCD
- SSRIs
  - Large study found Celexa to be no better than placebo
  - Poorly tolerated: dry mouth, GI upset, anxiety
- Prozac effective
- Mood Stabilizers
  - Some promise (Depakote)

**RULE OUT MEDICAL PROBLEMS!**
- Risperdal-effective

### SSRIs

**ANXIETY**
- Celexa, Luvox, Prozac, Luvox
  - Depressive or anxious symptoms
  - Can increase impulsivity, insomnia, behavioral activation
  - A note on benzos.....

### Clinical Pearls

**LESS EFFICACY**
- Antianxiety agents
- Stimulants
- SSRIs with repetitive behaviors unless there is co-morbid OCD
- Most studied does not offer best efficacy (case of secretin)

**PROMISING FUTURES?**
- Guanfacine (irritability)
- Depakote (repetitive behaviors)
- More money into ASD research and pharma
**Complementary Therapies**

- Food Hypersensitivities
- Diet balance (carbs and proteins)
- Omega-3 fatty acids
- Probiotics
- St. John’s Wort
- Melatonin
- Management of electronic media
- Exercise
- Acupuncture

**Functional Impairment**

- Diagnosis: specific symptom criteria met
- Clinical significance: symptoms result in distress or disability
- Functional Impairment across three domains: body, activity, participation
- Developmental context
- Correlations between number of symptoms and extent of functional impairment (separation anxiety highest)

**Impairments in Family Functions**

“It effects our whole life.”

- “Giving up normal family activities and outings.”
- “Lack of spontaneity or flexibility in family life.”
- “Lack of personal social activities.”
- “Stress surrounding the marital relationship.”
- “Difficulties in maintaining employment or pursuing outside activities.”

**Sibling Interventions**

- Educate the sibling about the consequences of autism
- Organize activities exclusively for the sibling
- Involve the sibling whenever possible in activities with the child with autism

**Effects on mothers with children with Autism**

- Higher levels of stress related to parenting incompetence and role restrictions
- Increased symptoms of depression
- Low sense of self-efficacy
- Feelings of guilt about “not doing enough” for the TD child vs. the child with autism
- Different parenting cognitions about the child with autism and the TD child


*Deb Keen, Donna Couzens, Sandy Muspratt, and Sylvia Rodger (2010)*

- 2-4 year olds in two different groups
- Professional Intervention (17 total)
- DVD Intervention (22 total)
Findings:

1. Professional support was most effective when assisting parents to understand and reframe child’s behavior to be viewed as positive vs. changing parent perceptions about the parenting role.

2. Majority of DVD group had difficult putting aside time to complete activity sheets and to watch the actual DVD.

More findings:

3. The way the intervention was given benefited parents with handling stress and competence was linked with professional input with individualization of the information given.

4. Fathers and mothers differed in their response to participating early in the intervention.

Distress and Impairment

- Distress higher amongst those with internalizing disorders.
- Functional impairment higher among those with externalizing disorders.
- Family interference > anxiety, ODD, Depression.
- Educational interference > ADHD, CD, Substance abuse.
- Peer interference =

Study in Australian Children

- Studied previous and current range of:
  - Educational interventions
  - Therapy interventions
  - Medical intervention
  - CAM interventions
- 84 families or preschool-aged children with autism spectrum disorders.

Interventions used with preschool children with autism spectrum disorders

| Interventions used with preschool children with autism spectrum disorders |
|---|---|---|---|---|---|
| Distress higher amongst those with internalizing disorders | Functional impairment higher among those with externalizing disorders | Family interference > anxiety, ODD, Depression | Educational interference > ADHD, CD, Substance abuse | Peer interference = |

Table 2.

| Interventions used with preschool children with autism spectrum disorders | Access frequency for current interventions (days per week) |
|---|---|---|---|---|
| Educational interventions | >4 | >2 and <4 | >1 and <2 | >0.5 and <1 | NA |
| Therapy interventions | >4 | >2 and <4 | >1 and <2 | >0.5 and <1 | NA |
| Medical interventions | >4 | >2 and <4 | >1 and <2 | >0.5 and <1 | NA |
| CAM interventions | >4 | >2 and <4 | >1 and <2 | >0.5 and <1 | NA |

Resources

Books
- National Institute of Mental Health

Web Resources
- http://www.autism-society.org/
- http://www.autismresourcefoundation.org/

References


