Pediatric Anxiety Disorders

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Anxiety Disorder

• Distress when engaging and participating in age-appropriate, normal developmental activities

• “[All anxiety disorders involve] excessive fear, avoidance of whatever is feared, and anticipation and worry when expected to encounter what is feared” p.2 Siegel and Dickstein 2012.
Why Do We Treat It?

• Disruption of normal psychosocial development of children
• Increased rates of other anxiety disorders, depression, substance dependence, suicidality
• Positive benefit on the family unit and long-term
DSM-5 Anxiety Disorders

- Separation Anxiety Disorder
- Selective Mutism
- Specific Phobia
- Social Anxiety Disorder (formally ‘social phobia’)
- Panic Disorder
- Agoraphobia
- Generalized Anxiety Disorder
- Substance-Induced Anxiety Disorder
- *School Avoidance*
Separation Anxiety Disorder

- Developmentally inappropriate and excessive fear/anxiety regarding separation from attachment figures or home for >4w

- Need 3 of the following:
  - Excessive distress
  - Worrying about safety
  - Refusal to go to school, etc.
  - Separation nightmares
  - Refusal to sleep alone
  - Physical symptoms
  - Reluctance to be alone
Social Anxiety Disorder

• Marked fear in social situations because of concerns about potential embarrassment or scrutiny by others, >6m

• In children
  – With peers and not just adults*
  – In addition to anxiety, will also show crying, tantrums, clinging, freezing
Generalized Anxiety Disorder

• Chronic, **excessive, uncontrollable, non-specific** worry (more days than not) about multiple events / activities, >6m

• Physical symptoms (only one required in children)
  – Restlessness -- Difficulty concentrating
  – Fatigue -- Muscle tension
  – Sleep difficulty -- Irritability
Epidemiology

- Most prevalent psychiatric condition in youth
  - Median onset before age 15
- 6-20% of children/adolescents have at least one childhood anxiety disorder
- More females than males
- Increasing rates as one ages

JAACAP Practice Parameters, 2007.
# Table of Prevalence Rates (in adolescents)

<table>
<thead>
<tr>
<th>Anxiety Disorder</th>
<th>Prevalence (%)</th>
<th>Severe impairment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generalized anxiety disorder</td>
<td>2.2%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Social anxiety disorder</td>
<td>9.1%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Specific phobia</td>
<td>19.3%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Panic disorder</td>
<td>2.3%</td>
<td>-</td>
</tr>
<tr>
<td>Separation anxiety disorder</td>
<td>7.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Any anxiety disorder</td>
<td>38%</td>
<td>8.3%</td>
</tr>
</tbody>
</table>

Adapted from: Merikangas et al (2010) JAACAP
Pattern of Development

• Mean ages of onset
  – Overlapping
  – Generally see GAD and specific phobia symptoms (ages 5-6)
  – Social anxiety and separation anxiety 1-2 years later
    • (Then OCD)
  – Panic symptoms/disorder in early teens

Reminder of Pediatric Presentation

- Somatic symptoms – headache/stomachache
- Inability to recognize excessive nature
- Oppositionality/defiance (when exposed to fearful stimuli)
  - Crying, irritability, anger outburst
- Personality traits: Perfectionistic, high-reassurance seeking
Anxiety Disorder Comorbidities

- Anxiety begets anxiety
- Other anxiety disorders, depression, ADHD, oppositional defiant disorder (ODD)
- Learning and language disorders

- Increased risk of developing other anxiety disorders, depression and substance abuse (esp. alcohol)
Anxiety: Longitudinal Course

• Chronic and persistent (esp. if untreated)
  – ~50 of those treated in remission 6 years later

• Longer-term outcomes with ongoing anxiety
  – Worsened long-term functioning in general health
  – Worsened interpersonal, financial, educational statuses
  – Increased risk of suicidality

Wehry et al. 2015. Curr Psychiatry Rep
Anxiety Differential

• Psychiatric:
  – ADHD (restlessness, inattention)
  – Learning disabilities
  – Autism Spectrum
  – Depression (poor concentration, sleep difficulty, somatic complaints)

• Medical / Medication / Substance-related
Behavioral Therapies

- Cognitive Behavioral therapy
- Acceptance and commitment therapy
- Dialectical behavioral therapy
- Psychodynamic therapy
- Mindfulness approaches
Child/Adolescent Anxiety Multimodal Study (CAMS)

- 488 youth (7-17) with DSM-IV diagnoses of GAD, social anxiety or separation anxiety

- 12 week trial, 4 branches:
  - Medication (sertraline)
  - Therapy (Cognitive Behavioral Therapy)
  - Combination (sertraline and CBT)
  - Placebo

Compton et al (2010)
CAMS Study Continued

• Combined branch (sertraline and CBT) was most effective
  – 81% responded - (CGI-I of 1 or 2)
    • Combined treatment most effective at 24 and 36 weeks

• Other findings
  – Predictors of response
  – Longer-term outcomes
Predictors of Response in Anxiety Treatment

• Positive predictors of response:
  – Younger age  -- No other internalizing disorders
  – Lower baseline anxiety  -- Nonminority status

• Negative predictors of response:
  – Increased caregiver strain  -- Poor family functioning
  – Family history of anxiety  -- Social anxiety disorder

CAMELS

Child/Adolescent Anxiety Multimodal Extended Long-term Study

• ~50% were in remission (of anxiety) 6 years later
  – Responders to initial acute treatment more likely to be in remission

• Predictors of remission include:
  – Family functioning (at baseline)
  – Male gender
  – Higher socioeconomic background (?higher-quality services)
  – Lower baseline severity / lack of comorbid externalizing disorders
FDA-approved SSRIs/SNRIs for Children/Adolescents

• Fluoxetine – MDD, ages 8+; OCD ages 7+ (target 40mg)
• Fluvoxamine – OCD, ages 8+ (target 150mg)
• Sertraline – OCD, ages 6+ (target 150mg)
• Escitalopram – MDD, ages 12+ (target >10mg)
• Duloxetine – GAD, ages 7+ (target 60-90mg)

Pharmacotherapy in Pediatric Anxiety

- SSRIs and SNRIs are effective in treating pediatric anxiety disorders compared to placebo
  - SSRIs are associated with greater and faster improvement compared to SNRIs

- “Sertraline has the greatest evidence of efficacy [in pediatric anxiety]” (p. 6, Strawn et al, 2017)
Pharmacology in Anxiety Cont.

• Strawn et al (2015) meta-analysis
  – Commonly-used SSRI/SNRI RCTs (9) all showed superiority of antidepressants over placebo

• Effect size was of “moderate magnitude”
  – Cohen’s d = 0.62, range 0.34-0.89, p<.01
Recent Metanalysis

- Wang et al (2017) – meta-analysis
  - 115 studies with >7500 patients
- Previous SSRIs and SNRIs and atomoxetine all effective
- No differences between CBT and any medication

Wang et al (2017). JAMA Peds
Antidepressants and Black-box Label

- Black-box warning on antidepressants (2004)
- “Did not observe an increased risk of treatment-emergent suicidality in youth with anxiety disorders” (Strawn et al 2015, p.154)
  - Venlafaxine and paroxetine
Other Pharmacological Treatments

- Tricyclic antidepressants (TCAs)
- Benzodiazepines
- Buspirone
- Alpha-agonists
Other Pharmacological Thoughts

• Discontinuing treatment?
  – Maintain the SSRI dose for 6-12 months after remission; then taper slowly

• Activation syndrome?
  – Characterized by disinhibition, impulsivity, insomnia, restlessness, hyperactivity, and irritability
  – More common in pre-pubertal children
Anxiety and ADHD (!)

• Anxiety and ADHD are often co-morbid
  – Up to 1/3 youth with ADHD have co-occurring anxiety

• When treating ADHD with stimulants:
  – Co-occurring anxiety does Not alter response of ADHD to treatment
  – Side effects to stimulants were Not higher in those with ADHD and anxiety (vs. ADHD alone)

• Atomoxetine

Anxiety: Other Thoughts

- Social media and link to depression and anxiety
- Delivering CBT and other therapies through online channels
  - Tele-psychiatry
  - Internet-based CBT
  - Apps
- Mind-body/complementary therapies
  - Promising evidence for biofeedback, hypnosis, guided imagery, mindfulness meditation, yoga

Anxiety: Final Thoughts

• Most common childhood psychiatric disorder
• Behavioral and pharmacotherapy options are both effective
  – Combined approach is best
  – SSRIs > SNRIs
• Evaluate for comorbidities
• Watch for somatic symptoms
• Need more research:
  – Longer-term outcomes, other pharmacological and non-pharmacological treatment options, neurobiology
Thanks!