PEDs Anxiety

Background

1. Most common class of psychiatric disorders in children and adolescents
2. Two major types
    - Separation anxiety disorder (SAD)
        - Excessive worry about being separated from parents or attachment figures, lasts at least 1 month, results in an impaired level of function
        - May include fear of harm to primary caregivers
            - Social phobia subtype results from fear of embarrassment, humiliation or rejection from peers
    - Generalized anxiety disorder (GAD)
        - Excessive worry about future events, past behavior or competence that is difficult to control for at least 6 months, and results in an impaired level of function
    - Specific phobias
        - Most common form of pediatric anxiety disorder
        - 4 major types:
            - Animal/insect
            - Natural environment/disaster
            - Blood injection
            - Situational
3. Many children and adolescents experience anxiety in unfamiliar environments
4. Diagnose and treat when symptoms become disabling or result in a decline of function or appropriate development

Pathophysiology

1. Physiologic components associated with heightened autonomic nervous system activity, and cognitive-behavioral components
2. Also associated with dysfunctions in the serotonergic system
3. Recent studies suggest an association of pediatric GAD with enlargement of the amygdala, and increased white and gray matter in the right superior temporal gyrus
4. Epidemiology
    - 5-18% of children and adolescents are diagnosed with an anxiety disorder
    - SAD peaks in mid-childhood
        - Associated with lower socioeconomic status and single parent families
        - Gender ratio 1:1 in childhood
        - Social phobia peaks in adolescence
    - GAD peaks in adolescence, often follows onset of other psychiatric disorders
        - Associated with middle to upper-class Caucasian children
        - GAD is more common in females
    - Specific phobias age of onset is commonly around 8 years
        - Most referrals occur in the 10-13 year age range
        - Age is highly dependent upon the type of phobia
        - Animal and water/storm specific phobias may peak at earlier age

5. Risk factors
    - Include genetic, environmental and temperament elements
        - Children with at least one biological parent with an anxiety disorder or other psychiatric disorder have an increased risk
        - Commonly related to parent-child interactions
            - Parental behaviors associated with childhood anxiety include affectionless control, low intimacy, rejection, and over-involvement
            - Stressful factors such as death or abuse can cause an anxiety disorder
        - Shy temperament and behavioral inhibition are closely associated with anxiety disorders in children
            - These children have a tendency to withdraw when exposed to unfamiliar situations
    - Children with pediatric anxiety disorders are at an increased risk for other anxiety and psychiatric disorders (i.e. substance abuse, Major Depressive Disorder)

Diagnosis

1. Characteristic aspects in the history include school refusal (most common), sleep problems, avoidance behaviors, and somatic complaints
2. Important to differentiate age appropriate anxiety from an anxiety disorder
    - Physician should address duration, frequency, and intensity of symptoms
    - Structured interview format for parents, children, including specific questions
        - Young children refuse to sleep because of nightmares or fears of harm befalling family members
        - During mid childhood, children demonstrate clingy behaviors, unwilling to separate from parents
        - Adolescent children experience somatic complaints such as abdominal pain and headaches
            - They are also more likely to express overt worry or sadness upon separation from attachment figures
3. Children with anxiety disorders experience significant distress that inhibits activities of daily living and can have an effect on reaching developmental milestones
    - Common manifestations include excessive crying, tantrums, and inability to separate from parents
4. Important to rule out organic causes of somatic complaints (i.e. MRI or CT scans for headaches, appropriate diagnostic workup for abdominal complaints)

Differential Diagnosis

1. Anxiety disorders are differentiated from medical causes by the presence of intense symptoms that cause significant disruption in age-appropriate activities of daily life, developmental delays or significant distress and somatic complaints without organic findings
    - GAD
    - SAD

- Social phobia
  - Excessive or persistent fear of one or more social situations
- Specific phobia
  - Excessive or persistent fear of a situation or animate/inanimate object
- Hypochondriasis
  - Fear or preoccupation with serious disease, misinterpretation of bodily signs
- Panic disorder
  - Chest pain, palpitations, tremor, urgent speech
- OCD
  - Recurrent thoughts, impulses, or images and repetitive behaviors
- ADHD
  - 6 of 9 criteria for hyperactivity OR impulsivity
- Major depressive disorder
  - Hopelessness, anhedonia, changes in appetite or sleep, guilt
- PTSD
  - Persistent re-experience and fear of a past event, hypervigilance, distress
- Abuse
  - Unexplained bruises/injury, GI disorders, gynecologic disorders, pain

2. Medical conditions that can present as anxiety
   - Hypoglycemic episodes
     - Sx correlate with low blood sugar
   - Hyperthyroidism
     - Tachycardia, diarrhea, low TSH, elevated free T4
   - Cardiac arrhythmias
     - Syncope, chest pain, abnormal EKG or holter/event monitor
   - Caffeinism
     - Nervousness, insomnia, diuresis, flushed face, GI complaints
   - Pheochromocytoma
     - Diaphoresis, palpitations, hypertension, elevated urine catecholamines, vanillylmandelic acid, metanephrines
   - Seizure disorders
     - History of seizures, abnormal EEG, CT or MRI
   - Migraine
     - Headaches, auras, photophobia, nausea/vomiting
   - Medication reactions
     - Anaphylaxis, delirium, urticaria, pruritis

Treatment

1. Cognitive Behavioral Therapy (CBT)
   - Includes
     - Components of psych education for children and families
     - Management of bodily symptoms
     - Cognitive restructuring
     - Exposure therapy

- SAD
  - Individual child -focused or family -focused therapy shows the highest success rate, particularly in children with social anxiety or social phobia
  - Younger children benefit most from this form of CBT
  - Parent child interaction therapy (PCIT)
    - Works to improve secure attachment while addressing maladaptive parenting skills, improving family function
    - Enhances parental attention, incorporates command training, differential reinforcement and shaping
- GAD
  - Group therapy has a high success rate and may be more cost effective than other forms of therapy
- Psychodynamic psychotherapy
  - Utilized in conjunction with CBT has shown promising results in the literature, to improve the child's self -image and self-worth
- Therapy for Social/Specific phobias:
  - Primarily CBT, in the form of exposure therapy
- NOTE - optimization of therapy based on the child's characteristic needs is the best treatment
  - If there are components of school refusal, a parent-teacher plan should be developed
  - If there is a social phobia component, social skills should be enhanced with CBT

2. Medications for anxiety disorders in children have not been well studied
   - SSRIs appear to be safe and effective for use in children
     - Fluvoxamine and sertraline are most effective when used in conjunction with some form of CBT
       - Starting doses of fluvoxamine and sertraline 10-50 mg/day
       - Increase slowly up max 200 mg/day
     - More research is necessary in determining optimal doses, maximum effects and maintenance doses
     - SSRIs contain a black box warning for use in children because of a possible increased risk of suicide in the first four weeks of treatment
     - Non-SSRIs antidepressant medications and anxiolytic medications such as buspirone, alprazolam, and phenelzine are less effective
3. NOTE - Children on SSRIs for anxiety disorders should undergo medication -free trial after a year on the medication

Follow-Up

1. Refer to specialist
   - Consider referral to child psychiatrist if anxiety is severe
2. Admit to hospital
   - If child presents with suicidal or homicidal ideation, or is engaging in self-harm, hospitalization to inpatient child psychiatric ward is warranted

Prognosis

1. Children with pediatric anxiety disorders are at increased risk for other anxiety disorders and psychiatric disorders

2. If untreated children are at risk for developing future anxiety disorders major depression, suicide and psychiatric hospitalization into adulthood
3. Greater than 70% of adults with anxiety disorders report that their onset of symptoms occurred in childhood
4. With treatment, children can often return to age appropriate levels of functioning and developmental milestones

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