

## 475 Child & Adolescent Psychopharmacology – p.1

### **Introduction**

- ? #s of prescriptions for psychoactive meds have increased x2-3 in last 10 years
- ? Ability to diagnose psychiatric disorders in children/adolescents has also increased over last 20 years
- ? Growing awareness that psychiatric disorders do not just start in adult years, that almost all “adult” psychiatric disorders also appear in childhood, that they often start in childhood
- ? Growing awareness that drug abuse in children/adolescents is often an expression of comorbid psychiatric disorder
- ? Growing awareness that psychiatric disorders untreated in children & teens are correlated with severely disrupted adult behavior; and if treated in childhood, this adult disruption in behavior is often markedly improved
- ? Unfortunately, drug studies in children/teens are just now appearing
- ? Often a combination of both pharmacotherapy and cognitive-behavioral therapies work best for children/teens, and more often involve families and school systems (vs. in adults)
- ? Some drug side-effect issues are different for children/teens vs. adults

### **Discuss in greater depth** treatment of:

Behavioral and Aggressive Disorders

Autism and other Pervasive Developmental Disorders

Attention Deficit Hyperactivity Disorder

Depression

Anxiety Disorders

Bipolar Disorder

Psychotic Disorders

### **Behavioral & Aggressive Disorders**

- ? Conduct disorder: aggression, antisocial behavior (e.g. fire-setting, stealing, vandalism, truancy, rule breaking, fighting, lying, etc.
- ? Likely to show other problems (drug abuse, hyperactivity, depression)
- ? Correlated with adult criminal behavior if conduct disorder starts prior to age 12 years
- ? 50% of untreated conduct disorder children progress to diagnosis of antisocial personality disorder as adults
- ? Child with untreated conduct disorder become less response to treatment interventions as they age; so early intervention better than later
- ? Bullying behavior associated with poor psychosocial skills
- ? Being bullied correlated with higher depression and lower self-esteem at adults (23 years)
- ? Treatments: **psychostimulants**, even in absence of ADHD
- ? Therapeutic use of psychostimulants reduces risk of subsequent substance abuse
- ? **Atypical antipsychotics** (e.g. olanzapine/Zyprexa) and maybe **anticonvulsant neuromodulators** (e.g. gabapentin/Neurontin) may also prove helpful

### **Autism & Other Pervasive Developmental Disorders**

- ? Autism: complex disorder, deficits in social interaction and speech & communication skills, repetitive behaviors, and restricted interests
- ? 3.4 cases per 1000 children, 3-4 boys to 1 girl
- ? Traditional treatment: haloperidol/Haldol and other traditional antipsychotics
- ? **Atypical antipsychotics** also efficacious ( e.g. risperidone/Risperdal, olanzapine/Zyprexa, ziprasidone/Geodon), the latter without weight gain

**buspirone/BuSpar** and **neuromodulators mood stabilizers** (esp. in persons with abnormal EEGs) will perhaps also be efficacious

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### Attention Deficit Hyperactivity Disorder

- ? Includes inattention (75%), hyperactivity (55%), & impulsivity (60%)
- ? Most common of psychological disorders of childhood (3-10%), more common in boys than girls
- ? 15-70% are treated with psychostimulants as children
- ? Persists into adulthood in 40-60% of cases
- ? Associated with antisocial personality, institutionalization for delinquency, & incarceration
- ? Two-thirds of children with ADHD have comorbid problems: conduct disorder, oppositional defiant disorder, learning disorders, anxiety disorders, mood disorders (esp. depression), and substance abuse
- ? Data support a genetic component (many with + family pedigrees)
- ? Focus currently on DA4 RS gene
- ? Treatment: psychostimulants (as good as psychostimulants + intensive behavioral treatment, better than behavior treatment alone)
- ? Psychostimulants ↗ mild growth suppression (& insomnia)
- ? Use of psychostimulants correlated with 2x *less* risk for later substance abuse
- ? methylphenidate/Ritalin (incl. Concerta SR) (blocks DA reuptake), amphetamines (dextroamphetamine/Dexedrine, Adderall, Adderall SR)
- ? If child is treatment resistant to above, can also try tricyclic antidepressants (esp. nortriptyline/Pamelor or Aventyl), bupropion/Wellbutrin SR, carbamazepine/Tegretol, clonidine/Catapres or guanfacine/Tenex, modafinil/Provigil, atomoxetine/Strattera or reboxetine/Vestra or Edronax

**Depression in Children & Adolescents**

- ? Prevalence estimated at 2% in children and 8% in adolescents
- ? Estimate that 20% of adolescents have had at least one episode of major depression by age 18 years, with 65% reporting less severe transient sxs of depression
- ? Anhedonia in children is a specific marker for depression in future
- ? In grade-school children can clearly diagnose depression (equal #s in boys and girls); in teens, 2 girls to 1 boy (same as adult #s)
- ? 50% - 80% have + family pedigrees for depression
- ? Untreated depression  $\approx$  high risk for school failure, social isolation, promiscuity, self-medication (drug abuse), and suicide
- ? Suicide is 3<sup>rd</sup> leading cause of death in 10-24 yr. olds
- ? Treatment: usually **SSRI** is first choice (esp. **fluoxetine/Prozac**)
- ? Should use Prozac with psychological therapy (because latter is as effective as Prozac, and because need careful monitoring of medication compliance and suicidal thoughts/behavior)
- ? Warnings against using paroxetine/Paxil
- ? Older MAOIs are also effective (concern about dietary restrictions and compliance)
- ? Newer SNRIs (atomoxetine/Strattera, reboxetine/Vestra or Edronax) may also prove effective, need more data
- ? Comorbid anxiety: treat with fluoxetine/Prozac (effect for treating both conditions)
- ? Comorbid ADHA: treat with psychostimulants (if both improve, then leave on psychostimulants; if neither improve, then switch to Prozac; if ADHD improves but depression does not, then add Prozac)

### **Anxiety Disorders in Children and Adolescents**

- ? Prevalence estimated at 6% to 18%
- ? Clear associations between untreated anxiety disorders in childhood/teen years and later persistent anxiety disorders, major depression, drug use/abuse, suicide, educational underachievement, and early parenthood – i.e. these problems do not go away
- ? GAD – 50% also have comorbid depression
- ? Treatment of GAD: **bupirone/BuSpar** is effective, as are **SSRIs** (**fluoxetine/Prozac**, and esp. **venlafaxine/Effexor SR**)
- ? Treatment of Social Anxiety Disorder: **beta-blockers** (e.g. propranolol/Inderol), **SSRIs**, **MAOIs**, and **BZDs**; should also include concomitant cognitive-behavioral therapy, social skills training, and exposure in vivo therapy
- ? Treatment of OCD: combination of behavioral therapy and an **SSRI** (fluvoxamine/Luvox, paroxetine/Paxil, and sertraline/Zoloft) and **clomipramine/Anafranil**

### **Bipolar Disorder in Children and Adolescents**

- ? High overlap with ADHD, disruptive behaviors, and substance abuse
- ? Underdiagnosed and misdiagnosed
- ? Aggressive & explosive behaviors, elation & grandiosity can be signs of manic sx's; if these sx's develop when depressive sx's are treated either with psychostimulants or antidepressants, then child/teen is likely to later develop classic bipolar disorder
- ? Treatment: **lithium**, **antimanic anticonvulsants** (e.g. valproic acid/Depakote or Depakene), although all can cause weight gain; **topiramate/Topamax** is good because is associated with weight loss;
- ? May also use **atypical antipsychotic** as adjunctive therapy
- ? Pharmacotherapy should be accompanied by psychotherapy
- ? Since there is a strong genetic factor in bipolar disorder, psychotherapy should also involve family when possible

**Psychotic Disorders in Children and Adolescents**

- ? About 33% of adult schizophrenics developed their sx's of psychosis between ages 10 – 20 years
- ? Both childhood and adolescent onset schizophrenia are associated with poor long-term outcomes, so early intervention is better (appropriate and maybe more effective)
- ? Treatment: with **newer atypical antipsychotics** (clozapine/Clozaril, risperidone/Risperdal, olanzapine/Zyprexa, and quetiapine/Seroquel)
- ? Avoid traditional antipsychotics (which are effective but have bad extrapyramidal side effects)