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 in 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, steeling, 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

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), buproprion/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 ✍ high risk for school failure, social isolation, promiscuity, self-medication (drug abuse), and suicide
- ? Suicide is 3rd 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: **buspirone/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 sxs; if these sxs develop when depressive sxs 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 sxs 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)