

# Avoid Pitfalls in ADHD Diagnosis and Treatment

BY DAMIAN McNAMARA

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MIAMI BEACH — To avoid mistakes in the management of a child with attention-deficit/hyperactivity disorder, consider the patient's receptive language age, comorbidities such as depression, and medication to protect a young child when a parent is very intolerant of their behavior, Dr. David O. Childers recommended at the annual Masters of Pediatrics conference sponsored by the University of Miami.

Attention-deficit/hyperactivity disorder (ADHD) is complex and not a stand-alone diagnosis, said Dr. Childers, a neurodevelopmental pediatrician. Look for a grouping of social, behavioral, and attention issues, as well as immaturity of fine and gross motor skills, judgment, and/or learning.

Begin with assessment of receptive language age. "Receptive language is critical to just about everything we do in developmental pediatrics. Our receptive language defines our behavior," he said. "We all have conversations in our heads. If the conversation in your head is at the 3-year-old level, your behavior will be like a 3-year-old," said Dr. Childers, chief of the section of developmental pediatrics, University of Florida College of Medicine in Jacksonville.

Medications make a difference, he said, "But they are a Band-Aid approach—they do not make the problem go away." Dr. Childers outlined the following possible mistakes in management of ADHD:

► **Mistake 1: Automatic prescription of stimulants for a hyperactive 3-year-old.** A physician might want to dose "the hyperactive child who is jumping off the chair and up on the exam table ... but is it the right thing to do?" Dr. Childers asked. The medication will allow the young child to focus their attention where they want to, and "a 3-year-old is nothing but a walking 'id.' They want it, they want it, they want it now," he said, whether it's a toy or their own personal needs met.

► **Mistake 2: Not dosing a young child for protection.** A possible exception to the first mistake is the scenario of a "really, really hyperactive 3-year-old with a really intolerant parent. There is a subset of children who have a desperate need for protection," he said. "Sometimes the stimulant is important at this age" in such cases.

► **Mistake 3: Inappropriate initial dosing.** There can be, for example, a 5-year-old who is extremely emotional, a zombie, or absolutely intolerable after starting a particular medication. A prescription of 5 mg of methylphenidate is 2.5 mg of the L isomer and 2.5 mg

D isomer, or 2.5 mg total of active isomer.

"Part of the problem is we start frequently with the mixed amphetamine salts 5 mg," he said. This is 5 mg of active isomer. "So starting them on mixed salts is double the dose [we give with methylphenidate]. This is not the ideal [starting] dose for the average 4- to 6-year-old. I'm not saying you're not going to get there anyway, but do you want to start there?"

► **Mistake 4: Confusing the first effective dose with an ideal dose.** "We find a dose that is effective, and we leave it there. We make the mistake of settling for lowest effective dose, not the best dose," Dr. Childers said. Parents in this situation might say, "He tried the medicine—it didn't work" or "The medicine worked for a little while, but then his body got used to it."

► **Mistake 5: Neglecting comorbidities.** "This is where some people start to make mistakes," he noted. ADHD might be primary, or it might be secondary. Learning disabilities, oppositional defiant disorder, conduct disorder, anxiety, depression, encopresis/enuresis, and poor self-esteem are among possible comorbidities.

"Childhood depression can look like ADHD in many cases." ADHD incidence is 6%-10%, childhood depression incidence is 10%, and they can be comorbid. "You think it's hard to talk to a parent about putting a child on a stimulant, try to talk to them about putting a child on Prozac."

► **Mistake 6: Not detecting drug diversion.** "ADHD is inherited. It is one of the most heritable conditions we know of," Dr. Childers said. "You find a child with ADHD, the likelihood you'll find a parent with ADHD is 0.8." He added that there are exceptions, but sometimes "my goal is to see how fast I can make the diagnosis in the parent."

Keep in mind that maybe the child is not the only one who sees the value of the medication. "Parents can divert." A drug-seeking parent might say, "I need to change my child from the long-acting to the short-acting." Long-acting agents, in general, have much less abuse potential. In contrast, short-acting stimulants can be divided, and there can be enough to get a child through school and a parent through work.

► **Mistake 7: Confusing ADHD with an undiagnosed learning disability.** Learning disabilities are more common, with an incidence of 15%-20%, compared with 6%-10% for ADHD, he said.

The physician might, for example, see a young boy who got all As and Bs in school, and, then all of sudden, starts getting Ds in third grade. It could be a learning disabili-

ty arising at a time when children have to read to learn. Or it could manifest later, such as an inattentive 13- or 14-year-old girl who sits quietly in the back of class and just makes passing grades.

"Be careful of what you call it before you diagnose it," Dr. Childers said. "Once you label the kid as 'ADHD,' the school will not be looking for anything else."

The Federal Individuals with Disability Education Act (IDEA) requires schools to test for a learning disability at the parent's request, he added.

► **Mistake 8: Undiagnosed ADHD in an adolescent.** Sometimes it is easy to miss the adolescent with ADHD, inattentive subtype, Dr. Childers said. "We get so programmatic in our approach that the differential list of problems in adolescence doesn't place ADHD high on the index of suspicion." He added, "Just because ADHD was not diagnosed in childhood doesn't mean it is not there."

► **Mistake 9: Insufficient dosing.** Rebound and insomnia are not subtle. "The problem isn't the medicine, the problem is the medicine wearing off." If a stimulant wears off at 4 p.m. and bedtime is at 8 p.m., a small dose in the evening "can make a huge difference. Kids will be more stable and be able to fall asleep."

It is important to note if the insomnia predated the stimulant use. Get a basal sleep history, Dr. Childers advised. Also recommend proper sleep hygiene. "My first question is: Is there a TV in the bedroom? The answer is always yes, and I ask them 'Why?' They can't answer it." Remove the television forever, and give the child a bath and warm milk before bedtime, he said. "That is enough for most kids."

► **Mistake 10: Overdiagnosis of bipolar disorder.** More and more parents are coming in and saying, "My teacher, aunt, therapist, neighbor, etc. said my child has 'bipolar disorder,'" Dr. Childers remarked.

The adult prevalence of bipolar disorder is 1%-1.6%, according to a National Alliance of Mental Illness Fact Sheet, January 2004. "It's not a curable illness. Bipolar is a lifelong diagnosis. So how can 7% of children have bipolar disorder?" A much more common diagnosis is a combination of ADHD and oppositional defiant disorder (ODD). "The one big difference I always look for is a trigger to the behavior. If a parent says, 'Every time I tell him 'no,' he has a tantrum, it is unlikely it's bipolar disorder, and more often it's ODD."

Dr. Childers tells parents they should have three goals for their child that appropriate management of ADHD can help to achieve: a happy childhood, a successful academic experience, and out the door and independent by age 18.

Dr. Childers had no relevant financial disclosures. ■

## Modafinil Improves ADHD Symptoms in Different Subtypes

BY HEIDI SPLETE

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Modafinil significantly improved symptoms in children with inattentive and combined subtypes of attention-deficit/hyperactivity disorder, based on data from 638 children aged 6-17 years.

Pooled results from one 7-week study and two 9-week studies showed that modafinil was well tolerated and improved attention-deficit hyperactivity disorder (ADHD) symptoms both at home and in school. The studies were funded by Cephalon Inc., which markets modafinil as Provigil in the United States.

Dr. Joseph Biederman of Massachusetts General Hospital, Boston, and Dr. Steven R. Pliszka of the University of Texas Health Science Center, San Antonio, reviewed the pooled data to analyze the effectiveness of modafinil on three ADHD subtypes: inattentive, combined, and hyperactive impul-

sive (J. Pediatr. 2008;152:394-9). Few studies have examined the effectiveness of drug treatments for ADHD by subtype.

In the 7-week study, children were randomized to receive 340 mg or 425 mg of modafinil or a placebo daily. In the 9-week studies, children were randomized to receive a flexible dose from 170 mg to 425 mg or a placebo daily. A total of 423 children received modafinil and 215 received a placebo.

The researchers used the ADHD-RS-IV School Version, which includes teacher and investigator ratings to assess symptoms.

Children in the inattentive and combined subgroups who received modafinil showed significant improvements in the ADHD-RS-IV School Version total scores, compared with placebo patients. Children in the hyperactive-impulsive subgroup who received modafinil showed a greater improvement in total scores (demonstrated by lower numbers) than placebo pa-

tients, but this difference was not statistically significant.

The average score for modafinil patients across all subgroups was 57 at the study's end versus 73 for placebo patients. Results were similar for scores on the ADHD-RS-IV Home Version, which were detailed in a separate analysis.

Forty-eight percent of the inattentive subgroup who received modafinil versus 15% of those who were given a placebo received "much improved" or "very much improved" ratings from investigators. Similarly, 44% of the combined subgroup who received modafinil versus 18% of those who received placebo were rated "much improved" or "very much improved" by the investigators.

Children in the inattentive and combined subtype groups who received modafinil showed significant improvements in subscale scores for cognitive problems/inattention, hyperactivity, and the ADHD in-

dex, compared with placebo patients.

The combined subtype of ADHD is the most commonly diagnosed and is most often associated with psychiatric comorbidity and other behavioral, social, and academic problems, the researchers noted. A total of 65% of the children met criteria for the combined ADHD subtype, and this group had the largest percentage (18%) of children who were ranked "severely ill" or "extremely ill" at baseline.

Dr. Biederman receives research support from multiple drug companies, including this study's sponsor, Cephalon (for whom he also serves as a speaker and a member of the advisory board). He also serves as a speaker and advisory board member for many other pharmaceutical companies.

Dr. Pliszka receives research support from Cephalon and Eli Lilly & Co., and serves on speakers bureaus sponsored by Shire Pharmaceuticals and McNeil. ■