National Resource Center on AD|HD
A program of CHADD

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WHAT WE KNOW

ADHD and Coexisting Conditions: Tics and Tourette Syndrome

Attention-deficit/hyperactivity disorder (ADHD) is a common neurobiological condition affecting 5-8 percent of school age children[1,2,3,4,5,6,7] with symptoms persisting into adulthood in as many as 60 percent of cases (i.e. approximately 4% of adults).[8,9] However, in only about 30 percent of these children, is ADHD the only diagnosis. Thus, two thirds of children with ADHD have at least one other coexisting condition.[10]

Any disorder can coexist with ADHD, but certain disorders seem to occur more commonly.[11] These disorders include tics and Tourette Syndrome. It is important to diagnose and, if necessary, to treat these other conditions in addition to the ADHD, because, just as untreated ADHD can have lasting effects, so too, can these other disorders. Left undiagnosed, they may cause unnecessary suffering in individuals with ADHD and their families.

HOW ARE THESE COEXISTING CONDITIONS IDENTIFIED?

As part of the diagnostic process for ADHD, the physician or mental health professional must then determine whether there are any other psychiatric or neurological disorders affecting the individual. Often, the symptoms of ADHD may overlap with other disorders. The challenge for the clinician is to discern whether a symptom belongs to ADHD, to a different disorder, or to both disorders at the same time. For some individuals, the overlap of symptoms

among the various disorders makes multiple diagnoses possible.

By conducting a complete evaluation, a physician or mental health professional familiar with ADHD and these other disorders will be able to diagnose both the ADHD and these related conditions. Interviews and questionnaires are often used to obtain information from the patient, the patient's family and his or her teachers to screen for these other disorders.

In the case of tics, the intermittent nature of the condition may make it difficult to pinpoint in the early stages of the disorder, however, over time, a pattern of motor tics and other behaviors will emerge. During the assessment process, it is important to determine the intensity and frequency of the symptoms. In addition, it is essential to ascertain the degree to which the tics and other behaviors impair functioning and affect self-esteem from the viewpoint of parents, peers, school personnel, and the child with the condition. Patterns associated with the tics (for example,are they brought on or made worse by stress or tiredness) may also be key in recommending appropriate modifications or strategies to deal with them. Significant impairments may be seen with both chronic tic disorder and Tourette Syndrome.

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WHAT IS A SIMPLE TIC?

Simple tics are defined as sudden, purposeless, repetitive, involuntary movements or vocalizations. They may commonly include such behaviors as eye-blinking, mouth-opening, sniffing or throat clearing. Tics are commonly seen in childhood occurring in up to 20 percent of all children. Tics can be temporary, lasting less than 12 months, or chronic.

WHAT IS TOURETTE SYNDROME?

Tourette Syndrome, a complex, genetically inherited disorder whose primary manifestation includes tics (both motor and vocal) lasting for more than one year. Tourette Syndrome is usually mild and is often accompanied by other conditions including ADHD, obsessive-compulsive behavior, learning disabilities and mood disorders.

Motor tics may range from simple movements like eye-blinking, lip-licking, or mouth opening to more complex movements like facial grimacing, head movements, shoulder shrugging or combinations of these. Vocal tics many include throat clearing, coughing, barking, unnecessary belching or more complex vocalizations such as repeating parts of words or phrases, or, in rare cases, saying obscene words.

THE INCIDENCE OF ADHD AND TICS OR TOURETTE SYNDROME

ADHD and tics disorders can often be seen in the same individual. Some children with ADHD may develop a simple motor tic disorder that first appears during the course of their treatment for ADHD. While these two conditions appear linked in time, it is now felt by most experts that the co-occurrence in most cases is purely coincidental and not causal.

The incidence of coexisting ADHD in children with Tourette Syndrome is extremely high. It has been reported that only 7 percent of those with ADHD have Tourette's, but that 60 percent of children with Tourette Syndrome have ADHD.[12] It is thought that the ADHD diagnosis usually precedes the onset of the motor or vocal tics of Tourette's, although sometimes the two come on together.

PRIORITIZING TREATMENTS – WHICH DISORDER DO YOU TREAT FIRST?

In many cases when a child has both ADHD and simple tics, the clinician may elect to treat the ADHD first because it is the condition that will have the greater impact on the child and treatments are more effective. Tics may only need to be treated if they are causing significant dysfunction.

When a child has coexisting ADHD and Tourette Syndrome, the question, "Which do you treat first?" often arises. In most cases, physicians will choose to

treat the Tourette's symptoms first, especially if they are particularly bothersome to the child and his family. This course will also decrease the chance of making tics worse during the initial treatment phase or when higher doses of stimulants are needed.

If a child has already been diagnosed and treated with stimulants and significant tics develop, the physician may elect to stop treatment with stimulants until the tics are treated and under control. At that time, the stimulants may then be added back to treat the ADHD symptoms.[13] It should be noted that while in the past, the use of stimulants has not been recommended when tics or Tourette Syndrome is present, several newer studies now make this warning outdated.[14,15] (See further discussion of this issue below under – Medications - Making tics worse?)

TREATMENT OF TOURETTE SYNDROME

Proper education of the patient and his or her family is the first step in the treatment of Tourette Syndrome. Before deciding how to treat the patient, it is important to decide whether to treat the Tourette Syndrome-related symptoms. Counseling and behavioral modification may be sufficient for those individuals with mild symptoms. The use of medications, however, may be considered when symptoms interfere with peer relationships, social interactions, academic or job performance or with activities of daily living. Therapy should always be geared to the individual's needs and the most troublesome symptoms should be targeted first.

MEDICATION

In children with ADHD and Tourette Syndrome, milder symptoms can usually be treated with Catapres (clonidine) given by skin patch or in pill form. Clonidine has the advantage of treating all the symptoms of TS - the tics, the ADHD, obsessive-compulsive behaviors, oppositional and other behaviors. The major side effect of clonidine is sedation or tiredness if the dose is too high or raised too rapidly. Other drugs used to treat Tourette Syndrome include Haldol (haloperidol) or Orap (pimozide) which is very similar to haloperidol.

BEHAVIORAL INTERVENTIONS

For many children with ADHD and Tourette Syndrome, medicating the tics may not be necessary. There is growing evidence that behavioral interventions can cause a substantial reduction of tics. Practice on how to control tics in everyday situations can be part of therapy sessions and self-monitoring (counting tics) has been shown to have temporary but significant benefit. Habit reversal therapy is an intervention consisting of awareness training and competing response training. A competing movement is done for three minutes after each tic and after each sensation that a tic is about to occur.[16]

Comprehensive behavioral intervention for tics (CBIT) includes guidance for parents on what makes tics better or worse, relaxation techniques, and strategies to reduce tic severity. CBIT is based on the fact that tics are preceded by a premonitory sensation that signals that a tic is on its way. The Tourette Syndrome Association also recommends counseling for individuals and their families on dealing with tic symptoms, rejection by peers, school problems, and a host of other issues.[17]

TREATING THE ADHD

After the tics are controlled with one or more of the above courses of treatment, a stimulant (methylphenidate or amphetamine) or a non-stimulant (atomoxetine) may be required to treat the symptoms of ADHD. This treatment is often quite effective in helping to control the ADHD and may improve school performance. In some individuals, this treatment may result in a mild to significant increase in the tics. If this cannot be controlled by a moderate increase in tic medication, the ADHD medication may have to be stopped or replaced by a different medication.

"There is growing evidence that behavioral interventions can cause a substantial reduction of tics."

Two recent studies conducted to determine the safety of using clonidine and methylphenidate together in the treatment of ADHD and tics were very reassuring and concluded that these two treatments were safe and effective.[18,19]

MEDICATION - MAKING TICS WORSE?

For many years, it was widely accepted that treatment with stimulants (amphetamine and/or methylphenidate) used to treat ADHD, would tend to make tic disorders worse. Even though these drugs may temporarily increase tics, this does not necessarily mean the use of these drugs in patients with Tourette Syndrome should not be recommended.[20]

Recent information indicates that this may not be the case. While disorders may get worse with very high doses of these medications, doses more like those prescribed in actual practice showed no sign of a negative effect on tics.[21] Your doctor can determine whether stimulants are appropriate treatments for your child with co-occurring tic disorders.

For more information on Tourette Syndrome, consult the National Tourette Syndrome Association's Web site at: http://www.tsa-usa.org/

BOOKS ON TOURETTE SYNDROME AND ADHD

Ryan: A Mother's Story of Her Hyperactive/Tourette Syndrome Child by Susan Hughes

T*eaching the Tiger: A Handbook for Individuals Involved in the Education of Students with Attention Deficit Disorder, Tourette Syndrome or Obsessive-Compulsive Disorder* by Marilyn P. Dornbush and Sheryl K. Pruitt

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