

Conduct Disorder: Diagnosis and Treatment in Primary Care

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Conduct disorder is a common childhood psychiatric problem that has an increased incidence in adolescence. The primary diagnostic features of conduct disorder include aggression, theft, vandalism, violations of rules and/or lying. For a diagnosis, these behaviors must occur for at least a six-month period. Conduct disorder has a multifactorial etiology that includes biologic, psychosocial and familial factors. The differential diagnosis of conduct disorder includes oppositional defiant disorder, attention-deficit/hyperactivity disorder (ADHD), mood disorder and intermittent explosive disorder. Family physicians may provide brief, behaviorally focused parent counseling, pharmacotherapy and referral for more intensive family and individual psychotherapy. (Am Fam Physician 2001;63:1579-88.)

Conduct disorder is a psychiatric syndrome occurring in childhood and adolescence, and is characterized by a longstanding pattern of violations of rules and antisocial behavior. As listed in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (DSM-IV),¹ symptoms typically include aggression, frequent lying, running away from home overnight and destruction of property (Table 1). Approximately 6 to 16 percent of boys and 2 to 9 percent of girls meet the diagnostic criteria for conduct disorder. The incidence of conduct disorder increases from childhood to adolescence.

Family physicians who treat pediatric patients frequently encounter this disorder and should be knowledgeable about it for several reasons. First, family physicians are increasingly treating a broader array of psychiatric conditions,² including common pediatric mental health problems. Second, primary care physicians often serve as referral sources for mental health treatment. Thoughtful differential diagnosis of conduct disorder enables clin-

icians to refer patients to appropriate subspecialists. Third, conduct disorder increases the risk of several public health problems, including violence, weapon use, teenage pregnancy, substance abuse and dropping out of school.³⁻⁵ Thus, it is important to identify conduct disorder and begin intervention as early as possible.

Illustrative Cases

Patients with conduct disorder typically do not perceive their behavior as problematic. Similarly, parents and teachers often do not consider longstanding conduct disorder when attributing causes to children's behavior. Therefore, symptoms of conduct disorder are not usually a presenting concern in the office. The following cases illustrate typical ways that conduct disorder may present in family practice.

ILLUSTRATIVE CASE 1

Tim is a six-year-old boy brought to the family medicine clinic for an initial visit. On entering the examination room, the physician observed Tim spinning in circles on the stool while his mother pled, "If I have to tell you one more time to sit down..." Tim was not permitted to begin first grade until his immunizations were updated. His mother explained that Tim had visited several physicians for immunization but was so disruptive that the physicians and nurses always gave up. She hoped that with a new physician, Tim might comply.

Symptoms of conduct disorder include aggression, frequent lying, running away from home overnight and destruction of property.

TABLE 1

DSM-IV Diagnostic Criteria for Conduct Disorder

- A. A repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated, as manifested by the presence of three (or more) of the following criteria in the past 12 months, with at least one criterion present in the past six months:
- Aggression to people and/or animals
 1. Often bullies, threatens or intimidates others.
 2. Often initiates physical fights.
 3. Has used a weapon that can cause serious physical harm to others (e.g., a bat, brick, broken bottle, knife, gun).
 4. Has been physically cruel to people.
 5. Has been physically cruel to animals.
 6. Has stolen while confronting a victim (e.g., mugging, purse snatching, extortion, armed robbery).
 7. Has forced someone into sexual activity.
 - Destruction of property
 1. Has deliberately engaged in fire setting with the intention of causing serious damage.
 2. Has deliberately destroyed others' property (other than by fire setting).
 - Deceitfulness or theft
 1. Has broken into someone else's house, building or car.
 2. Often lies to obtain goods or favors or to avoid obligations (i.e., "cons" others).
 3. Has stolen items of nontrivial value without confronting the victim (e.g., shoplifting, but without breaking and entering; forgery).
 - Serious violations of rules
 1. Often stays out at night despite parental prohibitions, beginning before age 13 years.
 2. Has run away from home overnight at least twice while living in a parental or parental surrogate home (or once without returning for a lengthy period).
 3. Is often truant from school, beginning before age 13 years.
- B. The disturbance in behavior causes clinically significant impairment in social, academic or occupational functioning.
- C. If the individual is age 18 years or older, criteria are not met for antisocial personality disorder.
- Specify severity:
- Mild: few if any conduct problems in excess of those required to make the diagnosis, and conduct problems cause only minor harm to others.
 - Moderate: number of conduct problems and effect on others intermediate between "mild" and "severe."
 - Severe: many conduct problems in excess of those required to make the diagnosis, or conduct problems cause considerable harm to others.

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The mother described a several-year history of aggressive and destructive behavior, as well as four school suspensions during kindergarten. He often becomes "uncontrollable" at home and has broken dishes and furniture. Last year, Tim was playing with the gas stove and started a small fire. Tim frequently pulls the family dog around by its tail. Tim's older sisters watched him in the past but have refused to do so since he threw a can of soup at one of them. Tim's father is a long-haul truck driver who sees Tim every three to four weeks.

ILLUSTRATIVE CASE 2

Sharon, a 15-year-old girl, was brought to the office by her mother. Her mother explained that Sharon was suspended from school for assaulting a teacher and needed a "doctor's evaluation" before she could return to class. The history reveals that this is Sharon's 10th school suspension during the past three years. She has previously been suspended for fighting, carrying a knife to school, smoking marijuana and stealing money from other students' lockers. When asked about her behavior at home, Sharon reports that her mother frequently "gets on my nerves" and, at those times, Sharon leaves the house for several days. The family history indicates that Sharon's father was incarcerated for auto theft and assault. Sharon's mother frequently leaves Sharon and her eight-year-old brother unsupervised overnight.

Clinical Features of Conduct Disorder

Four types of symptoms of conduct disorder are recognized:

- (1) Aggression or serious threats of harm to people or animals;
- (2) Deliberate property damage or destruction (e.g., fire setting, vandalism);
- (3) Repeated violation of household or school rules, laws, or both; and
- (4) Persistent lying to avoid consequences or to obtain tangible goods or privileges.¹

DSM-IV¹ emphasizes that there should be at least three specific conduct disorder behaviors present for at least six months to make the

diagnosis. Isolated behaviors (e.g., shoplifting, experimentation with marijuana or alcohol) are common, and specific antisocial acts may occur in up to 80 percent of youth in the United States.⁶ By contrast, a diagnosis of conduct disorder requires a persistent history of multiple problem behaviors.

Associated features of conduct disorder include an inability to appreciate the importance of others' welfare and little guilt or remorse about harming others. Adolescents with conduct disorder often develop skills in outwardly verbalizing remorse to obtain favor or avoid punishment, but do not experience any apparent guilt. Patients with conduct disorder often view others as threatening or malicious without an objective basis. As a result, these children and adolescents may lash out preemptively, and aggression may appear unprovoked.

Physicians should be able to distinguish between normal adolescent risk-taking and enduring antisocial behavior. In normal experimentation, offenses do not typically involve serious harm to individuals or property and do not persistently recur. Isolated or acting-out episodes with a recent onset, particularly among adolescents without previous adjustment problems, are often transient reactions to external stressors. This pattern of behavior should prompt physicians to inquire about recent parental conflict or separation, geographic moves or school transitions.⁶ Among children 10 to 14 years of age, several health-related behaviors are red flags for conduct disorder. These include cigarette smoking, sexual activity, and alcohol or drug use.⁷

Subtypes of Conduct Disorder

Conduct disorder has two subtypes: childhood onset and adolescent onset. Childhood conduct disorder, left untreated, has a poorer prognosis. Behaviors that are typical of childhood conduct disorder include aggression, property destruction (deliberately breaking things, setting fires) and poor peer relationships. In about 40 percent of cases, childhood-

About 40 percent of children with conduct disorder will grow up to be adults with antisocial personality disorder.

onset conduct disorder develops into adult antisocial personality disorder.⁸ Adolescent conduct disorder should be considered in social context. Adolescents exhibiting conduct disorder behavior as a part of gang culture or to meet basic survival needs (e.g., stealing food) are often less psychologically disturbed than those with early childhood histories of behavior disorders. Additionally, new-onset conduct disorder behavior, such as skipping school, shoplifting or running away, in the context of a family stressor, often remits if appropriate structure and support are provided.

Etiology

The etiology of conduct disorder involves an interaction of genetic/constitutional, familial and social factors. Children who have conduct disorder may inherit decreased baseline autonomic nervous system activity, requiring greater stimulation to achieve optimal arousal.⁹⁻¹¹ This hereditary factor may account for the high level of sensation-seeking activity associated with conduct disorder.¹⁰ Current research focuses on defining neurotransmitters that play a role in aggression, with serotonin most strongly implicated.¹¹

Parental substance abuse, psychiatric illness, marital conflict, and child abuse and neglect all increase the risk of conduct disorder. Exposure to the antisocial behavior of a caregiver is a particularly important risk factor.¹² Children with conduct disorder, while present in all economic levels, appear to be overrepresented in lower socioeconomic groups.¹⁰ Another common feature appears to be inconsistent parental availability and discipline.^{10,13} As a result, children with conduct disorder do not experience a consistent relationship between their behavior and its consequences.

This early childhood pattern includes irri-

TABLE 2
Differential Diagnosis and Treatment of Conduct Disorder and Related Conditions

| <i>Diagnosis</i> | <i>Distinguishing features</i> | <i>Treatment</i> |
|--|--|--|
| Conduct disorder | Persistent pattern of violating others' rights; aggression and illegal acts | Family therapy, behavior modification, pharmacotherapy |
| Oppositional defiant disorder | Chronic argumentativeness; refusal to comply with adult requests | Family therapy, behavior modification |
| Attention-deficit/hyperactivity disorder | Hyperactivity; behavior disinhibition; inattention and distractibility | Pharmacotherapy (stimulants), behavior modification |
| Substance abuse/dependence | Pattern of substance use associated with adverse social/personal consequences or physiologic tolerance or withdrawal | Specialized multimodal treatment, including group, individual and family therapies; medical detoxification and inpatient treatment |
| Major depression and dysthymic disorder | Dysphoric, irritable mood; sleep and appetite disturbance; anhedonia; suicidal ideation | Pharmacotherapy (SSRIs), individual and family therapy |
| Bipolar mood disorder | Depressive symptoms coexist or alternate with periods of excess energy and/or thought racing; mania or hypomania may include hallucinations, delusions | Pharmacotherapy (lithium, selected anticonvulsants) |
| Intermittent explosive disorder | Sudden, unpredictable physically/verbally aggressive outbursts | Pharmacotherapy (anticonvulsants, clonidine, lithium, SSRIs), cognitive behavior therapy |

SSRIs = selective serotonin reuptake inhibitors.

ability, inconsolability and impaired social responsiveness.^{14,15} Caregivers, particularly those with psychiatric conditions and substance abuse problems, may respond to these children coercively and inconsistently. In addition, these family groups often experience financial distress, which may further compli-

cate the situation. These children are also more susceptible to the rise in peer group influence that typically occurs in later elementary school.

Differential Diagnosis and Comorbidity

Several common childhood psychiatric conditions have features similar to those of conduct disorder, and comorbid conditions are also common.¹¹ The differential diagnosis should include attention-deficit/hyperactivity disorder (ADHD), oppositional defiant disorder, mood disorder (major depression, dysthymia, bipolar disorder), substance abuse and intermittent explosive disorder (*Table 2*).

The growing public awareness of ADHD and its relative treatability with stimulant medication may contribute to its confusion with conduct disorder. ADHD's features of disinhibition, inattention and distractibility should be distinguished from lying, serious aggression and illegal behaviors. When evaluating a new patient with suspected ADHD, questions such as those presented in *Table 3* will help differentiate ADHD from conduct disorder.

Oppositional defiant disorder may be diffi-

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TABLE 3

Interview Questions for Assessing Conduct Disorder

1. Have you had any run-ins with the police? If yes, what were the circumstances?
2. Have you been in physical fights? If yes, what were the circumstances? How many?
3. Have you been suspended or expelled from school? If yes, what were the circumstances?
4. Have you ever run away from home? Overnight? How many times?
5. Do you smoke, drink alcohol or use other drugs? If yes, what is the frequency and duration of your use? Which drugs?*
6. Are you sexually active?*

*—For questions 5 and 6, age should be taken into account.

cult to distinguish from conduct disorder. Key features of oppositional defiant disorder include argumentativeness, noncompliance with rules and negativism. While these features partially overlap with those of conduct disorder, there are important distinctions. Children with oppositional defiant disorder, although argumentative, do not display significant physical aggression and are less likely to have a history of problems with the law. Parents of children with oppositional defiant disorder are more likely to have mood disorders than the antisocial pattern common among parents of children who have conduct disorder. Oppositional defiant disorder may, with time, develop into conduct disorder.

Significant acting out frequently occurs among children and adolescents with major depression and dysthymic disorder. Patients with early-onset bipolar disorder may exhibit impulsive violations of rules and aggression. However, mood disorders typically include disturbances of sleep and appetite and pronounced affective symptoms, as well as significant alterations in energy and activity levels not found among children with conduct disorder. The coexistence of major depression with conduct disorder increases the risk of impulsive suicidal behavior.

Substance abuse may also overlap with the symptoms of conduct disorder. A key issue in assessing substance use in adolescents is the distinction between experimentation and abuse or dependence. The frequency and duration of substance use are helpful dimen-

sions in this regard. Early (i.e., at 10 to 13 years of age), repeated use of alcohol or illicit drugs is a red flag for the development of other behaviors associated with conduct disorder. Additionally, substance use is likely to further reduce impulse control and increase contact with deviant peers.¹⁶

Intermittent explosive disorder, featuring unprovoked, sudden aggressive outbursts, can only be correctly diagnosed when the child's behavior does not meet the criteria for conduct disorder. Patients with intermittent explosive disorder deny plans to harm anyone but report that they "snapped" or "popped" and, without realizing it, assaulted another person. In children and adolescents with intermittent explosive disorder, these episodes are the only signs of behavior disturbance. Other than unplanned acts of aggression, patients with intermittent explosive disorder do not engage in repeated violations of other rules or in illegal behavior such as theft or running away from home.

Intervention

Family physicians are often the first professionals who are consulted by families of children with conduct disorder. During these visits, physicians should emphasize the seriousness of the patient's behavior and the possibility of a poor long-term prognosis if there is no significant parental intervention. Parents of children with conduct disorder are more likely to exhibit depression, substance abuse and/or antisocial personality traits. These parental disorders influence children's behavior problems associated with inconsistency, harsh discipline, impaired attachment and minimal supervision.¹⁷ While parents of children with conduct disorder often have legal and social difficulties of their own, they usually do not want their children to have a similar life course. Basic intervention guidelines for family physicians are summarized in *Table 4*.

Conduct disorder has varying degrees of severity. Parental abuse, onset of problem behavior in early childhood, financial hardship

and lack of supervision are all associated with more severe conduct disorder.^{10,18} Additionally, a poorer prognosis is associated with an increase in the number and severity of specific DSM-IV criteria.¹⁰ Risk also increases with comorbid ADHD and substance abuse.¹⁰ These dimensions should guide treatment. Subclinical conduct disorder symptoms or those of recent onset may be amenable to physician-parent counseling. However, more serious, longstanding behavior involving aggression, illegal acts, substance abuse or other harmful acts should prompt referral to a mental health specialist. With comorbid substance abuse, the focus of initial treatment should be cessation of drug use and may include medical detoxification before rehabilitation.

Monitoring of children's activities and whereabouts by adult caregivers is critical. Compliance with the evening curfew is essential. For working parents, telephoning to check on the child or having another responsible adult ensure that the child is in an appropriate setting during nonschool hours is important. Monitoring becomes particularly important during early adolescence when peer group influences increase. Vulnerable youth are sus-

ceptible to peer influences such as smoking, sexual risk-taking, and alcohol or other substance abuse. Organized, supervised activities, such as sports, Scouting, the arts or recreational programs provided by churches, schools or agency youth clubs often protect teenagers from negative peer influences.¹⁸

COUNSELING PARENTS ABOUT CLEAR COMMUNICATION

A reasonable initial intervention for family physicians is parental instruction in communication for achieving improved compliance. Parents should communicate clear, direct and specific requests ("I would like you to set the table for dinner now."). Importantly, requests should not be negative or qualified ("Don't waste all your life in front of the television. Maybe you could be useful and help with dinner."). If the requested activity is not initiated within five seconds, a verbal reminder should follow. When the request is made for a third time, a clear, reasonable consequence should be added ("If you have not finished setting the table in fifteen minutes, you will lose one-half hour of free time with your friends tonight."). The chosen consequences should be restrictions that the parent can realistically implement rather than those that are vague and unenforceable ("You never do what I ask; you just love to make me mad. Well, you're grounded for the rest of the year.").

REINFORCEMENT OF POSITIVE BEHAVIOR

While adverse consequences may be necessary periodically, parent-child interactions should also include rewards. Positive reinforcement for desirable behavior will reduce reliance on punishment. Importantly, rewards should be concrete, specific and always provided promptly when the child meets the criteria ("If you set the table by 6 p.m. each night this week, you can choose a video to rent on Saturday night."). Parents of children with conduct disorder typically rely on inconsistent coercion, rather than reinforcement, in a family climate high in negative exchanges.

TABLE 4

Practical Interventions for Management of Patients with Conduct Disorder

- Assess severity and refer for treatment with a subspecialist as needed.
- Treat comorbid substance abuse first.
- Describe the likely long-term prognosis without intervention to caregiver.
- Structure children's activities and implement consistent behavior guidelines.
- Emphasize parental monitoring of children's activities (where they are, who they are with). Encourage the enforcement of curfews.
- Encourage children's involvement in structured and supervised peer activities (e.g., organized sports, Scouting).
- Discuss and demonstrate clear and specific parental communication techniques.
- Help caregivers establish appropriate rewards for desirable behavior.
- Help establish realistic, clearly communicated consequences for noncompliance.
- Help establish daily routine of child-directed play activity with parent(s).
- Consider pharmacotherapy for children who are highly aggressive or impulsive, or both, or those with mood disorder.

Because television, movies and video games are reinforcing to many children and adolescents, they are often used as rewards. Children who are at risk for conduct disorder, however, may be more likely to exhibit aggressive behavior in response to viewing violence.^{10,19} Therefore, access to these reinforcers should occur with parental supervision.

In two-parent households or other family situations in which multiple adults set rules, consistency between caregivers is particularly important. In single-parent households, particularly those with multiple children, parental availability and energy may be limited. Physicians should inquire about the availability of other responsible adults to assist with carrying out rules under the parent's guidance.²⁰

A useful directive to improve the emotional climate in families with preteens and younger children is to set aside 15 minutes every day for parent and child to play together. The child chooses a cooperative activity each day (e.g., playing catch, reading or drawing together). Structuring such exchanges ensures regular reinforcing contact between parent and child.²¹

Pharmacotherapy

Pharmacotherapy may be considered as an adjunct treatment for conduct disorder and comorbid conditions. While there are no formally approved medications for conduct disorder, pharmacotherapy may help specific symptoms. Further studies are needed to evaluate the role of pharmacotherapy for conduct disorder. Commonly used medications are summarized in *Table 5*.

By improving attention and increasing inhibitory activity, medication may improve children's capacity to benefit from other psychosocial intervention.²² The majority of published studies involve patients with conduct disorder and comorbid conditions, such as ADHD or major depression. Stimulants, antidepressants, lithium, anticonvulsants and clonidine (Catapres) have all been used in the treatment of conduct disorder.²³

A reasonable initial intervention for family physicians is to teach parents clear, direct and specific communication techniques to use with children who have conduct disorder.

STIMULANTS

Dextroamphetamine (Dexedrine) and methylphenidate (Ritalin) are the most promising agents used in the treatment of conduct disorder. However, there is no consensus concerning stimulant efficacy in conduct disorder. Stimulants evaluated in relatively small studies have been shown to be effective in reducing aggression, primarily in patients with ADHD as a comorbidity, when compared with placebo.^{24,25}

ANTIDEPRESSANTS

One small, open-label trial²⁶ evaluating the efficacy and toxicity of bupropion (Wellbutrin) in attention-deficit disorder (ADD) and conduct disorder demonstrated parent-rated and self-rated improvement in conduct. This study suggested that bupropion was safe and effective for use in this population. However, controlled double-blind studies are needed for further evaluation. Fluoxetine (Prozac) also was associated with a significant reduction in impulsive-aggressive behavior in adults with personality disorder.²⁷ While some controversy exists, there is concern about the cardiotoxic effects of tricyclic antidepressants in children.²⁸ The selective serotonin reuptake inhibitors (SSRIs) may be particularly helpful in treating children with conduct disorder and comorbid major depression.

LITHIUM AND ANTICONVULSANTS

Lithium is a psychoactive agent with anti-aggressive properties. Results of several studies have demonstrated reduction of aggression.^{29,30} However, lithium requires regular blood level monitoring to assess possible toxicity. Lithium levels should be checked twice weekly until clinical status and levels are sta-

TABLE 5
Pharmacotherapy for Conduct Disorder

| <i>Medication</i> | <i>Dosage range</i> | <i>Common adverse effects</i> | <i>Monitoring/special considerations</i> |
|-------------------------------|--|---|--|
| Stimulants | | | |
| Methylphenidate (Ritalin) | For children six years and older: 2.5 to 5.0 mg per dose given before breakfast and lunch to maximum dosage of 2 mg per kg per day or 60 mg per day Additional dose of 2.5 mg may be required, not to be given after 4 p.m. | Anorexia, nervousness, sleep delay, restlessness, dysrhythmias, palpitations, tachycardia, anemia, leukopenia | Periodic CBC with differential and platelet count, blood pressure, height, weight, heart rate Tolerance or dependence can occur. Drug holidays should be considered. |
| Dextroamphetamine (Dexedrine) | Amphetamine therapy is not recommended for children younger than three years. 3 to 5 years: 2.5 mg per day; increased by 2.5 mg at weekly intervals (not to exceed 0.5 mg per kg per day) > 6 years: 5 mg three times daily; increase by 5 mg at weekly intervals; maximum dosage of 40 mg per day | Anorexia, dependence, hyperactivity, sleep delay, restlessness, talkativeness, palpitations, tachycardia | CNS activity, height, weight, blood pressure Tolerance or dependence can occur. Do not discontinue abruptly. |
| Antidepressants | | | |
| Bupropion (Wellbutrin)* | 50 to 150 mg every day Adolescents and children older than six years: 1.4 to 6.0 mg per kg per day in divided doses | Agitation, anxiety, confusion, headache/migraine, insomnia, seizures, arrhythmias, nausea, vomiting | |
| Fluoxetine (Prozac) | 5 to 20 mg per day; dose should be titrated slowly; maximum dosage in adults is 80 mg per day; no dosage information in children < 5 years | Anxiety, dizziness, drowsiness, fatigue, headache, insomnia, nervousness, tremor, anorexia, diarrhea, dyspepsia | Drug interactions (metabolized by the CYP450 pathway) |
| Anticonvulsants | | | |
| Phenytoin (Dilantin) | 5 mg per kg per day in 2 to 3 divided doses to a maximum of 300 mg per day | Dizziness, psychiatric changes, slurred speech, gingival hyperplasia, constipation, nausea, vomiting | Serum concentrations, CBC with differential, liver enzymes Drug interactions |
| Carbamazepine (Tegretol) | < 6 years: 10 to 20 mg per kg per day in 2 to 3 divided doses; maximum dosage of 35 mg per kg per day 6 to 12 years: 100 mg twice daily; increase by 100 mg at weekly intervals; maximum dosage of 1,000 mg per day | Ataxia, drowsiness, constipation, diarrhea, nausea | CBC with platelet count, liver function tests |
| Valproic acid (Depakene) | 10 to 15 mg per kg per day in 1 to 3 divided doses; increase by 5 to 10 mg per kg per day at weekly intervals | Drowsiness, sedation, constipation, diarrhea, heartburn, nausea, vomiting, rash | Liver function tests, bilirubin, CBC with platelet count |

Table 5 continues

TABLE 5 (continued)

Pharmacotherapy for Conduct Disorder

| Medication | Dosage range | Common adverse effects | Monitoring/special considerations |
|----------------------|---|---|--|
| Other | | | |
| Lithium | Children: 15 to 60 mg per kg per day in 3 to 4 divided doses Adolescents: 600 to 1,800 mg per day in 3 to 4 divided doses | Dizziness, drowsiness, fine hand tremor, headache, hypotension, anorexia, diarrhea, dry mouth, nausea, vomiting, polyurea | Drug interactions Serum lithium concentrations prior to next dose, monitor biweekly until stable then every 2 to 3 months; serum creatinine, CBC, urinalysis, serum electrolyte, fasting glucose, echocardiogram, TSH |
| Clonidine (Catapres) | 0.05 mg per day; increase every 3 to 7 days by 0.05 mg per day to 3 to 5 µg per kg per day in 3 to 4 divided doses Maximum dose: 0.3 to 0.4 mg per day | Dizziness, drowsiness, sedation, constipation, dry mouth | Blood pressure, heart rate Do not discontinue abruptly or withdrawal symptoms may occur. |

CBC = complete blood count; CNS = central nervous system; TSH = thyroid-stimulating hormone.

*—Data on pediatric safety are not extensive.

ble, with monthly checks thereafter. Monitoring and the toxicity associated with lithium treatment may limit the use of this agent. Anticonvulsants have also been used to reduce aggression.³¹ The side effect profile and monitoring requirements provide similar limitations to the anticonvulsants.

CLONIDINE

Several studies have demonstrated a significant reduction in impulsivity and aggressive outbursts with clonidine.³²⁻³⁴ Side effects include drowsiness, low blood pressure, bradycardia and depression. The first three effects may be limited by reducing the dosage. Patients taking clonidine should be closely monitored for symptoms of depression and oversedation.

Referral for Specialized Treatment

While mild and early-stage cases of conduct disorder may be effectively managed by family physicians, many children and adolescents with conduct disorder will require specialized mental health treatment. Typically, patients with conduct disorder are not distressed by their behavior; furthermore, there are almost always major family issues and dysfunctions

that contribute to or limit treatment of the patient's problem. Therefore, family therapy is the treatment of choice. In addition to behavior management, effective therapy requires parental consistency and reduction of marital or intergenerational conflict.^{12,35} Empowering parents to take charge of discipline and rule setting is often difficult because of adults' own self-focus or concurrent psychopathology. *Table 2* summarizes the key features of the differential diagnosis of conduct disorder and treatment implications.

In managed health care systems, primary care clinicians are often the gatekeepers to mental health care.⁶ By accurately diagnosing these children and determining the degree of risk to self or others, while noting resources available in the patient's natural environment, family physicians can more effectively advocate the appropriate level of service these patients require. When adult caregivers are unavailable or unable to provide the degree of structure and supervision required, residential treatment may be necessary. Family physicians who prescribe medication for conduct disorder or comorbid conditions should maintain regular contact with other professionals treating the child.

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