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CHAPTER TEN

Clinical Approach and Assessment of Intermittent Explosive Disorder

Emil F. Coccaro*, Royce J. Lee*, Michael S. McCloskey†

*Clinical Neuroscience & Psychopharmacology Research Unit, Department of Psychiatry and Behavioral Neuroscience, Pritzker School of Medicine, University of Chicago, Chicago, IL, United States
†Mechanisms of Affect Dysregulation Laboratory (MAD LAB), Department of Psychology, Temple University, Philadelphia, PA, United States

Contents

Aggression has always been, and continues to be, one of the major problems faced by human society. An estimated 43.7% of the US population is the victim of at least one physical assault in their lifetime (Kilpatrick et al., 2013). Therefore, addressing potentially reversible causes of aggression and its consequences remains an important public health and scientific goal. This volume has described what we understand about a major subtype of aggression, impulsive aggression and its medical diagnostic category, intermittent explosive disorder (IED).

While IED is more common than previously thought, only about one in three individuals with IED actually seek treatment (Kessler et al., 2006). Reasons for this are multiple but include the stigma associated with aggression, as well as a low public awareness of impulsive aggression as a brain-based and treatable behavior, both among the population at large and among clinicians. Other psychiatric disorders have also been hampered by these issues but advocates for serious disorders such as schizophrenia, mania, depression, and others, have made great strides in this regard and the degree of stigma with these disorders have greatly lessened over the past few decades. A good deal of that work involved the coming forward

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of well-known individuals speaking out about their own experiences with these disorders either as a patient or as a family member. In addition, organizations such as the National Alliance for the Mentally Ill (NAMI) and the Brain Behavior Research Foundation (formally known as NARSAD) have performed admirably in spreading the word that psychiatric disorders are both brain-based and treatable. Advocacy for individuals with IED is needed but as of yet, no advocacy organization has formed for IED, and so individuals with IED face two sources of stigma: one for a socially undesirable behavior (aggression) and another for mental illness. Thus there is clearly a need for advocacy for this important and common mental disorder.

A critical source of support for the development of therapeutic approaches to IED is the National Institutes of Mental Health (NIMH). While the NIMH supported projects directly relevant to IED in the 1990s and early 2000s, it has also declined to fund several clinical neuroscience and treatment projects even when peer-review rated such projects as outstanding. These projects, including one comparing the efficacy of pharmaceutical and/or cognitive-behavioral treatment of impulsive aggression, were deemed "low program priority" and were never funded. Notably, the percent of NIMH-funded projects with any relevance to aggression has dropped steadily from 3.6% in 2000 to 2.2% in 2018 despite the fact that about 7-8% of the US population report having at least three criteria A IED outbursts in any given year and that the lifetime prevalence of DSM-5 IED is about 3.8%. Further, there is a strong negative correlation between the proportion of NIMH-funded projects with any relevance to aggression, and time, between 2000 and 2018 ($r=-0.88$, $P<.001$). This is in stark contrast to NIMH-funded research in suicide where the proportion of funded projects rose steadily from 3.1% in 2000 to 9.0% in 2018 ($r=0.88$, $P<.001$) while the lifetime prevalence of suicidal behavior is about 0.4%. A similar trend is also present for Autism where the proportion of NIMH-funded projects in Autism, and Autism spectrum disorders, rose steadily by an order of magnitude, from 2.3% in 2000 to 22.3% in 2018 ($r=0.98$, $P<.001$) and where the lifetime prevalence for these disorders is about 1.7%. Accordingly, it is clear that NIMH support of other related behaviors/disorders, occurring in less than 2% of the US population, is far greater than that of impulsive aggression or disorders of impulsive aggression (IED) despite the greater prevalence of these disruptive behaviors. As of this writing, only about 0.2% of the proportion of currently funded NIMH projects are directly relevant to IED despite a lifetime prevalence rate of DSM-5 IED of about 3.8%. An additional 0.2% of NIMH-funded projects include nonhuman, basic science, projects directly relevant to

aggression, while the remaining 1.8% of NIMH-funded projects are only broadly relevant to aggression and/or are related to other disorders in which aggression may appear.

Another issue is that IED is frequently comorbid with other psychiatric disorders. Clinicians may sometimes attribute the impulsive aggression in IED to a comorbid disorder. However, data from the chapter on comorbidity in this volume reaffirm the relevance of the IED diagnosis in accounting for aggressive behavior even in the context of comorbid Cluster B personality disorders. Thus we would argue, in the case of personality disorder comorbidity, that IED should remain a target for treatment. Less is known about prioritizing the treatment of IED in the setting of other comorbid conditions, such as PTSD, but this is a topic for future research.

IED and Treatment Seeking

Given this, how does one approach the evaluation of IED? Where do these individuals come from and do we engage them in treatment?

The number of individuals who meet DSM-5 criteria for IED who either speak with a medical/mental health professional, or who receive treatment for IED, is relatively low. Reanalysis of the NCS-R data set finds that only about 32% of those with DSM-5 IED discuss their "anger attacks" with their doctor, and only about 21% receive treatment for their aggressive behavior (see Chapter 3 in this volume). Thus IED appears to be an undertreated behavioral disorder. In the absence of outreach efforts to inform those in the community that IED is treatable and that treatment is available, this is not likely to change. In our clinical research program we inform the community of the availability of clinical research programs for IED via "public service announcements." While some of our "study participants" see us because someone has urged them to explore treatment, the vast majority come to us because, upon seeing our announcement, they recognize, typically for the first time, that they have a problem controlling their anger and aggression and that there may be help for it. For these individuals (like most with IED), the impulsive aggression they engage in is ego-dystonic and distressing. In contrast, the minority of individuals with IED who are referred to us by the courts tend not to follow through on appointments and are more likely to drop out of our program quickly. In most cases this is because these individuals are not convinced they have an anger problem and, thus, are not interested in changing their behavior. For these individuals impulsive aggression is seen as "ego-syntonic" or at least adaptive and/or warranted, though this response may (at least in some) reflect defensiveness

and/or underreporting on the part of the individual. While this group is difficult to study, let alone treat, we have found that those with IED who come to us on their own recognize their need for evaluation and treatment and are reliable informants about their behavior even though this behavior is socially undesirable (Steakley-Freeman et al., 2018).

Diagnostic Assessment of IED

Once in the office, the initial diagnosis of IED is relatively easy to make because it focuses, primarily, on reports of actual behavior. When first evaluating for the presence of IED it is helpful to define for the patient what is meant by an impulsive aggressive outburst. For example, while "snapping" at someone is captured on measures of overt aggressive behavior (e.g., the Overt Aggression Scale—Modified for Outpatient Use: OAS-M; Coccaro, Harvey, Kupsaw-Lawrence, Herbert, & Bernstein, 1991), the lower threshold for an IED outburst requires a more significant temper outburst and/or a verbal argument, not simply an expression of irritation that can be conveyed by a "snap" (e.g., "What do you want? Damn it!").

As aggression is commonly seen as a negative and unwanted behavior, which may engender feelings of guilt and/or shame, it is also helpful to normalize aggression. This can be done by explaining that almost all people act of aggressively at some point in their lives and that aggression can even be a healthy protective response in some cases. Further, that for people who do have problems with aggression, once detected this can often be successfully treated.

After setting the stage, one can ask the patient to complete a self-assessment questionnaire of IED (e.g., Coccaro, Berman, & McCloskey, 2017) to get a quick read on whether frequent, problematic, impulsive aggressive behavior is present. If the assessment suggests possible IED, one can then begin a more detailed assessment by asking about how many times in the past week (or month) the patient has had an impulsive, angry, aggressive outburst characterized by having temper tantrums (A_1), verbal arguments (A_1), breaking objects (A_2), and/or physically assaulting (A_2) other people. In evaluating these DSM "A" IED criterion items, it is important to note that the display of impulsive aggressive behavior is a product of one's disposition to anger/aggression and what the individual actually experiences in their day-to-day life. For example, when someone is away from their day-to-day life (i.e., while on vacation) it is likely that they will experience fewer than usual social threats and appear less aggressive. Thus one

does not need to have exactly two (2) impulsive aggressive outbursts every week in the previous three months, they only need an average of two aggressive outbursts per week, even if the weekly number of IED outbursts is quite variable depending on what is going on in the person's life.

If the individual does meet the aggression ("A") criteria for IED, the next step is to determine if the aggression is leading to distress and/or life problems. If it is not, then there is no need for further assessment of aggression. If the aggressive behavior does seem to be leading to problems in the individual's life then an assessment of the context of the aggression and any comorbid psychopathology will help in determining the appropriate course of action. For example, aggression (or "anger attacks") can be an associated symptom of depression, which will typically resolve with a cessation of the depressive episode. For those whom the problematic aggression is not associated with another disorder and is not severe enough to be considered an aggressive disorder, anger management may be an effective treatment (DiGuiseppe & Tafrate, 2003, Lee & DiGuiseppe, 2018).

For those who do meet the aggression criteria for IED, additional IED criteria should be assessed. The B criterion (aggression is grossly out of proportion to the provocation or stressor) is often fairly straightforward because in the review of one's aggressive outbursts it is very common for most outbursts to be clearly out of proportion to the situation. However, in other cases the extent to which the aggressive behavior is disproportionate to the provocation can be more complex and/or equivocal. Examples of this might include lashing out at a person who is berating them or physically assaulting someone who has assaulted them in the past. In these situations, if the aggressive behavior is initiated by the individual, or if the individual increases the aggression level in response to a lesser aggressive act (i.e., punching a person for teasing or insulting them), this would be considered clearly out of proportion. The caveat to this is if the person has been abused/assaulted by another previously. In that case, responding with physical aggression to the threat of being assaulted again *by that person*, even in the absence of an actual additional assault, would not be considered disproportionate, and thus would not count toward a diagnosis of IED.

The C criterion assesses whether most IED outbursts are unplanned, anger-based, and impulsive in nature. Here, the critical issue is that the aggressive outbursts meeting the A criteria be described as impulsive/anger-based, even if other outbursts are not. It is not unusual for aggressive acts to have both an anger-based and a more instrumental (means to an end) motivation. For example, fighting someone because they made you angry (anger-based)

and because you are hoping that this will stop them from engaging in the behavior you don't like (instrumental). In these situations, anger tends to be the primary reason for aggressing. However, if this is initially unclear, one should assess the primary function of the aggressive behavior (e.g., "Do you think you would have fought them even if you knew it wouldn't change their behavior," "Do you think you would have fought them if you were not angry?," "What was your main reason for fighting, to get back at the person, or to try to get them to do what you wanted?")

The D criterion assesses the presence of significant distress and impairment associated with the impulsive aggressive behavior. Those with IED report at least a moderate degree of distress/impairment due to the social, occupational, or legal consequences of their aggressive behavior. This criterion is extremely important because a diagnosis of IED should not be made if there is not sufficient evidence of distress *or* psychosocial impairment. When assessing for this criterion, occasionally the individual being assessed will deny distress or impairment, despite clear evidence to the contrary (e.g., denying impairment despite being arrested for being in a fight or being fired for aggressive behavior at work). In this case, you can gently point out what appear to be the consequences of their aggression. This will typically lead to acknowledgment of negative impact of their aggressive behavior. In the rare case that the person continues to deny adverse consequences, you should use your clinical judgment to determine if impairment does exist.

The E criterion is not important when dealing with adults because it only requires the onset of recurrent, problematic, impulsive aggressive behavior after the age of six years. The F criterion, in contrast, is extremely important because it assess whether the impulsive aggressive behavior is better explained by another condition or disorder. To make the DSM-5 diagnosis of IED, individuals with impulsive aggressive outbursts cannot have these outbursts only when they are in an episode of some other comorbid condition. If so, a diagnosis of IED cannot be made because it is assumed that the impulsive aggressive behavior is driven by the psychopathology of the other condition. This differential diagnosis can be relatively straightforward when the potential comorbid condition is episodic and/or occurs later in life. However, for conditions that are more chronic, especially if they begin early in life (e.g., chronic posttraumatic stress disorder beginning in childhood) this distinction can be extremely difficult to make.

To aid in the diagnosis of IED, one may want to use a structured clinical interview, as these interviews are considered the most reliable means of

diagnostic assessment (Ventura, Liberman, Green, et al., 1998). Two structured clinical interviews diagnose IED, the Structured Clinical Interview for the DSM-5 [SCID] and the IED-Module [IED-M]. The SCID, updated for the DSM-5, is one of the most frequently used omnibus diagnostic interviews in clinical and research settings (First, Williams, Karg, & Spitzer, 2015). The SCID-5 includes an optional module on the diagnosis of IED, which is located within the SCID Externalizing Disorder Module (First et al., 2015). There is also an unpublished stand-alone IED diagnostic interview, IED-M (see McCloskey & Coccaro, 2003 for a review of the IED-M). The IED-M was initially developed by Coccaro (1998) prior to the SCID-5 (but has since been revised to reflect DSM-5 IED criteria) to diagnose IED in conjunction with a full diagnostic interview (to assess for comorbid disorders that may better account for the patient's aggressive behavior). As it was developed to assess aspects of IED beyond the criteria for a diagnosis, the IED-M is a longer, more involved interview than the SCID-5 IED module. Though not required to diagnose IED, these interviews can be a useful diagnostic tool.

Assessing Severity of IED

Severity of IED can be assessed both from a lifetime and a present-time perspective. The Life History of Aggression (LHA; Coccaro, Berman, & Kavoussi, 1997) is a simple five-item assessment of aggression that quantifies the relative number of impulsive aggressive events over the person's lifetime. It can be done as an interview or as a questionnaire (Coccaro, Berman, & McCloskey, 2017). Scores range from 0 to 25 and scores of 12 and higher are typical of those with DSM-5 IED. In our studies, the average individual with IED has an LHA score of about 18 compared with about 5 for healthy controls and about 8 for nonaggressive psychiatric controls (see Table 1 in Chapter 3). The dispositional trait to engage in aggressive behavior can be assessed using the "verbal" aggression and "physical" aggression scales of the Buss Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992); typically, we combine these two scores into one "aggression" score. Trait anger can be assessed by the BPAQ "anger" score. State anger can be assessed with the state anger scale of the State-Trait and Expression of Anger Inventory (STAXI), though we have found that it correlates highly with trait anger among those with IED. History of actual impulsive behavior can be assessed with the Life History of Impulsive Behavior (LHIB; Coccaro & Schmidt-Kaplan, 2012) which is similar to the LHA but is given as a questionnaire

as opposed to a clinical interview like the LHA. The dispositional trait of impulsivity can be assessed using the Barratt Impulsiveness Scale (Version 11; Patton, Stanford, & Barratt, 1995) though a more recent assessment, the Urgency, Premeditation, Perseverance, and Sensation Seeking scale (UPPS) may be better suited for the assessment of those with IED (Puhalla, Ammerman, Uyeji, Berman, & McCloskey, 2016) because it assesses negative urgency rather than simply general impulsivity.

Informed Consent and Psychoeducation

A renewed emphasis on person-centered care asks care providers to empower patients to participate in their health care by becoming informed partners in medical decision making. The first step in this process is sharing the diagnosis with the patient. In our experience, most patients receiving the IED diagnosis will likely be hearing about it for the first time. Therefore, psychoeducation is needed to teach the patients about what IED is. Such a conversation would include discussion about the diagnostic criteria and why the person's symptoms fulfill diagnostic criteria. This can be accomplished by literally reading the diagnostic criteria to the patient in the office. The conversation needs to also include information about risk factors (trauma, genetics, and biological risk factors such as altered serotonergic signaling) prognosis (currently not well understood), and what is understood about response to treatment (partial response to SSRI medications and CBT).

It is also important for the conversation to emphasize the patient's accountability for their own behavior. The IED diagnosis makes a probabilistic prediction of future aggression, but does not impair the ability to understand the law or the difference between right and wrong. Patients should know that their medical diagnosis would not provide a legal defense against any potential consequences of their aggressive behavior (also, see chapter on "Forensics," this volume). Finally, the clinician should be aware of the ethical context of the treatment of persons with aggression, which may include a duty to warn potential victims of death or serious harm when it is imminent. This can be accomplished by encouraging family involvement in the treatment. In cases where domestic violence is a risk, this may be an essential component of treatment contract. It is strongly encouraged that patients allow family members permission to discuss instances of anger and/or aggression with the clinician. Such collateral information can prove to be essential when assessing for symptomatic worsening or improvement with treatment. Finally, patients need to be reminded that health care providers are mandated reporters for child and/or elder abuse,

depending on the state of residence. Although these conversations sound difficult, in our experience the patients with IED who bring themselves into treatment have already proven that they are strongly motivated to change. Usually, their awareness of the high cost of aggression to themselves and their family is what motivates them.

Assessing Interest in Treatment and Readiness to Change in IED

In order to get a sense of how prepared someone is to engage in treatment for IED, we use the Readiness to Change (RTC; Prochaska & DiClemente, 1992) scale adapted for "anger problems." The RTC is a 32-item questionnaire that assesses an individual's readiness to address their impulsive aggressive behaviors (e.g., "I have an anger problem and I really think I should work on it") on a five-point Likert scale (1 = "Rarely or Never" to 5 = "Almost Always or Always"). The RTC has four (4) subscores for precontemplation (i.e., if aware of an anger problem, places too much emphasis on the disadvantages of changing behavior), contemplation (i.e., recognize their anger problem, but ambivalent about changing behavior), action (i.e., recognize their anger problem and are changing their behavior), and maintenance (i.e., sustained behavior change), phases with higher scores reflecting a person's awareness that their frequent anger is as a problem and that they are ready and interested in addressing the problem. In our recent study on this topic (Steakley-Freeman, Lee, McCloskey, & Coccaro, 2018), we found clear separation of those with IED compared with healthy and nonaggressive psychiatric controls. More importantly, the proportion of IED study participants that had RTC scores significantly greater (two standard deviations) than the average of healthy volunteers was 25% for the precontemplation phase and more than 80% for the contemplation (95%), action (86%), and maintenance (82%) phases scores indicating that individuals with IED that come on their own to an "anger program" are clearly ready to acknowledge their anger problem and to work on it. Among those with IED, LHA scores did not correlate significantly with any RTC phase, suggesting that the level of aggressive behavior is not related to readiness to change, and therefore may not be relevant as to who is likely ready for treatment. Unfortunately, we have no data on those with IED that come to treatment because a third party wants them to, but we would expect that they would be higher in the precontemplation phase and much lower in the remaining RTC phases.

Assessing Aggression Change in IED

Change in aggression frequency and/or intensity in response to an intervention cannot be adequately assessed with the measures used to assess baseline aggression and/or impulsivity. This is because these baseline measures assess trait, not state, aggression, and thus are not designed to be sensitive to change. For assessment of IED treatment, one requires measures that assess aggressive behavior over relatively short periods of time (e.g., today, past week, past two weeks). To date, this has been done with variants of the Overt Aggression Scale first proposed in the late 1980s.

The Overt Aggression Scale (OAS; Yudofsky, Silver, Jackson, Endicott, & Williams, 1986) was first developed to assess aggressive behavior in inpatient or institutional settings. The OAS assesses four (4) subcomponents of aggressive acts for each aggressive act that occurred on an inpatient psychiatric unit. The subcomponents are verbal assault, assault against objects, assault against others, and assault against self with each scored according to severity on a 0–5 scale. While the OAS was appropriate for clinical trials in an inpatient setting, the OAS required modification for use in an outpatient setting, which is where the vast majority of potential subjects with recurrent, problematic, impulsive aggressive behaviors are. In preparation for a clinical trial to test the efficacy of fluoxetine compared with placebo, we developed the OAS Modified for Use in Outpatients (OAS-M, Coccaro et al., 1991). At the same time, another version of the OAS (Modified OAS: MOAS) was developed by another group (Kay, Wolkenfeld, & Murrill, 1988). The MOAS was developed primarily to study the phenomena of aggression, particularly in severe mental illness and institutional settings. It has also been used in clinical trials, though not clinical trials of a primary disorder of impulsive aggression (i.e., IED). The OAS-M and MOAS are similar in many ways (including in the weights of aggressive items) but the MOAS does not include a global irritability or anger score and does not include an assessment of the specific nature of impulsive aggressive outbursts as does the OAS-M. To date, the OAS-M has been used in several clinical trials of impulsive aggression and/or IED including five (5) trials with SSRIs (Coccaro, Lee, & Kavoussi, 2009; George et al., 2011; Lee, Kavoussi, & Coccaro, 2008; Silva et al., 2010), three (3) trials with anticonvulsants (Hollander et al., 2003, Mattes, 2005; Coccaro, 1998 unpublished data), and at least one trial with Cognitive Behavioral Therapy (McCloskey, Noblett, Deffenbacher, Gollan, &

Coccaro, 2008). In addition, the OAS-M has been used in at least three pharmaceutical industry trials.

The OAS-M has good psychometric properties (Coccaro et al., 1991; Coccaro, under review) but, because the frequency of aggressive behavior is positively skewed (i.e., very frequent aggression is less common), OAS-M scores are typically log-transformed. Most importantly, aggressive behavior is highly variable within individuals because aggression is a product of aggressive disposition and perceived social threats. Thus those performing clinical trials in IED should take care to enroll only those individuals with IED who demonstrate stable OAS-M scores on three weekly assessments over a two-week period (e.g., Aggression scores $\geq$15 and Global Anger and Aggression scores $\geq$6) prior to randomization (Coccaro, Lee, Breen, & Irwin, 2015).

While the OAS-M Aggression score constitutes a good assessment of acute aggressive behavior in research settings, we recommend that clinicians use the Global Anger and Aggression (formerly labeled as OAS-M Irritability) score, in conjunction with a review of all IED outbursts in the previous week (or two weeks maximum), in order to assess impulsive aggressive behavior during treatment.

Additional assessments could be used, though most available assessments of anger and/or aggression are trait related in nature. One can change the stem question for anger inventories, such as the State Trait Anger and Expression of Anger Inventory (STAXI; Spielberger, 1999) so that the Trait Anger items are completed with reference to the "past week" rather than "in general." Some ongoing clinical trials are doing this but the results are not in as of yet.

Summary

Despite being among the more common and problematic disorders, IED is not well understood among mental health providers and is far less familiar with the public. This facilitates the general perception of aggression problems seen in IED as evidence of immutable character flaws rather than addressable problems for which treatment is available. Even those with IED often fail to seek treatment for this reason. However, as IED becomes better recognized among treatment providers, the importance of accurate assessment of IED is key. Diagnostic assessment will focus on the form, function, and frequency of the aggressive behavior, as well as the role of any comorbidities. A nonjudgmental, normalizing approach will help reduce any

patient hesitancy and anxiety about reporting their aggressive behavior, though in most cases this is minimal. Diagnosis can be aided by the use of structured clinical interviews. This can be augmented by trait measures of anger and aggression to provide additional information about IED severity. Once a patient shows a readiness to engage in treatment, progress can be monitored using weekly or biweekly measures of anger and aggression interviews such as the OAS-M, which are designed to be sensitive to change over time. Finally, accurate assessment of behavior referable to IED is integral to effective treatment.

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