Intrusive Thoughts in a Boy: A Review of Intermittent Explosive Disorder

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CASE PRESENTATION

A 17-year-old boy presented with concerns about frightening nightmares. He stated that he had difficulty falling asleep, and would awake with bad dreams 30 to 40 times per night. On further questioning, he revealed that he felt himself becoming progressively angrier over the past six months, particularly over the most recent five weeks. He described his feelings of anger as arising suddenly and without any clear provocation. This was accompanied by escalating impulsive, recurrent and constant thoughts about violently killing anyone that he saw, predominantly using weapons such as knives, swords or guns. The intrusive thoughts interfered with his concentration and made it difficult for him to go to school or to leave his home. He stated that he was not very well-organized, not a collector, and that he had no rituals. He had no compulsions. His medical, surgical, family and legal histories were unremarkable. He denied any substance use or abuse. On two occasions, when he was alone in his home, he expressed his anger by breaking and tearing apart furniture. He had never been in fistfights, nor had he ever hurt any people or animals. His suicide risk was low.

At time of admission, he looked his stated age and was dressed casually in jeans and a t-shirt. His mood was angry, congruent with his affect. His thoughts were focused on his preoccupation with killing people. Despite his distressing thoughts, he had remarkable insight into his condition.

He was started on escitalopram 10 mg daily and olanzapine 2.5 mg daily. Subsequently, his sleep improved. However, the distressing thoughts persisted and anger management was arranged. While he noted no change in the frequency and intensity of his distressing thoughts, he stated that he felt some relief in the attempts to address his situation.

When this boy presented to our care, a range of differential diagnoses were considered including: obsessive-compulsive disorder, intermittent explosive disorder, depression or an adjustment reaction. His recurrent and impulsive violent thoughts were most suggestive of intermittent explosive disorder. An EEG was ordered, and revealed epileptic foci. He was started on carbamazepine, an anticonvulsant, and subsequently experienced a decrease in the frequency and intensity of violent thoughts.

INTERMITTENT EXPLOSIVE DISORDER
Definition, Epidemiology and Diagnosis

According to the DSM-IV-TR diagnostic criteria, Intermittent Explosive Disorder (IED) is characterized by discrete episodes of aggressive impulses that result in serious assault acts or destruction of property, in which the degree of aggression is greatly out of proportion to any precipitating psychosocial stressors. These episodes are not otherwise accounted for by another mental disorder or due to the direct physiological effects of a substance or a general medical condition.

Patients may describe the symptoms of IED as spells or attacks. These appear within minutes or hours and remit spontaneously and abruptly regardless of duration. Patients tend to demonstrate regret following each episode. Between episodes, signals of general impulsivity or aggressiveness are not seen.

While intermittent explosive disorder is underreported, it appears to occur more frequently in males than in females. Male patients with IED are more often seen in correctional institutions, whereas female patients with IED are more often seen in psychiatric institutions. It tends to present between late adolescence and early adulthood. Usually, it decreases in
severity with middle age. This may be due to patients gaining better insight into their own symptoms with time and developing behavioural management strategies.

**Classification**

Traditional impulse control disorders in the DSM-IV-TR include pathological gambling, trichotillomania (hair loss from compulsive pulling), kleptomania (irresistible urge to steal items of trivial value), pyromania (compulsion to set fires) and IED. These disorders are characterized by repetitive behaviours and impaired inhibition of these behaviours. As described by Dell’Osso et al., such impulse control disorders include the following:

- “The failure to resist an impulse to perform some act that is harmful to the individual or others;
- An increasing sense of arousal or tension prior to committing or engaging in the act;
- An experience of either pleasure, gratification, or release of tension at the time of committing the act.”

It has been suggested that frequent verbal aggression could be included in future iterations of the IED criteria set. Some researchers have suggested that impulse control disorders should be thought of as a part of an obsessive-compulsive spectrum; a DSM-V task force has considered separating obsessive-compulsive disorder from the anxiety disorders and placing it in a separate category known as the obsessive-compulsive spectrum disorders.

Since diagnosis of IED may prove difficult, various aids have been investigated for this purpose. Notably, the Interview Module for Intermittent Explosive Disorder (M-IED) has been studied as a potential tool to aid in the diagnosis of IED in adolescents. It is based on the Structured Clinical Interview for DSM-III-R (SCID) and focuses on frequency of outbursts, level of aggression and social impairment.

Organic causes of IED have been investigated. Koelsch et al. have studied EEG correlates of moderate IED. In moderate IED, individuals act less intensely during an episode and in a socially acceptable manner, such as slamming doors or shouting loudly. Coccaro et al. have found that subjects diagnosed with IED perform poorly on facial emotion recognition tasks. Further, they have determined that patients with IED demonstrate exaggerated amygdala reactivity and diminished orbitofrontal cortex function on functional MRI studies. Finally, it has been proposed that endocrine factors play a role in the aggressiveness seen in many Axis I disorders, such as attention deficit/hyperactivity, alcohol abuse, post-traumatic stress disorder (PSTD), chronic fatigue and burnout. In these disorders, low basal glucocorticoid levels persist for years. A similar contributing factor cannot be excluded in IED.

**Treatment**

A pharmacological and psychotherapeutic approach may be considered as a treatment option for IED. Unfortunately, psychotherapy in these patients tends to be difficult due to their angry outbursts. Therapists may further be challenged with countertransference and limit-setting. A primary therapeutic goal may be to encourage the patient to identify thoughts or emotions that precede explosive episodes in order to avoid acting them out. Family and group therapy may also be beneficial for adolescent patients.

Anticonvulsants have been used in treating IED. Lithium may be helpful in lessening aggressive behaviour. Other anticonvulsants that have shown some benefit in IED patients include carbamazepine, valproate, divalproex, and phenytoin.

While antipsychotics have been used successfully in some cases, a positive response may raise the possibility that schizophrenia or a mood disorder is the underlying diagnosis rather than IED. Clozapine, in relatively modest doses (mean daily dose of 102 mg), may have clinical benefits for adolescents with bipolar disorder, IED, and PTSD, although it has no labelled indication for these disorders. Its beneficial effect is demonstrated by decreased requirements for concomitant mood stabilizers, antidepressants, and anxiolytic medication use.

Treatment with beta-adrenergic receptor antagonists and calcium channel blockers has been effective in some cases. Operative treatment for intractable violence and aggression is another possibility, but there is no evidence for the efficacy of this option.

**CONCLUSION**

Ultimately, organic causes of this boy’s symptoms were investigated. When an EEG revealed epileptic foci, it was evident that a seizure disorder may have been triggering his recurrent and intrusive violent thoughts. The boy’s subsequent improvement on carbamazepine further supported this hypothesis. However, escitalopram, a selective serotonin reuptake inhibitor, and olanzapine, an atypical antipsychotic, may have also played contributory roles.

It remains important to generate broad differential diagnoses, and to consider psychiatric as well as other organic disease. This case reminds us of the possibility that a seizure disorder may mimic the symptoms of IED. While an anticonvulsant provided a suitable treatment for an underlying seizure disorder in this patient, true cases of IED—those not caused by an underlying medical condition, such as a seizure disorder—are more difficult to manage. To date, there have been no studies examining patients with IED to universally rule out concomitant epileptic foci seen on EEG. Further investigation may shed light on the causes, classification and treatment of this challenging condition, allowing physicians to more effectively help patients with IED.
REFERENCES

Author Biographies
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