Movement Disorders
CLINICAL PRACTICE

CASE SERIES

Aggression Toward Others Misdiagnosed as Primary Tics

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ABSTRACT: Background: Tics describe a wide range of sudden and repetitive behaviors. Their multifaceted clinical features may resemble other explosive behaviors, including repetitive episodes of aggression toward others (allo-aggression) reported by subjects without tics. Here, we document 3 exemplary cases that help disentangle allo-aggressive behaviors from tics.

Cases: We report 3 cases who presented with an array of complex repetitive behaviors, most notably allo-aggression (eg, sudden kicking, hitting, slapping and biting others, or pushing someone off a bike), which were misdiagnosed as primary tics. In all cases, additional symptoms, such as blackouts, feeling of being controlled by different personalities, or being empowered by repetitive behaviors, and examination pointed toward different neuropsychiatric diagnoses.

Conclusions: Repetitive allo-aggressive behaviors are not part of the range of motor manifestations of tics. This observation not only has important medico-legal implications but is also relevant for the overall perception of Tourette syndrome and other primary tic disorders.

Among the range of hyperkinetic movement disorders, tics have the widest phenomenological variability and most closely resemble voluntary actions. Any type of brief and sudden movement or sound can also be a tic, and it may often be very difficult to distinguish between tics and other explosive repetitive phenomena, including more complex behaviors.[1] This issue has important clinical implications because correct phenomenological labelling and etiological classification will determine appropriate treatment selection.

Most recently, we came across 3 patients who presented with sudden and repetitive episodes of aggression toward others (allo-aggressive behaviors), such as throwing objects and biting or kicking others, which were initially misdiagnosed as primary tics. Clinical history and examination subsequently pointed toward different neuropsychiatric diagnoses. Given the medico-legal importance of this issue and the implications it carries both for diagnosis and the overall perception of tic disorders, including media depictions, we describe the characteristics of these cases and discuss the phenomenon of allo-aggression in the context of tics.

Case Series

Case 1

Case 1 is an adolescent female, who, a few months before current presentation, had suddenly (overnight) developed repetitive behaviors, including head and whole-body thrusting, arm flailing, repetitive vocalizations, coprophenomena (eg, showing the middle finger while shouting different obscene words), and allo-aggression. She would abruptly and repetitively kick, hit or slap others, often specific people. She reported having no control over these behaviors, which she needed to let out, often as the result of a mounting inner tension. She reported that her behaviors were often determined by other personalities taking control

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of her body, one of which was young child, who had no tics, and another one, a different adolescent female, who was more impulsive and aggressive. She also suffered episodes where she was unable to move and was only partially aware of her surroundings. She denied having any obsessions. Because of the brief, sudden and irregular character of her repetitive behaviors, including allo-aggressions, she had been diagnosed with a "severe form of Tourette syndrome" (TS) and prescribed aripiprazole (5 mg), which did not alleviate symptoms. Neurological examination documented the presence of the aforementioned repetitive behaviors, including sudden and intermittent violent kicking and hitting specific people. All previous examinations, including brain magnetic resonance imaging (MRI), repetitive electroencephalogram (EEGs), and laboratory work-up had been unrevealing. The abrupt onset of symptoms, as well as the range of different complex behaviors, their modulation according to the personality "being in control" and the notable episodes of directed allo-aggression were all incompatible with the diagnosis of a primary tic disorder. Although the diagnosis of a functional neurological disorder (FND) was considered for some of the symptoms (eg, episodes of inability to move with partial awareness of her surrounding environment), subsequent psychiatric evaluations discussed a factitious disorder, with focus on primary gains in social dynamics, as a main diagnostic domain.

Case 2

Case 2 is a 24-year-old male who, at the age of 20, developed sudden and recurrent episodes of whole-body jerking lasting several minutes, without alteration of consciousness, following a break-up with his former partner. A few months before presentation in our clinic, he had developed repetitive jerky movements and complex behaviors, which were diagnosed as tics in "adult onset TS" and which he felt "progressively took control over his body". He reported that when "tics" occurred, his voice would become stronger and his demeanor more aggressive. He then felt compelled to repetitively shout and swear at his family, as well as throw writing utensils, break fragile objects (eg, other's drinking glasses and cups, eggs in grocery stores), and spill liquids over others' food. There were further occasions where he would suddenly grab things out of others' hands and throw them away. He denied having any premonitory urge, but felt a brief sense of dizziness before any "tic" occurred, during which he experienced brief black-outs, and therefore, reported having no control over the behaviors. He also noted that his "tics" provided him with a new kind of motor precision, which he otherwise lacked. For example, he felt able to accurately hit targets while throwing objects and felt particularly skillful while using knives. There was no history of obsessive–compulsive symptoms. During clinical examination, no simple motor tics but several complex repetitive motor behaviors were noted, including hitting his hands on a table and standing up and forcefully grabbing the pen from the examiner's hands before throwing it across the room. This type of behavior, including features such as enhanced and directed aggression toward others, was viewed within the context of antisocial behavior and not as part of primary tic disorders. The patient was scheduled for further neuropsychiatric evaluation but was lost to follow-up.

Case 3

Case 3 is a 20-year-old female who presented to our clinic because of repetitive behaviors (eg, arm stretching, head turning, squinting, and nose twitching), including coprolalia and allo-aggression. Although simple repetitive movements had been present since her childhood, and she had in fact been previously diagnosed with TS and attention deficit hyperactivity disorder (ADHD), she reported that coprolalia and allo-aggression had only developed over the past months. She did not complain about the simple motor phenomena from her childhood, but was concerned because of the new type of "more aggressive behaviors". For example, meeting her supervisor at her working place triggered a bout of repetitive swearing, and she bit her colleague's arm on several occasions. Having no ability to stop herself, she would also throw writing utensils around, despite the fact that they could often injure others. She reported experiencing tension around her neck, which was alleviated while manifesting these behaviors, over which she felt that she had no control. On one occasion, she mentioned that her behaviors had led her to push a person off their bicycle. She then explained to the bicycle rider that she suffered from TS, an explanation which was accepted by the rider. No legal charges were pressed. In fact, she wondered whether a formal document could be issued attesting that these types of behaviors were part of her TS diagnosis. She also experienced episodes of blacking out, and the suggestion had been made that she might also suffer from functional seizures. She reported that, at times, she felt overwhelmed and experienced severe bouts of repetitive behaviors, which could then lead to subsequent long-lasting black-outs (from minutes to hours). Clinical examination was unremarkable beyond the presence of simple motor tics and some of the more complex explosive behaviors (eg, throwing writing utensils) described above. There were no features to support the presence of obsessive–compulsive disorder. Given the impulsive, but also directed type of allo-aggressive behaviors documented here, a provisional diagnosis of unspecified conduct disorder overlaid to the presence of TS and ADHD was considered. In addition, the diagnosis of FND for the prolonged episodes of blacking out was also discussed with the patient, who is scheduled to join an inpatient neuropsychiatric program for further evaluation and treatment.

Discussion

The range of motor and vocal behaviors classified as tics is broad and spans from simple movements (eg, blinking, shoulder shrugging) or phonations (eg, throat clearing, sniffing), to complex motor phenomena, which often resemble gestures (eg, rubbing forehead, repetitive touching), and vocalizations (eg, words or their fragments). Largely owing to the seminal syndromic description of Georges Gilles de la Tourette[2] and their common prevalence in people with primary tics and TS, an array of

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further and pathophysiologically poorly understood behaviors, such as echo-, pali- and coprophenomena are also currently classified as complex tics.[3]

In stark contrast, the cases illustrated here document a different range of complex behaviors, specifically episodes of allo-aggression, which until now had been misinterpreted as complex tics by medical personnel and by patients themselves. These striking allo-aggressive incidents, such as sudden and repetitive kicking, hitting, slapping and biting others, or grabbing items from other people and darting them about, or even pushing someone off a bike, do not belong to the spectrum of the behavioral manifestations of primary tics. First, they were rather directed behaviors, which were often triggered by specific situations and/or people. Second, in all cases, there were additional atypical signs not consistent with the diagnosis of a primary tic disorder. For example, all patients reported alterations in their level of consciousness, either as part of extensive "tic" episodes (cases 1 and 3) or during each single "tic" (case 2). Moreover, in case 1 the occurrence of the abnormal behaviors was reportedly influenced by the personality perceived as being in control, and in case 2 the patient felt that the abnormal behaviors were part of a special power, which granted him virility and extreme precision in fine motor control. Importantly, in cases 1 and 2, there was no clear evidence of simple motor or phonic tics, which are typically observed in primary tic disorders. Case 3 did display simple tics she had had for many years that were correctly positioned within the diagnostic framework of TS, and she was also diagnosed with ADHD. However, the current presenting complaints were the new aggressive and uncontrollable behaviors toward others. In this case, it is particularly important to highlight that these allo-aggressive behaviors do not constitute complex tics for the reasons described above, but best fall within additional diagnostic dimensions related to poor impulse control overlaid to the diagnosis of long-standing TS. Indeed, medical literature has documented the presence of aggressive incidents, including self-injurious behaviors[4] and intermittent episodes of explosive anger (sometimes also referred to as "rage attacks"), in the presence of neuropsychiatric comorbidities, such as ADHD.[5–7]

In summary, these 3 cases help raise awareness over the differences between repetitive allo-aggression and primary tics. The potential legal ramifications of such behaviors, which may have different etiologies, should be clearly distinguished from tics and their associations. This also carries the implication that violent and "delinquent" behaviors are not part of the intrinsic tic repertoire, with repercussions on the social perception and stigma attached to TS.

Author Roles

(1) Research project: A. Conception, B. Organization, C. Execution; (2) Manuscript Preparation: A. Writing of the First Draft, B. Review and Critique.

L.K.: 1B, 1C, 2A
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A.E.C.: 1A, 1B, 2A
A.A.K.: 1B, 1C, 2B
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