

Dissociative Aggression Triggered by Headache

ABSTRACT

Headache is generally perceived as a negative symptom focused on oneself. However, there are reports suggesting that patients suffering from pain, especially headache, can be aggressive. The precise nature of the link between headache and aggression is not known. Here, we describe a homicidal attack, triggered by headache, in a middle-aged man. The patient's background and the characteristics of the attack suggested a dissociative behavior. The case shows that headache may be a trigger for homicidal behavior. Case-control studies are needed to determine the prevalence of aggressive tendencies in patients with headache.

Keywords: Headache, homicide, dissociative disorder, obsessive compulsive disorder

Introduction

The association between pain and aggressiveness in patients suffering from pain has been described previously.¹ From a physiological point of view, pain is a strong autonomic stimulator and it may induce aggressive behavior by stimulating the lateral hypothalamus via the amygdala.² Interestingly, in the case series of Fishbain et al,³ it was stressed that patients with pain showing aggressive behavior usually have psychiatric comorbidities and these comorbidities should be addressed during management of pain. The association between aggression and headache has previously been described in several studies. For instance, Park and Seo⁴ reported that migraine patients had high aggression scores and the aggression was related to headache intensity and suicidality. A similar co-occurrence was also observed in patients with trigeminal autonomic cephalgias such as cluster headache.⁵ Battistutta et al⁶ reported that adolescents with chronic tension-type headache had higher aggression scores than the controls.

Case Presentation

A 36-year-old man presented to the neurology and psychiatry clinics for recurrent attacks of assaultive intention toward others. The patient had these assaultive attacks for five years. The attacks had a stereotypical pattern, in that they always started with unbearable headache. He experienced approximately one or two episodes every month. He described an urge to physically attack and harm others in the vicinity during the attacks. The episode started with severe tension-type headache localized to the frontal region. The patient denied co-occurrence of photo- and phonophobia or other autonomic symptoms. The severity of headache was described as 10 on the visual analog scale. During one attack, he tried explicitly to strangle and kill a man sitting next to him in a cafe. The attempt was stopped by others present. The patient did not recollect any of the details of the event nor did he acknowledge any conflict with the person he attacked. The attacks usually lasted about a couple of hours, and the patient did not have any residual aggressive behavior between the attacks. However, he acknowledged that he had intrusive thoughts about killing someone between the attacks and these intrusions intensified when he had headache.

The patient's past medical history was unremarkable. The physical examination revealed no localizing signs. The magnetic resonance imaging scan of the brain was normal. An



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Table 1. The Patient's Neuropsychological Evaluation of Memory, Language, Attention and Executive Functions, and Visuospatial Planning

Ability	Test	Interpretation
Memory	Verbal Memory Processes Scale	Mild frontal-type impairment
	WMS Visual Memory Subtest	Mild frontal- and temporolimbic-type impairment
Language	Boston Naming Test	Moderate impairment in the confrontation naming skills
Attention and executive functions	Stroop Test	Normal inhibition skills
	Verbal Fluency Test	Minimal impairment in constant attention and naming
	Digit Span Test	Minimal impairment in working memory
	WCST	Impairment in mental flexibility
	Trail Making test	Visual working memory impairment
	Luria Alternating Patterns	Motor planning, set shifting, and persistence skills are impaired
	Clock Drawing Test	Minimal impairment in planning
	Similarity Test	Normal reasoning ability
Visuospatial skills	Benton Judgement of Line Orientation Test	Mild impairment

Abbreviations: WCST, Wisconsin Card Sorting Test; WMS, Wechsler Memory Scale.

electroencephalography was performed and did not reveal any epileptogenic feature. A neuropsychiatric battery was applied (Table 1), which mainly revealed abnormalities related to the prefrontal functions. The patient's working memory, set shifting, sustained attention, and mental flexibility were significantly impaired. In addition, we observed frontal-type verbal memory impairment. This latter impairment implied that primary encoding was intact; however, the patient had difficulties in recalling recorded information. The intelligence quotient, as measured by the Cattell 2A test,⁷ was 77, reflecting borderline intelligence. To assess psychopathology, we applied the Structured Clinical Interview for the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (SCID-5) interview that can specifically diagnose DSM-5 axis I and II disorders. In SCID-5, we observed that the patient met the criteria for the following axis I disorders: obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD). The patient did not meet any criteria for axis II disorders. His score on the Dissociative Experiences Scale⁸ was 38 (cutoff for this test is 28), which shows the presence of significant dissociative life experiences. Regarding OCD, the patient had recurrent intrusive thoughts of killing or harming someone. These thoughts sometimes involved his child and led to compulsive checking to see if the child was harmed in some way. The intrusions became more prominent during headache episodes. Although the obsessions did not result in physical assault in most cases, the patient also overtly attacked people around him in one case, as described above. A PTSD diagnosis was made mainly because of flashbacks related to a past traumatic experience.

Discussion

Despite the abovementioned reports of association between headache and aggression, we did not encounter any case in the literature that reported homicidal behavior in cases of headache. The patient

did not have nausea, vomiting, and photo/phonophobia; therefore, a diagnosis of migraine was excluded. He also did not have any autonomic symptoms associated with headache. As such, we concluded that he did not have any type of trigeminal autonomic cephalgias. Based on headache characteristics, absence of photo/phonophobia and trigeminal autonomic symptoms, and normal neuroimaging, a diagnosis of tension-type headache was made. The patient was prescribed paroxetine 20 mg for tension-type headache. In addition, we added risperidone 2 mg to control aggressive behavior and obsessions. The patient benefited significantly from this treatment. He experienced only mild headaches after the initiation of medical treatment, and none of these headaches were accompanied by intrusive aggression intentions.

Notably, the patient also met the criteria for OCD, and his score on the Dissociative Experiences Scale was also high. From a psychiatric point of view, we speculated that the severity of the headache intensified the dissociative tendency of the patient and caused the homicidal attack. Notably, his obsessions in between the headache episodes were also related to homicide. Thus, his OCD might have also facilitated the homicidal behavior. In addition, he displayed a profile consistent with executive function deficits in neuropsychological testing and had borderline intelligence. Executive deficits in dissociative disorders were previously described.⁹ From a forensic psychological standpoint, the tendency of individuals with executive deficits to homicide is well known and has been clearly described in the literature. For instance, in patients with schizophrenia, Stratton et al¹⁰ demonstrated that homicidal individuals showed executive and memory deficits compared with non-homicidal individuals. Finally, the patient also had PTSD. The patient's aggression toward people can be related to ongoing sensitivity and alertness to traumatic events.

Our case shows that patients with headache with comorbid psychiatric and executive problems may be more inclined to violence and homicide. However, the validity of this single observation should be tested in a case-control study. The results of such studies could unravel the link between pain, cognitive abilities, and violence. Until we have such results, we suggest that physicians should be aware of psychiatric comorbidities in patients with headache and that headache specialists should not hesitate to recommend such individuals for a consultation with a psychiatrist.

MAIN POINTS

- A case of homicidal behavior triggered by headache was presented in this study.
- The case highlights the association between headache and aggression.
- The patients suffering from headache should be screened for aggressive behavior.

Informed Consent: Informed consent was obtained from the patient.

Peer-review: Externally peer-reviewed.

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