Dissociative aggression triggered by headache: a case report

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ABSTRACT

Headache is generally perceived as a negative symptom focused to self. On the other hand there are reports suggesting that patients suffering from pain and 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. 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 tendency in patients with headache. (Anatolian Journal of Psychiatry 2021; 22(x):xxx-xxx)

Keywords: headache, homicidal behavior, dissociative disorder, OCD, executive problems

INTRODUCTION

The association between pain and aggressiveness has been described previously in patients suffering from pain.¹ From a physiological point of view, pain is a strong autonomic stimulator, and it may induce aggressive behavior by stimulating lateral hypothalamus via amygdala.² Interestingly in the case series of Fishbain et al.³ it was stressed that the pain patients 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 by several studies. For instance, Park and Seo reported that migraine patients had high aggression scores, the aggression was related to headache intensity and suicidality.⁴ A similar co-occurrence was also describes trigeminal autonomic cephalgias such as cluster headache.⁵ Batistuta et al. reported that adolescents with chronic tension type headache had higher aggression scores as compared to the controls.⁶

CASE PRESENTATION

A 36 year old man presented to neurology and psychiatry departments with a 10-year history of episodic frontal headaches. The patient had a past medical history of depression, which was treated with sertraline. He was divorced and lived alone in a rented flat. The patient was a heavy smoker and consumed alcohol in moderate amounts. The patient’s occupation was as a teacher.

On examination, the patient was agitated and exhibited wild movements. He was unable to follow commands and did not answer questions. The patient’s past medical history was significant for depression treated with sertraline. The patient was married and had two children. The patient was divorced and lived alone in a rented flat. The patient was a heavy smoker and consumed alcohol in moderate amounts. The patient’s occupation was as a teacher.

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psychiatry clinics for recurrent attacks of assaultive intention toward others. The patient had these assaultive attacks for 5 years. The attacks had a stereotypical pattern in that they always started with unbearable headache. He experienced approximately one or two episodes every month. During the attacks he described an urge to physically attack and harm others in vicinity. 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 describes as 10 on 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 them. However, he acknowledged that he had intrusive thoughts about killing someone between the attacks and these intrusions intensified during headache.

Table 1. The patient’s neuropsychological evaluation of memory, language, attention and executive functions, visuospatial planning

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

The patient’s past medical history was unremarkable. The physical examination revealed no localizing signs. An MRI scan of the brain was normal. An 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, 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 Cattel 2A test was 77 reflecting borderline intelligence. To assess psychopathology we applied SCID-5 interview that can specifically diagnose DSM-5 axis I and II disorders. In SCID-5, we observed that 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 Dissociative Experiences Scale was 38 (cutoff for this test is 28), which shows presence of significant dissociative life experiences. Regarding OCD, the patient had recurrent intrusive thoughts for killing or harming someone. These thoughts sometimes involved his child and led to compulsive checking to see if the child is someway harmed. 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. PTSD diagnosis was made mainly because of flashbacks related to a past traumatic experience.

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DISCUSSION AND CONCLUSIONS

Despite above mentioned reports of association between headache and aggression, we did not encounter a case in literature reporting homicidality in headache. The patient did not have nausea, vomiting and photo/phonophobia and 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 a type of trigeminal autonomic cephalgias. Based on headache characteristics, absence of photo/phonophobia and trigeminal autonomic symptoms and normal neuroimaging, 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 obsessive compulsive disorder and his score on dissociative experiences scale was also high. From a psychiatric point of view, we speculated the severity of headache intensified the dissociative tendency of the patient and caused the homicidal attack. Notable his obsessions in between the headache episodes were also related to homicide. Thus his OCD might have also facilitated the homicidal behavior. In addition to those he displayed a profile consistent executive function deficits in neuropsychological testing and had borderline intelligence. Executive deficits in dissociative disorders were previously described. Form a forensic psychology point, the tendency of individuals with executive deficits to homicide is well known has been clearly described in literature. For instance in schizophrenia patients, Stratton et al. demonstrated that homicidal individuals showed executive and memory deficits as compared to the nonhomicidal individuals.10 Finally the patient also had PTSD. Patient’s aggression towards people can be related to ongoing sensitivity and alertness to traumatic events.

Our case shows that headache patients with comorbid psychiatric and executive problems may be more inclined for violence and homicide. On the other hand the validity of this, 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 headache patients and headache specialists should not hesitate to consult such individuals with a psychiatrist.

Authors’ contributions: B.M.: neurological evaluation, literature review, writing the manuscript; S.Z.M.: psychiatric evaluation, writing the manuscript; Y.A.: neurological evaluation, EEG recording and evaluation; H.L.: neuropsychological evaluation, literature review, manuscript preparation; K.A.: psychiatric evaluation, writing the manuscript.

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