Available online at www.sciencedirect.com
ScienceDirect
Epilepsy & Behavior 10 (2007) 611–614
Epilepsy & Behavior
www.elsevier.com/locate/yebeh

Case Report

Subacute postictal aggression in patients with epilepsy

Masumi Ito [a,b,*], Mitsutoshi Okazaki [a], Sho Takahashi [a], Reimi Muramatsu [a], Masaaki Kato [c], Teiichi Onuma [c]

[a] *Department of Psychiatry, National Center of Neurology and Psychiatry, Musashi Hospital, 4-1-1 Ogawahigashi-cho, Kodaira, Tokyo 187-8551, Japan*
[b] *Tenshi Hospital, Kita-12, Higashi-3, Higashi-ku, Sapporo 065-8611, Japan*
[c] *Musashino Kokubunji Clinic, 3-22-31 Minami-cho, Kokubunji, Tokyo 185-0021, Japan*

Received 11 January 2007; revised 20 February 2007; accepted 22 February 2007
Available online 5 April 2007

Abstract

Three men with epilepsy (age range, 38–62) who exhibited brief episodes of violent behavior during the postictal period are described. Disease duration ranged from 27 to 44 years. Patients had both complex partial seizures and secondarily generalized tonic–clonic seizures, which were refractory to antiepileptic drugs. Postictal aggression occurred shortly after a seizure and lasted 5–30 minutes. The patients displayed physically and verbally aggressive behavior toward others, but regained consciousness promptly and showed regret afterward. Interictal EEGs revealed temporal spikes, SPECT showed hypoperfusion in the temporal and frontal areas in two patients, and neuropsychological examination revealed poor frontal lobe function in two patients. Characteristics of our cases are consistent with subacute postictal aggression (SPA) reported previously. Epilepsy of prolonged duration and brain dysfunction involving a broad area including the temporal and frontal lobes may be associated with the occurrence of subacute postictal aggression.

Keywords: Epilepsy; Postictal aggression; Violent behavior; Temporal lobe; Frontal lobe; Male; Postictal psychosis; Disease duration; Generalized tonic–clonic seizure

1. Introduction

The relationship between violence and epilepsy has long been a matter of interest. Aggressive behavior occurs most frequently during the postictal period. Postictal aggression usually occurs while the patient is in a confusional state and is manifested as resistive violence when attempts are made to restrain the patient [1]. Violent behavior may also be observed during a period of postictal psychosis (PIP).

Some patients, however, exhibit spontaneous, directed aggressive behavior of brief duration beginning several minutes to hours after a seizure. Gerard et al. [2] described the clinical features of this phenomenon and termed it *subacute postictal aggression* (SPA). SPA has not yet been widely recognized as a definite clinical entity and may have been overlooked in various cases.

We describe three patients with temporal lobe epilepsy who exhibited brief bouts of violent behavior shortly after a seizure that were consistent with SPA.

2. Case reports

2.1. Case 1

This 62-year-old right-handed man had complex partial seizures (CPSs) and secondarily generalized tonic–clonic seizures (SGTCSs) since the age of 18. He had neither febrile convulsions nor head injury. There was no family history of epilepsy or psychiatric disease. The patient had no history of neuropsychiatric disease or aggressive episodes. His intellectual development was normal. He graduated from university and worked as a clerk. His CPSs

* Corresponding author. Address: Tenshi Hospital, Kita-12, Higashi-3, Higashi-ku, Sapporo 065-8611, Japan. Fax: +81 11 751 1708.
E-mail address: mitou-psy@umin.ac.jp (M. Ito).

1525-5050/$ - see front matter © 2007 Elsevier Inc. All rights reserved.
doi:10.1016/j.yebeh.2007.02.016

consisted of sudden loss of consciousness with coughing and vocalization for 30 seconds, followed by confusion for several minutes. These seizures occurred weekly and were resistant to antiepileptic drugs (AEDs). He was being treated with phenytoin.

The postictal aggressive episodes began at the age of 62. Several minutes after a habitual CPS, the patient suddenly threatened his wife with a bamboo stick. He repeatedly complained that he had had an argument with a friend. Generally of cheerful disposition, he seemed very grim. This aggression lasted approximately 30 minutes, and then he quickly calmed down. He did not experience amnesia and was remorseful after the episode.

Neurological signs were not observed. His Full Scale IQ (FIQ) was 108; Verbal IQ (VIQ), 114; and Performance IQ (PIQ), 97 (Wechsler Adult Intelligence Scale—Revised [WAIS-R]). Frontal lobe function was demonstrated to be normal by the Wisconsin Card Sorting Task (WCST) (6/6). The EEG revealed bilateral independent temporal spikes, and the MRI scan indicated a small lesion in the right superior gyrus and middle temporal gyrus. Interictal SPECT showed slight hypoperfusion in the right parietal lobe, frontal cortex, and left mesial temporal lobe.

2.2. Case 2

This 59-year-old right-handed man had CPSs and SGTCSs since the age of 17. He had neither febrile convulsions nor head injury. There was no family history of epilepsy or psychiatric disease. The patient did not have a history of neuropsychiatric disease or aggressive episodes. His intellectual development was normal. He graduated from university and worked as a business manager. His CPSs consisted of cephalic sensation followed by sensory aphasia, oral and gestural automatisms for 30 seconds, and no postictal confusion. His seizures occurred monthly, with an occasional cluster of aphasic seizures. His CPSs were resistant to AEDs; he was being treated with carbamazepine, phenytoin, and zonisamide.

The postictal aggressive episodes began at age 57. Immediately after a CPS, the patient displayed aggressive behavior, shouting at his wife, throwing objects at her, and grabbing her by the throat. This behavior lasted 30–40 minutes. He was able to recall his behavior afterward and expressed regret. On admission to the National Center of Neurology and Psychiatry, Musashi Hospital, he continued to show aggressive behavior after CPSs. He shouted at nurses when they approached him, saying that the hospitalization was forced and was restricting his life. His speech was coherent. Each time, he calmed down within 10 minutes and apologized for his behavior. He remembered the latter part of these conversations.

Neurological signs were not noted. The patient's FIQ was 111; VIQ, 102; and PIQ, 120 (WAIS-R). Performance on the WCST was poor (1/6). The EEG revealed left occipital and posterior temporal spikes. Bilateral independent temporal spikes were also noted. MRI did not reveal any abnormality. Interictal SPECT showed an area of hypoperfusion in both occipital lobes and the left anterior temporal lobe.

2.3. Case 3

This 38-year-old right-handed man had simple partial seizures (SPSs) and CPSs followed by SGTCSs since the age of 11. He had not had febrile convulsions or head injury. His family medical history was unremarkable. He graduated from a college for computer studies and worked as an engineer. During the SPSs, his sense of time became distorted and he perceived that his entire body was shrinking. Each SPS usually evolved into loss of consciousness and a SGTCS. After the SGTCS, he usually fell asleep for an hour, after which he experienced postictal confusion for several hours. However, he did not display aggressive behavior during the period of postictal confusion. His seizures occurred once every few months even though he was given therapeutic doses of carbamazepine.

The aggressive behavior began at the age of 38. A habitual SPS was followed by a SGTCS. The patient then fell asleep for 2–3 hours. Immediately after waking, he suddenly kicked and banged his head against the wall and scratched and bit his mother when she approached him. This behavior gradually stopped within 5 minutes, and he regained consciousness for a brief period before falling asleep again. After awakening, he was unable to recall his behavior but remembered that he felt very sick during the episode. He was also aware of having bothered his mother. Neurological signs were not noted. His FIQ was 88; VIQ, 88; and PIQ, 89 (WAIS-R). Performance on the WCST was poor (1/6). The EEG revealed left temporal spikes. MRI did not demonstrate any abnormality. SPECT was not performed.

3. Discussion

The episodes of aggressive behavior during the postictal period exhibited by the three persons described here have several features in common. Postictal aggression occurred shortly after each seizure and lasted 5–30 minutes. All patients regained consciousness immediately after each episode and showed regret. Interictally, they did not experience a psychotic episode or personality change. All three were socially well-adjusted.

The features of the postictal aggressive episodes in these cases are consistent with SPA as reported by Gerard et al. [2], who described six patients who exhibited aggressive behavior immediately following a seizure (Table 1). In all six patients, the episodes of violent behavior recurred and the clinical symptoms were uniquely stereotyped. The violent behavior was severe and directed toward a certain person or object, but for a brief period. None of the patients manifested total amnesia regarding their behavior, and all were remorseful afterward.

To our knowledge, there have been very few reports of SPA; we found only three typical cases in previous articles