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J. Hart, *Formerly Registrar in Department of Child Psychiatry*; G. M. G. McClure, *Consultant Child and Adolescent Psychiatrist, and Honorary Senior Lecturer, Westminster Children's Hospital, Vincent Square, London SW1*

British Journal of Psychiatry (1989), **154**, 554–556

Epilepsy and Arson

PETER K. CARPENTER and ALAN L. KING

A man temporarily developed an organic personality change, psychosis and epilepsy after a frontal lobe operation for a subarachnoid haemorrhage. While affected, he set fire to his house. The arson is thought to have been a direct result of a seizure. The case and its legal management are discussed.

Although the legal and psychiatric status of epileptic automatism has provoked much comment (Fenton, 1972; Blair, 1977; Pincus, 1981; Brahams, 1983; Fenwick *et al*, 1984; Hamilton, 1984, 1986), case reports remain rare (Knox, 1968; Gunn & Fenton, 1971; Gunn, 1978; Cope & Donovan, 1979; Delgado-Escueta *et al*, 1981). We report a case of arson that was probably a direct result of an epileptic seizure.

Case report

AB, born in 1947 in Co. Durham, left school at the age of 15 to become a coalminer. He married in 1968, and his only child, a daughter, was born within a year. He was happily married, and was locally popular, owing to his sociable, bubbly personality. There was no personal or family history of epilepsy, psychiatric illness, alcohol abuse or criminal conviction.

In 1983 he collapsed at work after hitting his head. He was admitted to hospital, and a subarachnoid haemorrhage from a leaking berry aneurysm of the anterior communicating artery diagnosed. A right frontal craniotomy was performed, the artery clipped and the damaged tip of the right frontal lobe removed. After recovering from the initial delirium he was discharged home on steroids, which were stopped after a month, after which he was free of medication.

For six months he hallucinated, seeing imaginary insects, and feeling them crawling on his skin. He became inert, unsociable, intolerant of noise, and irritable. He started to swear. He took a disliking to his daughter, whom he had previously adored, and would push her out of the house. These changes became less severe in the year following the operation, but he remained cool towards his family, quieter and less spontaneous. He now went out for a drink only occasionally, and often left the pub early. After nine months he returned to work at the mine, initially only on the surface, but later undertaking light work underground.

His wife and daughter complained of his temper. He would suddenly, without warning or obvious provocation, become very angry, and had, for example, got up while watching television and broken a light fitting, thrown

https://doi.org/10.1192/bjp.154.4.554 Published online by Cambridge University Press

crockery on the floor when he was washing up, and run outside and thrown a stone down the garden. After about a minute, he would resume what he was doing as though nothing had happened. When later questioned by a psychiatrist, AB described being in a state of derealisation during these episodes. At times he experienced strange smells and tastes, and his wife described how he would lick his lips, chew and suck, presumably to appreciate the oddly familiar sensations. These tastes often heralded transient states of derealisation and violence. His wife complained of his tempers and irritability to his doctors, but they explained that nothing could be done to improve things. AB did not feel that anything was wrong with him.

Twelve months after the operation, he visited the pub where his wife worked, and there drank two or three pints of beer. He recalls then arguing with his wife and leaving. His wife and other patrons recalled no argument, although certainly he left suddenly and unexpectedly. He took one hour to walk the five-minute distance to his house, where his daughter was already home. He still cannot remember this walk. At home he was restless, watching television but repeatedly looking out of the window. Soon after his wife arrived he became more agitated, went to the fire, and shovelled the burning coals around the living room. He pushed his family out of the house but remained within, standing in the burning room as though dazed. AB recalls feeling distant and derealised throughout. He left later by the back door, and drove off, returning after about 20 minutes, when he was arrested and charged with arson. He could give no reason for his actions, and for several weeks did not appear to appreciate fully the damage that he had done.

The local psychiatric hospital refused admission and he was remanded in prison. Here he showed transient altered states of consciousness. A diagnosis of partial complex seizures was made. An EEG was highly abnormal, with numerous paroxysmal features. He was placed on carbamazepine, and reported a marked reduction in his 'dream states'. Soon after this his spontaneity improved, and his old fond feelings for his family returned. His relatives reported a nearly complete return to how he was before the injury, although he remained slightly quieter. After a few months the carbamazepine was stopped with no deleterious effects. After his trial, he was transferred to a non-secure psychiatric hospital for a brief period of further observation and industrial rehabilitation.

When in hospital, repeated mental state examinations and observations showed no mental abnormality. He was an eager, skilled, hard worker. He was discharged home, where for the last three years he was remained well, with no further seizures or violence. He has regained his driving licence and has stopped working as a coalminer. He now helps to run a voluntary organisation. A repeat EEG performed two years after discharge was normal, apart from occasional generalised slow waves.

Discussion

This case has both psychiatric and legal interest.

In retrospect and with detailed questioning, there is a good history of an organic psychosis and personality change secondary to the brain trauma from the subarachnoid haemorrhage and operation. Both the psychosis and personality change slowly improved over the year. His olfactory and gustatory hallucinations or aura, with transient states of derealisation and purposeless violence, combined with the evidence of the EEG, make it probable that he was suffering from partial complex seizures.

Several of the features surrounding the index offence point to it being part of a complex partial seizure: the confused behaviour and impaired memory before reaching home; the agitation and restlessness at home, the altered state of consciousness during the shovelling of the coals; the staring expression and the lack of purposeful activity afterwards. In this case there was no amnesia for the shovelling, although there was no recall of the period beforehand. Fenton (1972) considers that for a behaviour to be an automatism, there should be total amnesia for the event. This opinion is supported by the cases reported by Delgado-Escueta *et al* (1981), but these cases were highly selected and the diagnostic criteria for automatism left unclear (Pincus, 1981). Knox (1968) cites three patients who had partial awareness of their behaviour during automatisms.

In the case of AB, it is impossible to decide whether the fire setting occurred during a seizure, or during the confused post-ictal period. If the latter, his limited awareness would still legally make this a case of automatism (Mason, 1983).

Alternatively, a hysterical dissociative state is suggested by the derealisation and the car drive immediately afterwards, AB driving around and then returning home. But this drive is also compatible with a post-seizure fugue state.

The main alternative diagnosis is that of an episodic dyscontrol syndrome, but the EEG showed focal discharges, and the aura, the total lack of apparent triggers, the sudden onset and equally sudden cessation of many of his outbursts, all favour an epileptic explanation for his behaviour.

The role of alcohol in precipitating this fire setting is unclear. Since his brain trauma, he several times had drunk more alcohol and over a shorter period of time, than he had on the night of the fire. These other sessions of drinking had not precipitated a seizure, nor behaviour suggesting pathological drunkenness, or violence. His drinking behaviour was not that of an alcoholic. He drank infrequently, drank fairly little during each session, and showed no reluctance to stop drinking. However, because of the temporal association between alcohol and the arson episode, it was felt wise to advise him not to drink, and he followed this advice after he was discharged.

https://doi.org/10.1192/bjp.154.4.554 Published online by Cambridge University Press

Legally, several strategies were available for AB. He was advised not to enter a plea of automatism, as the case of Sullivan confirmed that epileptic automatism is to be treated as insane automatism, which would result in a special verdict of not guilty by reason of insanity. The special verdict would result in his detention in hospital for an indeterminate period, although a mental health review tribunal might discharge him from hospital (Hamilton, 1984). The prosecution argued that he had a "psychopathic disorder" (within the meaning of the Mental Health Act). They pressed for admission to a secure hospital under a hospital order. They argued that the organic damage had made him unreliable in abstaining from alcohol and in following treatment. This view was supported by both a forensic psychiatrist and a prison doctor.

At trial, the defendant pleaded guilty, and submitted medical reports that stated that he was mentally disordered at the time of the offence, but that he was now no longer mentally disordered and was fit to be further assessed out of a secure setting. A bed in a local hospital was offered for this further assessment. The judge accepted that the defendant had substantially recovered and discharged him, unconditionally. Surprisingly, he did not make a probation order, with medical treatment a condition of probation, but the defendant proved to be a pleasant and co-operative man who was keen to end his personal nightmare and to start to rebuild his life.

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Peter K. Carpenter, MB, ChB, BSc, MRCPsych, *Senior Registrar, Farleigh Hospital, Flax Bourton, Bristol BS19 3QZ*; Alan L. King, BSc, MB, ChB, MRCPsych, *Consultant Psychiatrist, Leicester General Hospital, Gwendolen Road, Leicester LE5 4PW*

British Journal of Psychiatry (1989), **154**, 556–558

Altered State of Consciousness in a Compulsive Water Drinker

SING LEE, CHUN CHUNG CHOW and LINDA C. L. KOO

A relatively normal 16-year-old Chinese woman with a six-month history of compulsive water drinking resulting in a comatose state is reported. The drinking was perpetuated by an enjoyable altered state of consciousness after ingestion of an average of 20 litres of water per day. Treatment by fluid restriction and, later, simple education was successful. The subjective dimension of an altered state of consciousness may provide an important explanation for the obscure aetiology.

Although the physical mechanisms underlying water intoxication have been described (Goldman *et al*, 1988), the associated psychopathology in compulsive water drinkers remains less well understood. Vieweg *et al* (1985*a*) listed ten non-specific terms for the phenomenon, and emphasised its aetiological obscurity. We report an adolescent woman whose water drinking, which led to a coma, was

https://doi.org/10.1192/bjp.154.4.554 Published online by Cambridge University Press