CASE REPORT

Self-induced grand mal epilepsy

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SUMMARY

A case of a male patient who accidentally induced a grand mal seizure with a home-made electronics device. Other comparative cases are described.

CASE REPORT

In August 1991 an 18-year-old male was admitted to the Accident & Emergency Department at the Royal Hallamshire Hospital, Sheffield, having had his first grand mal seizure. There was no family history of epilepsy and the patient had not been taking any medication. Physical examination was normal. It became apparent that the seizure had been caused by a home-made electronics device (Fig. 1), the design of which he stated had been advertised in a popular electronics magazine. Promoted to 'elevate the planes of consciousness' and 'pass from alpha to omega', the device consisted of a metal box capable of producing an electrical output variable in intensity and frequency. This signal was fed via wires to two red light-emitting diodes which were fitted into the centre of each lens of a pair of plastic spectacles. The effect of wearing these spectacles, and staring at the red flashing lights in a darkened room, had induced the patient's grand mal seizure, which was witnessed by a friend.

DISCUSSION

Although well known, photosensitive epilepsy is uncommon, estimated to affect one in ten thousand people (Steinkruger, 1985). Twice as common in females, its greatest incidence is in 7–15-year-olds, often coinciding with puberty (Newark &

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Fig. 1. Home-made electronics device which induced a grand mal seizure.

Penry, 1979). There is significant concordance between monozygotic twins (Jeavons & Harding, 1975). Twenty-five to 39% of patients have a family history of epilepsy (Newark & Penry, 1979).

Known examples of inadvertent photosensitive epilepsy include stroboscopic discotheque lighting, the pursuit of games such as chess, draughts, cards (Senanayake, 1987) and television watching.

Cases of wilful self-induced photosensitive epilepsy are less common. One case documents a 7-year-old boy who was able to induce petit mal seizures by staring at a source of natural or artificial light while waving his outspread hand close to his face (Bickford *et al.*, 1953). Another patient would blink at a rate of three to four per second, again whilst looking toward bright light (Newark & Penry, 1979). One young boy found that he could induce petit mal by running back and forth under trees on a sunny day. Adjusting the vertical hold on a television set, thereby making the picture flicker is another known example (Jeavons & Harding, 1975).

REFERENCES

- Bickford R. G. *et al.* (1953) Convulsive effects of light stimulation in children. *American Journal of Diseases of Children* **86**, 170–183.
- Jeavons P. & Harding G. (1975) *Photosensitive epilepsy: A review of the literature and a study of 460 patients*. William Heinemann Books, London.
- Newark M. E. & Penry J. K. (1979) *Photosensitivity and epilepsy: A review*. Raven Press, New York.
- Senanyake N. (1987) Epileptic seizures evoked by card games, draughts, and similar games. *Epilepsia* **28**(4), 356–61.
- Steinkruger M. (1985) Photosensitive epilepsy. *Journal of Neurosurgical Nursing*, **18**(6), 355–61.