events, we think that the evidence is sufficiently suggestive to prescribe drugs affecting platelet function such as aspirin and sulphinpyrazone. These observations emphasise the importance of thorough cardiovascular assessment in all patients with acute cerebral or ocular ischaemia, and we suggest that echocardiography should be part of the routine investigation of such patients.

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Television epilepsy and pattern sensitivity
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Summary

Properly functioning domestic television sets may induce seizures in epileptic patients (TV epilepsy). We investigated the effects of different types of visual stimuli on paroxysmal electroencephalographic (EEG) activity in 32 epileptic patients known to be sensitive to intermittent photic stimulation (stroboscopic light). We monitored sensitivity to patterns of horizontal and vertical lines, both stationary and vibrated (pattern sensitivity), and to normal broadcasts on a domestic, black and white (405- or 625-line) TV receiver (TV sensitivity). Twenty-three of the 32 patients were sensitive to pattern. Twenty-two were sensitive to vibrated patterns, and 11 to static patterns (P < 0.01). All patients sensitive to pattern were also sensitive to TV. The association between sensitivity to pattern and to TV was significant. Clinical history of TV epilepsy (16 out of 32 patients) and laboratory evidence of pattern or TV sensitivity were not significantly associated. The high incidence of pattern sensitivity among flicker-sensitive patients and its association with TV sensitivity suggests that linear patterns produced by the raster of a black and white set as it scans, or “line-jitter” produced by the raster in areas of low TV-signal strength may contribute to the epileptogenic effect of TV.

Introduction

In patients with a history of epileptic seizures apparently induced by watching television (TV epilepsy) stimulation with stroboscopic light (or “flicker”) induces paroxysmal electroencephalographic (EEG) activity. Conventionally TV epilepsy is attributed to flicker, either the slow flicker that occurs when the TV picture slips or the 50-Hz component present when the set works normally.

Not all patients with TV epilepsy show EEG sensitivity to 50-Hz flicker, and we have rarely found any evidence that the set was malfunctioning at the time of the fits. We therefore decided to investigate other mechanisms by which TV might induce seizures, particularly the linear patterns which form the TV picture.

Patients and methods

We studied 32 patients found to be flicker-sensitive on routine clinical EEG investigation during a period of 16 months in 1975 and 1976. These patients formed a consecutive series, excluding 12 who attended when the necessary research facilities were not available. The mean age of the subjects was 13 years (range 6-31), with a 19:13 preponderance of women. Thirteen of the patients had had previous EEG and were known to be sensitive to light. All were referred because of known or suspected epilepsy, and 19 were receiving anticonvulsant treatment. Sixteen patients gave a history of major or minor seizures associated with TV viewing and in none of these were the attacks associated with known malfunction of the TV set. Only six of the 16 patients were close to the screen whenever seizures occurred. As most patients with known or suspected epilepsy who attend hospitals in the Southend and Basildon areas are referred to our EEG department for
Epilepsy: a clinical study of 32 paroxysmal seizures

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SUMMARY

The association between pattern sensitivity and clinical outcome in patients with paroxysmal seizures was investigated. The following results were obtained:

1. Pattern sensitivity was found to be a consistent feature in patients with paroxysmal seizures.
2. The association between pattern sensitivity and clinical outcome was significant.
3. The association was stronger in patients with more severe clinical outcomes.
4. The results were consistent across different age groups and genders.

These findings support the hypothesis that pattern sensitivity may be a crucial factor in the development and management of paroxysmal seizures.

Discussion

Pattern sensitivity was found to be a consistent feature in patients with paroxysmal seizures. The association between pattern sensitivity and clinical outcome was significant and stronger in patients with more severe clinical outcomes. These findings support the hypothesis that pattern sensitivity may be a crucial factor in the development and management of paroxysmal seizures. Further studies are needed to validate these findings and to explore the underlying mechanisms.
suggest that pattern may contribute to the epileptogenic effect of TV. The most obvious linear pattern stimulation from a black and white television set is provided by the raster as it scans across the screen. Half frames of alternate lines are emitted at 50 Hz; the lines interlace and thus give an effective displacement of the retinal image similar to that produced by horizontal lines vibrating at 25 Hz. On black and white TVs in areas of low signal strength there is also a small up and down motion of the raster producing so called “line jitter.” This last phenomenon may have some relevance to our study as Runwell Hospital lies in a valley where signal strength is low. Aberrations such as line jitter are accepted as normal by domestic viewers but are not seen on studio-quality equipment and may account for the discrepancy between the high incidence of TV sensitivity reported by us and by others, and the failure of Gastauf et al to show television sensitivity in the studios of the French national broadcasting organisation.

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Cardiovascular and sympathetic response to exercise after long-term beta-adrenergic blockade

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Summary
The response to dynamic exercise was investigated in 21 patients receiving long-term treatment with betaadrenergic receptor antagonists and 22 controls. An electrocardiogram (ECG) and blood pressure were recorded before and after treadmill exercise, and plasma dopamine-β-hydroxylase (DBH) activity was measured as an index of changes in sympathetic activity. Heart rate and blood pressure were lower at rest and throughout exercise in treated patients, although the pressor effect of exercise was not reduced. The ECG P-R interval was lengthened, and in addition the Q-T interval was prolonged. After exercise, plasma DBH activity was significantly increased in controls but not in treated patients. We conclude that long-term administration of betaadrenergic blockers increases myocardial repolarisation time and reduces sympathetic nervous activity. These actions may contribute to the antiarrhythmic and hypotensive effects of long-term beta-blockade.

Introduction
Beta-adrenergic receptor antagonists are widely used in hypertensive and ischaemic heart disease, yet despite their proved clinical value their therapeutic mode of action is not fully understood. The mechanism by which they lower blood pressure is the subject of continuing controversy, and more important, the basis of their protective action after myocardial infarction remains to be established. Most investigations of the actions of beta-adrenergic antagonists in man have centred on their short-term effects: they cause an immediate reduction in cardiac output but arterial blood pressure is unchanged. In contrast, long-term administration of beta-blockers produces a welldocumented fall in blood pressure, which may be maximal only after several weeks and is associated with a reduction in peripheral resistance. Acute beta-adrenergic blockade produces reflex sympathetic hyperactivity, but studies on animals have suggested that long-term beta-blockade may reduce sympathetic nervous system activity. Long-term treatment also prolongs the repolarisation time of the cardiac action potential in animals, an effect that is known to be antiarrhythmic.

We therefore decided to evaluate in patients the effects of long-term beta-adrenergic blockade on sympathetic function and cardiac repolarisation time. Changes in plasma activity of the noradrenaline-synthesising enzyme dopamine-β-hydroxylase (DBH) after exercise were used as an index of sympathetic activity. The effects of prolonged beta-blockade on the electrocardiogram (ECG) and on blood pressure at rest and after exercise were also investigated.

Patients and methods
Two matched groups of patients were studied—21 aged 44-60 years who had been receiving beta-adrenergic blocking drugs for at least three weeks, and 22 aged 31-78 years who were not being treated and served as controls. The two groups were closely similar clinically (table I) and were matched for exercise tolerance, the mean maximal exercise time being the same in both groups (see Results). All the patients had been referred to the cardiac department for diagnostic maximal treadmill exercise testing. Table II gives the beta-blocker regimens in the treated group. No differences were observed between

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