British Journal of Psychiatry (1989), **154**, 691–696

Case Conference

Thirty Years' War: A Battle with Insomnia

J. R. NEWTON, C. SHAPIRO and A. STEWART

A 72-year-old man with a 30-year complaint of intractable insomnia had a positive family history of depression. He first came to psychiatric attention in 1958, after attacking his wife. He was prescribed barbiturates, and later was given meprobamate and nitrazepam, but with no effect on his complaint. The patient tended to increase the dosage of any drug given, of his own accord. EEG sleep recording confirmed the diagnosis of nocturnal myoclonus. It was hoped that at the case conference further treatment stratagems would be suggested.

Objectives

There has been much interest over recent years as to the cause and management of insomnia, although it is rarely the presenting complaint. In this case the patient complained bitterly of insomnia and believed that it was his only problem. In presenting this case, we hoped there would be discussion about diagnosis, the place of benzodiazepines in this patient's treatment (which had been problematic), and that alternative treatment strategies might be suggested. The conference lasted 55 minutes.

Presentation of case by Dr Newton

The patient

Mr X, a 72-year-old retired police sergeant, had been attending the Psychiatric Day Hospital at the Royal Victoria Hospital, Edinburgh, each week since 1982. Over this time his main complaints had been insomnia, anxiety, and low mood. He lived with his wife in his own house, was a non-smoker and took alcohol only occasionally. He had no outside social activities, and complained of having no energy to attempt any jobs around the house. His pre-morbid personality was described as serious-minded, tending to pessimism.

He complained of:

(a) absolute insomnia for nine weeks, associated with low mood, drowsiness during the day and a feeling of lack of energy

(b) feelings of his right foot "beating" all day and night – at times he said this was the only sensation he had ever had; however, he also described a stretching sensation in his right leg, beginning a few minutes after going to bed.

Family history

His father, a retired depot foreman, died at the age of 84 years of a cerebrovascular accident. The patient had a good relationship with his father, but had been closer to his mother, who died at the age of 54 of a myocardial infarction. He described his mother as a "worrier". She had a history of recurrent depressive illness, for which she was treated at Rosslynlee Hospital as an in-patient. The patient identified strongly with her history of psychiatric illness.

He had a sister, two years younger, with whom he got on well, and who also complained of insomnia. She was single and had a history of depressive illness, treated at the Royal Edinburgh Hospital. The patient also had a brother ten years younger, with whom he had little contact, but claimed they got on well. The brother's son had recently died and the brother was then treated for a depressive illness, but had no previous psychiatric history. The patient also had a maternal uncle, who had received treatment in Craighouse Psychiatric Hospital for depression.

Personal history

Mr X was born in 1915, near Biggar. He had a normal birth and a happy childhood, and several friends. He frequently walked in his sleep. He went to school between the ages of 5 and 15 years, changing school aged 13 years after a family move. He was average academically, but enjoyed neither work nor sports.

He knew his wife for five years before their marriage in 1942. Their marriage has always been difficult, she being a somewhat extroverted person who enjoyed socialising. For most of his working life they led separate lives. In 1958, Mr X attacked his wife and was charged with attempted murder. This charge was dropped, although his wife still believed that he meant to kill her. This attack precipitated his first contact with the psychiatric services (see below).

It appeared that the couple's sexual life had always been unsatisfactory; his wife claimed that their marriage was not consummated, although earlier histories do suggest that initially they did make love. Any sexual activity stopped in 1958. They now slept in separate rooms. They had no children because, Mr X suggested, they felt their financial situation did not allow it.

Mrs X had extramarital affairs, with Mr X's knowledge. She still pursued a social life separate from him. Neither of them found it easy to talk about their marriage: Mr X denied any marital difficulties and, up until two years previously, refused to allow staff to contact his wife. The couple communicated little, although Mrs X was concerned

about her husband, and frequently telephoned or came to the day hospital to talk about him.

Occupational history

Mr X worked for seven years as a council labourer. He did not enjoy this and felt he was not using his abilities fully. He spent one year as a van driver and then seven years as a quarry blaster, and was then exempt from call-up during the war. In all his placements he had a good relationship with his workmates. In 1945 he joined the police force, until retirement in 1980; he did not find the job satisfying, but was pleased when he was promoted. He worked shifts but did not object to the antisocial hours.

Medical history

The only relevant past medical history is that Mr X had a motorbike accident when aged 16 years, and was admitted to the Royal Infirmary of Edinburgh. He was treated for post-traumatic amnesia for three days.

Psychiatric history

In 1958 Mr X began to sleep badly, with low mood and irritability. While out in the garden one day, his wife was nagging him and he hit her, causing her to fall over. This had never happened previously, and she was terrified. A charge of attempted murder was dropped, but it was recommended that he see a psychiatrist. A diagnosis of depressive illness was made, and he was treated with ECT, making a good recovery. He was discharged on barbiturate medication for his poor sleep.

In 1964 he had recurrence of depressive illness and was treated at the Royal Edinburgh Hospital as an out-patient with ECT (for which no notes are available). On this occasion his mood improved, but he continued to complain of poor sleep.

In 1978 he was treated for a further relapse of depressive illness as an out-patient. This time he was placed on amitriptyline, but again his complaint of insomnia continued.

He was referred to the Royal Victoria Hospital Psychogeriatric Department in 1981 with complaints of depression and insomnia. At that time he was taking meprobamate (400 mg *nocte*) and amitriptyline (25 mg *nocte*). He was seen by a psychologist, who felt that he would be best treated by being encouraged to find new interests in his retirement and encouraged to undertake graded activity. Initially, he responded well to this.

He was re-referred in 1982 with complaints of poor sleep and "churning" in the stomach. Nitrazepam (10 mg) had then been substituted for amitriptyline. A diagnosis of agitated depression was made and he was treated with doxepin (75 mg daily). In addition he complained of forgetfulness and it was felt that he may have had an early dementia. Treatment at the day hospital improved his mood, but his complaints of insomnia persisted. Continued attendance at the day hospital was recommended but attempts to withdraw him from meprobamate (800 mg) and nitrazepam failed.

In 1984 his wife noted that his ability to cross the road was poor and that he had poor self-care. She blamed this on his medication, which was then amitriptyline (150 mg *nocte*), meprobamate (1200 mg *nocte*) and nitrazepam (10 mg *nocte*). His own complaints were of insomnia, "churning" in his stomach, and "twitching" in his legs at night. It was noted, however, that he actually slept approximately eight hours a night.

In December 1985 cognitive testing was again carried out and showed deficits in psychomotor speed, and visual and verbal memory. It was felt that this may not have reflected any organic deficit, but rather the effects of long-term psychotropic medication.

In March 1986 he was withdrawn from meprobamate. He continued on amitriptyline (200 mg *nocte*) and nitrazepam (10 mg *nocte*). He continued to complain of poor sleep associated with restlessness in his legs at night. His memory impairment improved slightly. Computerised tomography (CT) of the brain was normal.

In September 1986 he was admitted to the Royal Victoria Hospital with complaints of low mood, agitation, insomnia and an uncomfortable stretching sensation in his legs associated with a feeling that when sitting, his feet were gripping the carpet. It became apparent that his insomnia worried his wife as she feared he might strangle her in her sleep, and she felt that she could only sleep safely when he was asleep. All attempts to arrange marital counselling had failed. Initially a diagnosis of anxiety state, secondary to tranquilliser withdrawal was made and he was started on a trial of chlorpromazine. His mood became much lower and he insisted that he could be helped only by ECT. After a month's trial of trimipramine (150 mg), ECT was commenced, and after five treatments his mood, sleep, and the stretching sensation in his legs had improved. Before discharge in November 1986 he was noted to have developed a right foot drop due to peroneal nerve damage secondary to pressure effects. This gradually resolved. Discharge medication was trazodone (100 mg *nocte*). Two weeks later he was again complaining of insomnia and he had increased his trazodone to 300 mg *nocte*. He again requested a further course of ECT.

In January 1987 mianserin was substituted for tradozone and pericyazine also started. He increased this to mianserin (180 mg *nocte*), and continued to self-medicate with some left-over trimipramine. At that time he was also taking pericyazine (10 mg daily). After a short respite in July 1987, he continued to complain bitterly of insomnia and stretching sensations in his legs, but nursing staff noted that he did sleep all night. In September 1987 all medication was stopped, with initial improvement in his symptoms. However, all these symptoms had now returned.

Mental state examination

Mr X was a neat, tidily dressed man with good eye contact, who tended to become slightly agitated when discussing his insomnia. His speech was normal in tempo and form, but the content centred around his insomnia. He had reduced emotional reactivity, but no subjective complaints of low mood. He had no delusions, hallucinations, experiences of depersonalisation, or obsessional phenomena, and was fully

orientated in time, place, and person. He had good concentration and attention, and a good knowledge of current affairs, but made three mistakes on recalling a name and address with six parts after two minutes, and four after five minutes, and had difficulty in remembering sequences of events and dates in his personal life. He believed that his illness was inherited from his mother and that the insomnia was caused by working shifts. He strongly believed that a sleeping tablet would cure him.

Physical examination

On physical examination, no abnormalities were detected and laboratory results were all normal.

Presentation of case by Sister Clancy

Mr X attended the Royal Victoria Day Hospital for psychiatric care since 6 November 1982, and I have known him for all of this time except for an in-patient assessment period from September to November 1986.

Referral to the service was with a diagnosis of: (a) flatness of affect, and (b) insomnia.

Mr X attended one day a week using public transport. At that time he was attending a local day centre for a woodwork class which he did not care for and which he later stopped.

His appearance was of a well built, healthy looking man, weighing 90 kg. His dress was smart but casual. His day hospital attendance has been very regular, although home reports of his staying in bed all day or never getting dressed were passed to us by his wife. She added that he had very little conversation with her.

He was not a mixer at the day hospital and currently he attended one day per week. He refused to attend group work. He sat looking withdrawn, occasionally nodding off to sleep. Sleep hygiene has been a repeated topic of discussion but to no avail. During the present time of investigation, Mr X was showing some hope that a treatment was available to cure his insomnia. This was his usual response to a change in treatment. At a later date he became friendly with a young female arts graduate, who was working as an auxiliary. He would call her at the art firm where she was later employed. Mr X would regularly ask to see the doctor as "the tablets were not working". He complained of depression and of being unable to sleep. He would frequently insist that this was a hangover from his shift work. His drug compliance was irregular and the fact of his taking extra tablets was noted. His arrival and departure times from the day hospital never varied.

During 1983 he took part in group work, which looked at feelings and the sharing of treasured possessions. His verbal interaction was low. However, he did bring small family antiques to the meetings in common with the other group members.

His wife reported his memory loss. She asked for the ambulance service to bring her husband for day care in case he lost his way using the buses, but he refused to comply.

On return to day care in November 1986 he exhibited some change. He had lost 10 kg and was less motivated. He used the ambulance service and attendance days were increased to three per week. However, he refused to continue with this, saying he did not have the energy to attend so often.

Both Mr X and his wife have made demands on the team. At times she arrived without an appointment and expected immediate and effective action.

A written contract was drawn up which was signed on 12 June 1987. Mr X had:

(a) to realise that the doctor had 49 other day-care cases and he was to consider carefully before asking to see medical staff
(b) to understand that unit medical staff were not to be contacted, except on scheduled days of attendance
(c) to agree to comply with treatment for the specified time
(d) to agree not to adjust doses of tablets
(e) to go outside at least once a day
(f) to take and collect his own prescriptions from the chemist and not ask his wife to do this.

This plan was not successful.

Since all medication stopped in September 1987 for the first time he was more alert, brighter in mood, and less complaining.

Questions

DR ADAMS *(senior registrar)*: What evidence was there that the patient was or was not sleeping? Had you performed a sleep EEG?

DR STEWART *(consultant in charge of case)*: We will discuss the EEG reports later. The nurses noted that he did sleep most of the night when on the ward. Occasionally Mr X did have a disturbed night, sitting with his leg hanging over the side of his bed.

DR GASKELL *(senior registrar)*: What did Mrs X come up to ask the day hospital staff?

SISTER CLANCY: She came up to talk about his insomnia and what we were doing about it.

DR PARRY *(consultant)*: Is the patient off all medication now?

DR STEWART: Yes.

PROF. OSWALD *(special interest in sleep disorders)*: Why not leave this man on the drugs for which he is clamouring?

DR STEWART: Weaning him off the drugs may improve the level of function. In this man, too, there is always the danger that he will abuse whatever drugs he is given. This patient has a history of violence and giving him benzodiazepine may have a disinhibiting effect on his behaviour.

PROF. OSWALD: Having had the opportunity to read the notes, I know that up until 1982 his wife went dancing with an 83-year-old man every Saturday night and that also Mr X went out every Saturday night. Has this been discussed with the patient?

DR STEWART: Mr X would not discuss his own activities on Saturday nights. Up until two years ago, Mr X refused to let us contact his wife. He and his wife lead separate lives.

PROF. OSWALD: In 1958 he had a diagnosis of depression and a murder charge against his wife was dropped. Is

https://doi.org/10.1192/bjp.154.5.691 Published online by Cambridge University Press

it possible that this was due to her involvement with lovers? It was also then that according to the Royal Edinburgh notes he started barbiturates.

DR STEWART: This is not known.

Interview

Mr and Mrs X were introduced to Professor Oswald. Mr X was wrapped in coat, scarf and hat (on a moderately warm day), and made few expressive gestures throughout the interview, paying no attention to the presence of an audience. Mrs X, a sprightly lady, heavily made up, and wearing fashionable dress and hat, smiled brightly to the audience, greeting people she recognised. She often answered questions directed to her husband, and answered all questions addressed to them as a couple.

PROF. OSWALD: Thank you for coming and facing such a formidable audience. We've heard that you've been ill for many years. (Assent.) How long have you been retired?

MR X: When I was 65.

PROF. OSWALD: What year was that?

MR X: Seven years ago.

MRS X: He retired 2 October seven years ago. He has been retired seven years now because he retired 2 October seven years ago.

PROF. OSWALD: What year was that?

MRS X: Seven years ago.

PROF. OSWALD: What problems do you have now?

MR X: I am not sleeping.

PROF. OSWALD: Do you have any other problems?

MR X: I am not sleeping.

PROF. OSWALD: What ill effects do you notice?

MR X: It is the worst thing that could happen to anyone.

PROF. OSWALD: Why is that?

MR X: Because it gives you energy.

PROF. OSWALD: If you don't sleep at all all night, do you get drowsy during the day?

MR X: No.

PROF. OSWALD: How many years have you had this problem?

MR X: I have not slept at all for the past ten years.

PROF. OSWALD: From the notes, I understand it was six years ago that the sleep trouble started.

MR X: No, it was five years ago.

PROF. OSWALD: I understand that you have been taking sleeping tablets since 1958.

MR X: No, they were antidepressants.

PROF. OSWALD: Had you been taking barbiturates?

MR X: No, I took Equanil [meprobamate]. I took it during the day to help me sleep as I was doing night-shift work.

PROF. OSWALD: We know that you have some difficulty with your memory. (Assent.) Can you remember when the stretching in the legs started?

MR X: It's quiet at night.

MRS X: The stretching started after he had the ECT.

PROF. OSWALD: When was that?

DR STEWART: In November 1986.

PROF. OSWALD: Did you get it before then?

MR X: No.

DR STEWART: The first record in our notes is 1984.

PROF. OSWALD: If you sleep in separate rooms, how do you know that your husband isn't sleeping?

MRS X: Sometimes I've seen him at night – I've told you, Dr Stewart – and he's shouting and screaming with the pain.

PROF. OSWALD: From the case notes we see that you used to go dancing on Saturday night. Do you still enjoy that?

MRS X: No, not for the last year. I can't leave him. We've known the man I went with for many years. He's an old friend of ours. He's much older now, but he still comes round to visit us.

PROF. OSWALD: And where did *you* go?

MR X: Nowhere, I don't go out. Maybe for a drink.

MRS X: He doesn't like company.

PROF. OSWALD: If your sleep was perfect, would you be happy?

MR X: I don't sleep at all. If I did, I would be, yes.

PROF. OSWALD: From the case notes it would seem that you do sleep.

MR X: I don't sleep at all.

MRS X: After he gets up in the mornings, he has his breakfast and then goes back to bed. After lunch he just sits in the sittingroom all day doing nothing.

PROF. OSWALD: Do you mind if anyone else from the audience asks you questions?

MR and MRS X: No.

DR PARRY: Mr X, you don't sleep at all at night. Can you relax when you are in bed?

MR X: No, it's on my mind all the time.

DR PARRY: If it were out of your mind, would you be able to relax?

MR X: Yes.

DR PARRY: Would you describe your life as lonely? (Assent.) Do you have any friends?

MR X: Yes, my sister.

DR PARRY: Do you have any close friends of your own sex?

MR X: No.

PROF. OSWALD: Why can't you sleep?

MR X: I don't know.

PROF. OSWALD: How does it affect you?

MRS X: Well, I worry about it.

PROF. OSWALD: Why is that?

MRS X: Well because of what happened before.

PROF. OSWALD: What do you mean?

MRS X: Because of what happened in 1958 – you know – with him.

PROF. OSWALD: Could you tell us about that?

MRS X: Well, he wasn't well you know.

PROF. OSWALD: In 1958?

MRS X: Yes.

PROF. OSWALD: Could you tell us more?

MRS X: He was tending a field behind our house. I saw him and his eyes were red and he was foaming at the mouth. . . .

PROF. OSWALD: Were there any reasons why Mr L should be angry with you then?

MRS X: No.

PROF. OSWALD: How were you getting on?

MRS X: We were getting on well.

PROF. OSWALD: There weren't any tensions between you?

MRS X: No.

MR X: [At the door, leaving with his wife, to Professor Oswald]: You must have a sleeping tablet for me.

PROF. OSWALD: Well, there are many types, but we have to weigh up the benefits of them against the risks.

https://doi.org/10.1192/bjp.154.5.691 Published online by Cambridge University Press

MR X: But you must be able to give me something.
PROF. OSWALD: Well, that is something to discuss with Dr Stewart later.
Meanwhile Mrs X gathered up her coat and hat and left with a smile and a gracious wave to the audience.

Further reports

A sleep laboratory study showed nocturnal myoclonus (paroxysmal leg movements of sleep) with sleep disturbed by five episodes of prolonged wakefulness. A short video of the sleep study showed both legs jerking abnormally while Mr X was asleep. The video also showed an interview with the patient and his wife after they had seen both the sleep record and the video evidence of Mr X sleeping. Mr X refused to believe this evidence and insisted that he never slept.

Conference discussion

PROF. OSWALD: With the information we have, there is the possibility of multiple diagnosis. Would anyone like to comment?
MRS GILLIES *(principal hospital pharmacist)*: How long did it take to withdraw him from the meprobamate?
DR STEWART: Approximately three or four months.
MRS GILLIES: Over six months would be best. With abrupt withdrawal one can get twitching.
DR MCINNES *(clinical neurophysiologist)*: One doesn't get that sort of muscle twitching with meprobamate withdrawal.
PROF. OSWALD: Let us start at the easy end, with the legs. Dr Keyhoe, would you like to comment on these legs?
DR KEYHOE *(registrar)*: What I would like to ask is, haven't doctors been colluding with this man by giving him medicines if, in fact, he has been sleeping?
DR STEWART: Yes they have colluded with this man. He refused to contemplate coming off the drug which he received from his GP who was also very concerned about their continued use.
DR MORRIS *(registrar)*: Would it be justifiable to give this man a placebo instead of a sleeping tablet?
DR STEWART: We gave him calcium lactate about three years ago. It made him constipated and he refused to continue with it.
DR REHMAN *(registrar)*: Was there any epileptic activity on the man's EEG?
DR SHAPIRO: No.
DR MCINNES: What he was also complaining of were unpleasant sensations in his legs during sleep. Clonazepam is suggested for restless legs, but it may not stop the movements, only reduce the subjective awareness of them.
DR CHICK *(consultant)*: I have come across such symptoms in people taking mianserin. They should be recognised as important symptoms in anyone complaining of insomnia.
DR MCINNES: There is no objective evidence of him having myclonus at rest when awake.
There was then some discussion about the association between nocturnal myoclonus and restless legs. Dr Shapiro produced a slide which showed that restless legs were often associated with nocturnal myoclonus (Table I).

TABLE I
Restless legs and sleep myoclonus

	Restless legs	*Sleep myoclonus (periodic movements during sleep, PMS)*
Time of occurrence	Wakefulness, evening early sleep	Sleep
Sleep stage	Non-REM 1 and 2	Non-REM sleep (inhibited during REM sleep)
Sensory component	Present	Absent
Character	Restless, not myoclonic	Periodic jerks
Distribution	Generalised, both legs	Tibialis anterior
Association	Anaemia, gastrectomy, sensory neuropathy, nerve damage, uraemia	Occult, but occurs in narcolepsy, sleep apnoea
Concurrence	Usually associated with sleep myoclonus	A third of cases associated with restless legs
Presenting complaint	Extreme sensory discomfort	No symptoms: sometimes insomnia or daytime drowsiness
Treatment	None very effective, sedatives	Uncertain: clonazepam and other benzodiazepines may reduce awareness of jerking

After Parkes (1985) (with permission).

PROF. OSWALD: What are we going to do with this chap? Dr Stewart will not give him the drug he so desires.
DR GASKELL *(senior registrar)*: It is an impossible problem. The major problem is their relationship, and you cannot treat the insomnia without treating the relationship.
DR STEWART: We tried to introduce marital therapy but Mr X would not co-operate.
PROF. OSWALD: This man has had 30 years of being thought of as having medical problems. Could all these doctors have been wrong?
DR PARRY: If you put him on medication, he will still complain of his symptoms. I would have liked the Professor of Psychiatry at Edinburgh University to have told this man "There is no drug".
PROF. OSWALD: I am an honest man.
DR SERFATY *(SHO)*: If you do not give him some medication to relieve his distress, is it not likely that he will use some other form of relief such as alcohol abuse?
DR PARRY: Well, he hasn't so far, so that may not happen.

https://doi.org/10.1192/bjp.154.5.691 Published online by Cambridge University Press

PROF. OSWALD: Dr Jacques, you are a psychogeriatrician, what are your thoughts? Would you treat this man?

DR JACQUES *(psychogeriatrician)*: This man is very determined to be given sleeping tablets. You appear to have entered into a little battle with him. Most of the doctors over the 30 years have probably been wrong. However, he is determined to win and I think in this case discretion is the better part of valour.

PROF. OSWALD: We do not know everything. The pendulum has swung against the benzodiazepines everyone used at one point. We now feel that people should be encouraged to recognise that sometimes sleep isn't as good as it may have been in their past. What is the value of making a diagnosis of myoclonus and restless legs?

In the late '60s funding was withdrawn from the sleep labs in the USA, and because of this the sleep researchers had to find alternative funds from people with insomnia and money. They would pay for such diagnosis made, with the more electrodes sticking into them the better. [Oswald (1981)]

But Kales at Hershey (1982) studied 200 insomniacs and controls, and discovered that the two groups had the same incidence of nocturnal myoclonus. These people often have bitter complaints of not sleeping, even though they do sleep, and treatment will probably not change that.

Conclusions

The discussion ended without any firm conclusions being drawn. The following diagnoses were made: (a) restless legs syndrome; (b) nocturnal myoclonus; (c) drug dependency; (d) early dementia. Current active problems were considered to be: (a) insomnia; (b) lack of volition and energy; (c) lack of social activities; (d) susceptibility to toxic drugs and side-effects of psychotropic drugs; (e) marital problems.

It was felt that there was no agreement at the conference on whether benzodiazepines should be used in this case. The presenting team felt that this man represented a high risk for abuse and dependency on such medication, and we felt that any treatment should be non-addictive and relatively non-toxic. Many drugs have been suggested as useful in the treatment of restless legs syndrome, clonazepam (Oshtory & Vijayan, (1980), carbamazepine (Telstad *et al*, 1984), propranolol in patients who have received neuroleptics (Lipinski *et al*, 1983), 5-hydroxy-tryptophan (Billiard *et al*, 1978), and opiates (Trzepacz *et al*, 1984). As a result of the case conference it was decided that L-tryptophan was the most appropriate drug for Mr X, and he was commenced on 2 g *nocte* with the intention of increasing this over a month to a maximum of 6 g *nocte*, and to evaluate the response after a one-month trial.

Theoretical note

It is interesting that the patient's sister also complained of insomnia and sensations in her legs in the evenings. Several authors have suggested that familial restless legs (see Parkes, 1985) may be transmitted through an autosomal dominant gene. Onset in such familial cases is usually in the second decade of life.

Weschler *et al* (1986) suggested that abnormal blink reflexes may occur in all patients with periodic leg movement in sleep. Although this patient had confirmed periodic leg movement in sleep, blink reflexes were normal.

References

BILLIARD, M., BESSET, A. & PASSOUONT, P. (1978) Treatment of chronic insomnia: long term follow-up. *Sleep Research*, **7**, 210.

KALES, A., BIXLER, E. O., SOLDATOS, C. R. *et al* (1982) The role of sleep apnea and nocturnal myoclonus in insomnia. *Psychosomatics*, **23**, 589–595.

LIPINSKI, J. F., ZUBENKO, G. S., BARRIERA, P., *et al* (1983) Propranolol in the treatment of neuroleptic induced akathisia. *Lancet*, *ii*, 685.

OSHTORY, M. & VIJAYAN, M. (1980) Clonazepam treatment of insomnia due to sleep myoclonus. *Archives Neurology*, **37**, 119–129.

OSWALD, I. (1981) Assessment of insomnia. *British Medical Journal*, **283**, 844–875.

PARKES, J. D. (1985) *Sleep and its disorders*. New York: W. Saunders.

TELSTAD, W., SORENSON, O., LARSEN, S. *et al* (1984) Treatment of restless legs syndrome with carbamazepine: a double blind study. *British Medical Journal*, **288**, 444–446.

TRZEPACZ, P. T., VIOLETTE, E. J. & SATEIA, M. J. (1984) Response to opioids in three patients with restless legs syndrome. *American Journal of Psychiatry*, **141**, 993–995.

WESCHLER, L. R., STAKES, J. W., SHAHANI, O. T., *et al* (1986) Periodic leg movements of sleep (nocturnal myoclonus): an electrophysiological study. *Annals of Neurology*, **19**, 168–173.

J. R. Newton, MB, ChB, *Registrar, Royal Edinburgh Hospital*; C. Shapiro, PhD, MRCPsych, *Senior Lecturer, University of Edinburgh*; *A. Stewart, MRCPsych, *Consultant Psychiatrist, Royal Victoria Hospital, Craigleith Road, Edinburgh*

*Correspondence

https://doi.org/10.1192/bjp.154.5.691 Published online by Cambridge University Press