Sleep Deprivation Psychoprophylaxis in Recurrent Affective Disorders

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Introduction

Presently, there is substantial evidence indicating that sleep deprivation (SD) as well as REM sleep deprivation exercise a therapeutic effect in endogenous depression (2, 8, 10, 12, 13). On the contrary, very few reports dealing with a limited number of patients, have appeared in the literature on the possible prophylactic effect of SD in this condition (3, 4, 7).

The case of a recurrent depressive ‘rapid cycler’ who responded to prophylactic sleep deprivation (PSD) treatment has been previously reported by our team (3). The aim of this presentation is to report the follow-up of this patient and also to present an account of the response to PSD of 8 more patients with either unipolar or bipolar affective illness.

Material and Methods

PSD was administered to 9 patients who fulfilled the following criteria: (a) A diagnosis of primary affective disorder according to the criteria of Feighner et al. (6). Cases 2, 5, 8 and 9 who were ‘rapid cyclers’ did not fulfil section C of the above criteria, (b) Age below 65 years, (c) Negative history of serious physical illness, (d) Abstinence from psychotropic medication for at least 15 days prior to the commencement of PSD.

As shown in table I, 9 manic-depressive patients (5 bipolar and 4 unipolar depressives) entered the study. There were 3 men and 6 women and their ages ranged from 23 to 51 years (mean 40.55 ± 11.01). Duration of illness ranged from 1 to 25 years. 5 of the patients were ‘rapid cyclers’ with more than four attacks per year. With two exceptions all patients were married. With the exception of patient 1, who had a suspicious and irritable premorbid personality, all patients were of either cyclothymic or extroverted personalities. 5 patients had a positive family history for mental illness. Age of onset of illness ranged from 20 to 41 years. In the majority of patients the illness started with a depressive bout. All patients had been treated with psychopharmaca in the past and 3 of them had received ECT (patients 4, 5, 8).

Table I. Characteristics of patients and response to prophylactic sleep deprivation
and one bipolar patient (No. 9) had received prophylactic lithium without favorable response. The frequency of PSD sessions was one per week, with the exception of a female patient (No. 8) who, in addition to once per week sessions, also had a period of once per month sessions.

Results

Table I shows a summary of the characteristics of the patients who entered the trial and their response to PSD. Response to treatment was characterized as positive if the frequency of attacks diminished and the duration of normothymia increased after the administration of PSD, in comparison to the attack frequency and the duration of normothymia which occurred before the initiation of PSD or (in the cases with long histories of illness) during the period of 2 years that preceded the onset of PSD.

In 3 cases (patients 1, 2 and 4), the above parameters remained more or less unchanged before and after the onset of PSD.

The course of the illness of patient 5 is shown in figure 1. After having been placed on a regimen of weekly 36 hrs. total sleep deprivation, the course of her illness changed dramatically as her depressive bouts disappeared. She was subsequently instructed to discontinue SD and she remained depression-free for more than 3 months. Following this, she again developed depression of 3-4 days’ duration. SD was readministered, but in spite of this another short-lived bout occurred followed by yet another attack. The patient was nevertheless encouraged to continue with her weekly PSD sessions and she managed to remain well for a period of 9 months. Unfortunately, her husband, who up to that time accompanied her in her nocturnal SD sessions, developed symptomatology compatible with anxiety neurosis and was unable to help her. PSD was ultimately discontinued and shortly after this the patient became depressed and committed suicide.

As shown in figure 1, both frequency of attacks and duration of normothymia changed significantly during PSD treatment.

The illness of patient 8 started at the age of 20 with short-lived severe depressive bouts of 5—7 days. She was usually experiencing two attacks every month, one of them invariably occurring prior to her menstrual period. The depth of her depression was compatible with the endogenous variety and her negative evaluation of life reached the point of suicidal ideation. Unfortunately,
lack of parental cooperation resulted in discontinuation of the treatment. She remained depression-free for another 6 weeks following which depression recurred. As shown in figure 2 duration of normothymia clearly increased and attack frequency clearly diminished after initiation of PSD treatment. Equally dramatic was the change observed in another rapid cycler (case 6). This patient suffered ten attacks of depression or mania without normothymic intervals during the period of 2 years that preceded the onset of PSD. After PSD was initiated, she has had no attacks at all for a follow-up period of 1 year. Patient 3 had 5 bouts of depression lasting 50-60 days, during the period of 2 years that preceded the onset of PSD. After commencing PSD she remained depression-free for 6 months following which she discontinued treatment on her own initiative. A depressive relapse of unusually long duration (3 months) followed. After recovery from her depression she was again put on PSD and since then she has been depression-free for a short follow-up period (4 months). In the case of patient 7, evaluation of a prophylactic effect of PSD is problematic because her bipolar affective illness started just 8 months before the initiation of PSD treatment. The patient’s illness commenced when she was 27 with hypomania which lasted 4 months and eventually developed into a fully blown mania. Her short period of normothymia was followed by two severe depressive bouts. The first of these responded to tricyclic antidepressants, but the second failed to respond. Therapeutic 36 h total SD was initiated and she responded to treatment satisfactorily. SD was continued prophylactically for 1 month (one session per week) following which the patient discontinued her SD sessions with no further relapses. 1 year later she became very upset when her husband found out that she was having an extramarital affair. Fearing that her depression would recur she imposed 36 h PSD on herself, practiced once every month with a favorable prophylactic effect and although her relationship with her husband has in the meantime improved she is still continuing her PSD sessions. Patient 9 is a bipolar rapid cycler with an illness of long duration. For the last 2 years prior to the onset of PSD, the patient had been having two attacks of mania and depression every month. Each phase lasted about 12 days, thus limiting

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Fig. 1. Patient 5. Female, age 28, unipolar depression. A = suicidal attempt; * = suicide; o = admission to hospital; I = sleep deprivation session; = depressive relapse. Fig.. 2. Patient 8 Female, age 23, unipolar depression, i = Sleep deprivation session; = depressive relapse.

the period of normothymia to just 1 week per month. Lithium prophylaxis was not successful since apart from not being effective it was also responsible for disturbing side effects such as tremor, memory disturbance and writing difficulty.
Initiation of PSD on two occasions resulted in maintaining normothymia for periods of 7 weeks and 2 months, respectively. The longest period of normothymia before PSD was initiated did not exceed 4 weeks. Unfortunately, following a depressive relapse the patient’s motivation to continue his PSD sessions diminished and he discontinued treatment.

As shown in table I 5 patients (3 unipolar and 2 bipolar) responded to treatment. 3 patients (2 bipolar and one unipolar) failed to respond. 2 of the 5 responders had attempted suicide in the past and 4 were ‘rapid cyclers’. Only 1 of the 3 nonresponders was a rapid cycler and 1 had a history of suicidal attempts. Responders and nonresponders were not differentiated significantly with respect to marital status, premorbid personality and age at onset of illness. The mean age of the responders was 37.4 ±11.5 years, whilst that of the nonresponders was 49.6 ± 0.57. With reference to sex, only 1 out of 3 men responded to treatment whilst this was the case in 4 of the 5 women. All 5 responders had a positive family history of mental illness whilst this was the case in only 1 of the 3 nonresponders.

Thus, although the sample was too small to permit reliable conclusions, it appears that the profile of the responder to PSD is probably that of a woman in her mid-30s, with positive family history and a rapid-cycling unipolar depression.

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Discussion

In a recurrent condition like manic-depressive phychosis, prevention is clearly of much greater importance than treatment. In view of this it is surprising how long it has taken before effective psychoprophylactic methods for this condition were introduced and even more surprising how long it has taken before these methods were widely applied in clinical psychiatric practice.

Presently, three biological methods can be used for the prevention of recurrent affective disorders: lithium (1), tricyclic anti depressants (9) and prophylactic electroconvulsive treatment (11). All three methods are not free from side effects. Additionally, tricyclics are not recommended for bipolar affective disorders, rapid cyclers reportedly respond poorly to lithium (5) and the action of prophylactic electroconvulsive treatment has not been confirmed by follow-up studies. Consequently, there is definitely place for one more method of prophylaxis of the recurrent affective disorders, particularly if this method is free from side effects, as is the case with sleep deprivation (12).

The favorable response of 5 of the 9 patients in whom PSD was tried, indicates that PSD can be used as an alternative to the conventional methods of prophylaxis. In certain cases it might even prove to be more indicated than the conventional methods (e.g. ‘rapid cyclers’ or patients with cardiological problems).
On the other hand, the whole procedure of PSD is rather inconvenient not only for the patients but also for their relatives. The husband of patient 5 who had to share her sleepless nights eventually developed symptoms of anxiety neurosis and had to be treated with minor tranquilizers, patient 9 discontinued treatment because he did not want to disturb his wife’s sleep and patient 8 had to stop SD despite her favorable response, because her mother refused to participate in this ‘unorthodox’ treatment. Despite these limitations the authors feel that these preliminary observations are encouraging enough to justify further research into the promising field of sleep deprivation psychophrophylaxis.

Summary

Administration of prophylactic 36 h total sleep deprivation to 9 manic-depressive patients (5 bipolar and 4 unipolar depressives) reduced the frequency of relapses and increased the duration of normothymia in 5 patients, left the course of illness unchanged in 3 patients whilst in 1 patient the effect could not be evaluated. Sleep deprivation appeared to be more effective in women, ‘rapid cyclers’, patients with a positive family history of mental illness and patients with recurrent depression. These observations confirm previous impressions and suggest a possible prophylactic effect of sleep deprivation.

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References


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