CASE REPORT

A Rapid-Cycling Bipolar Patient Treated with Long Nights, Bedrest, and Light

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Background: *Stabilization of rapid-cycling bipolar disorder is extremely difficult.*

Methods: *A refractory bipolar I rapid-cycling patient on valproate was treated with long "nights" (extended sleep in darkness) and daytime light therapy.*

Results: *Rapid cycling immediately stopped on initiation of a 10 hour dark/rest period. This was extended to 14 hours (plus a self-selected 1 hour midday nap) without problems. Depression gradually improved when midday light therapy was added; near-euthymia was attained after light therapy was shifted to the morning.*

Conclusions: *Nonpharmacological chronobiological treatments may be a means to interrupt rapid cycling.* Biol Psychiatry 1999;45:1075–1077 © *1999 Society of Biological Psychiatry*

Key Words: Rapid-cycling bipolar disorder, extended darkness, sleep, light therapy

Introduction

Rapid-cycling manic-depressive patients are frequently clinically extremely refractory (Goodwin and Jamison 1990). Circadian rhythms appear to play a role in the etiology of rapid cycling, and sleep, or its absence, can exacerbate depression or trigger the switch process (Leibenluft et al 1996; Wehr et al 1982). Thus, in these patients, the timing and duration of wake and sleep, and the consequent exposure to light and dark, are intrinsically related to clinical state.

In a recent case study, mood state was stabilized in such a rapid cycler by ensuring a long-enough exposure to darkness and bedrest—10 hours of a real "night" with little option but sleep (Wehr et al 1998). This fascinating nonpharmacologic chronobiologic approach inspired us to attempt replication in a patient where all other treatment options had been exhausted.

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Received May 18, 1998; revised August 6, 1998; accepted August 7, 1998.

Case Report

A 70-year old female bipolar I patient had been hospitalized on and off for a total of 24 years for both psychotic depression and mania, with only four relatively long stable euthymic periods. Her case history reflects psychiatric treatments from the early 1940s—from insulin and morphine cures, estrogen therapy and ECT, to the entire palette of antidepressants, neuroleptics, and phase prophylactics. She was placed on lithium in 1968, complemented by carbamazepine in 1979. In spite of good ambulatory care, she had three lithium intoxications in 1995. She was hospitalized in September 1996 and treatment changed to valproate. From mid-December, 1996 she developed a very rapid-cycling course (2 to 3 days of severely psychotic depression followed by a spontaneous sleep deprivation leading to 1 to 2 days of hypomania).

The patient agreed to undergo a novel chronobiologic protocol (medication with valproate was kept constant). Her rest–activity cycle was monitored with actimetry from January to May, 1997 (Figure 1), psychiatric assessment with the Montgomery–Åsberg Depression Rating Scale (MADRS; Montgomery and Åsberg 1979), and clinical case notes. In the baseline rapid cycling (Figure 1A), MADRS oscillated from 50 to 8. The long "night" began with a 10-hour dark period, when she remained in bed in her room in complete darkness (shaded area in Figure 1B). The rapid cycling stopped immediately, but she remained depressed (MADRS = 45). After 2 weeks, this dark/rest period was lengthened to 12 hours (Figure 1C), after a further 2 weeks to 14 hours (Figure 1D; MADRS = 44). The imposed long rest period was no problem to her, and she even continued to take a 1 hour midday nap of her own volition. At the same time, we initiated 0.5 hour daily light therapy (10,000 lux) after the nap (Figure 1E), a time of day which should be stabilizing (Leibenluft et al 1995). According to case notes, her depressive state improved somewhat during this month (with two brief episodes of hypomania) but not sufficiently (MADRS = 42). The timing of light therapy was shifted to 9:30 AM every second day (Figure 1F), and after 2 weeks, there was a marked mood amelioration (MADRS = 30; 3 weeks later, = 24), in parallel with a slow increase in mean 24 hour

0006-3223/99/$19.00
PII S0006-3223(98)00289-3

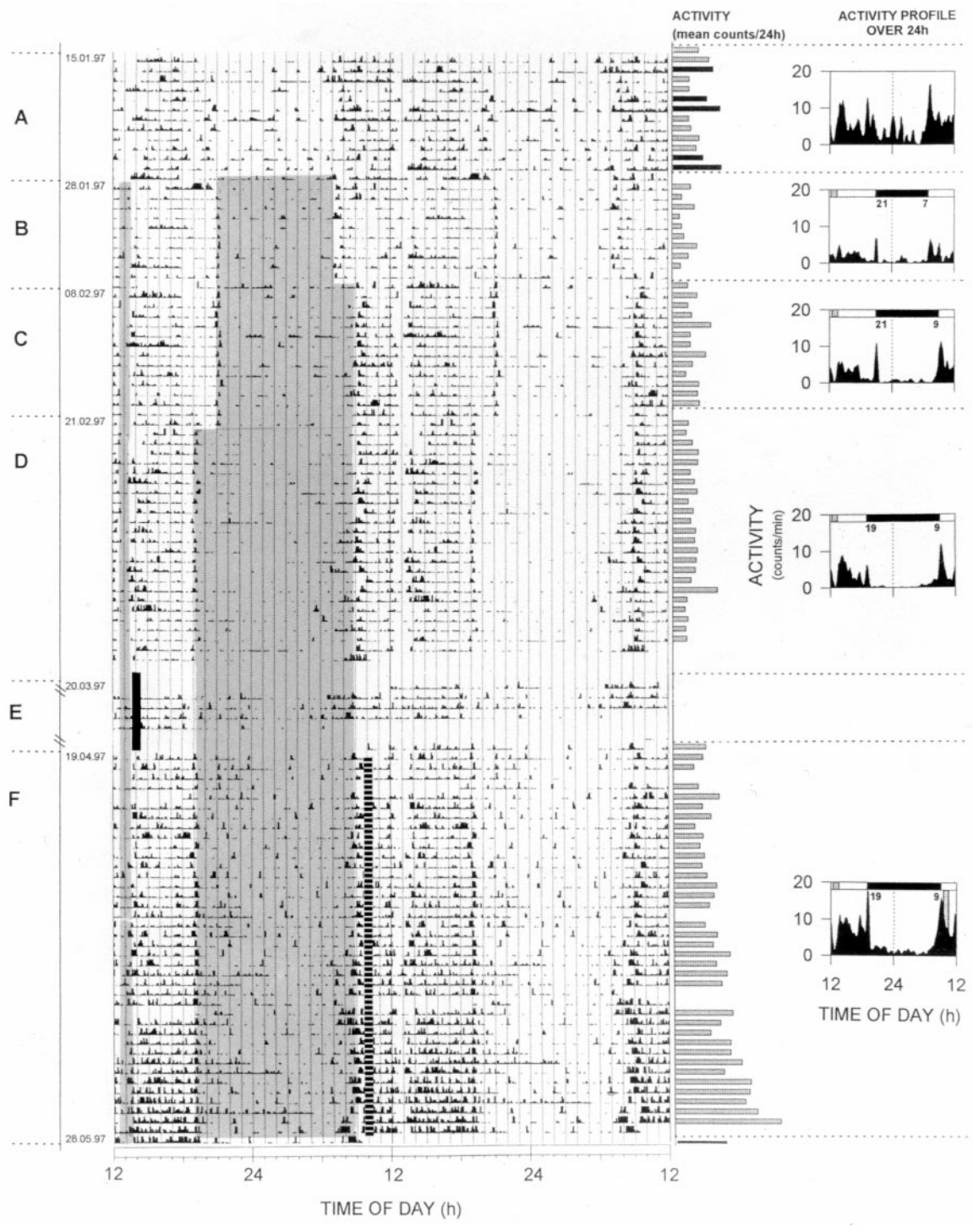

Figure 1. Actogram of a rapid cycling bipolar patient before and during the experimental period. *The rest-activity cycle* (5-min values) is double plotted to enhance visualization of the pattern (day 1 and 2 plotted consecutively over 48 hours and successively beneath one another). In section E, most data were lost due to apparatus failure. The interventions are superimposed on the left-hand side of the double plot (B-F). Grey areas depict the imposed dark/bedrest period for nighttime sleep and the self-selected noon nap. The vertical and striped black bars denote the timing of light therapy, daily at midday, or in the morning every second day, respectively. To the right is plotted the *daily mean activity/24 hours* over conditions A-F (in the rapid-cycling period A, days in black denote hypomanic episodes). *Average 24h profiles of activity* (1-min values, 30-min running average) are depicted to the far right, with the imposed dark/bedrest times designated in black, nap time as a stippled bar. These average profiles are for: (A) 5 days during rapid cycling when the patient was hypomanic; (B) 9 days on a 10-hour "night"; (C) 13 days on a 12-hour "night"; (D) 23 days on a 14-hour "night"; (F) 35 days on a 14-hour "night" with morning light therapy.

activity levels. The 24 hour profile approached a normal pattern, even though nocturnal activity also increased. For the first time in years, she participated in ward activities and a possible transfer to an out-patient home was discussed. The study ended when the patient no longer would wear the actimeter and the treating doctor left the hospital. A daily outdoor walk (as a "natural" light therapy; Wirz-Justice et al 1996) was recommended. Case records over the following year recorded a longer period of relative well-being, with periods of dysphoria and irritable hypomania. Unfortunately, the chronobiologic therapy was not further adhered to.

Discussion

Conventional treatments in general do not stop rapid cycling as immediately as found here with imposed dark/rest periods. The clinical state of this ultra-rapid-cycler stabilized and became near euthymic after nearly 3 months of a long dark period with extended bedrest every night and additional morning light pulses. Given the explorative nature of these first "dark therapy" trials, it is clear that further experiments will be needed to find an optimum duration. We titrated the duration of dark/rest upwards from a 10-hour night, and this patient was in bed/slept for a remarkable 15 hours/day (including a self-selected nap) without any complaints. It would appear that such long periods of dark/rest/sleep (it remains to be clarified which aspect is the therapeutic trigger) provide a necessary stabilization for the process underlying rapid cycling (Leibenluft et al 1996), and judicious use of light therapy can improve mood even in a nonseasonal depressive patient. A previous study using morning light therapy in rapid-cycling bipolar patients worsened clinical state (Leibenluft et al 1995), but was not, as here, administered in combination with long nights and extended sleep. Our independent replication of the dark/rest treatment strategy (Wehr et al 1998) indicates that chronobiologic protocols may be used as valuable adjunctive treatments to psychopharmacology, in particular, to interrupt rapid-cycling.

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