## CASE REPORT

# Nightmares Associated with the Onset of Mania: Three Case Reports

Mehmet Yucel Agargun, M.D., Hayrettin Kara, M.D., Rıfat İnci, M.D.

We reported three cases who had dream-induced manic episodes and discussed mood-regulatory function of dreaming. A dysregulation in neural circuits and monoaminergic systems in brain may precede mood shift during REM sleep dreaming and result in manic episode. **(Sleep and Hypnosis 2003;5(4):192-196)**

***Key words:*** *dreaming, nightmare, mood, and bipolar disorder*

### INTRODUCTION

One of the most important functions of REM sleep and dreaming is mood-regulation. Clinical observations suggest the putative role of REM sleep in relation to the problem-solving functions of REM sleep (1). REM sleep and dream content are profoundly altered in affective disorders, thus an analysis of the relationship between mood, REM sleep, and dreaming may play a role in our understanding of underlying mechanisms of mood disorders (2-4). Cartwright and Lloyd (5) reported that depressed subjects exhibiting a shorter REM latency following a life stressor have increased accompanying reports early night dream intensity as support hypothesis that reduced REM latency may represent a compensatory mechanism when negative affect exceeds normal limits. On the other hand, prolonged selective REM deprivation by awakenings have been known to be beneficial in the treatment of depression for 20 more years (6). That the majority of antidepressant drugs, across several different categories, exhibit robust suppression of REM sleep appeared to support this finding. However, others, such as bupropion and nefazodone, lack REM suppressant effects (7). Thus, it is still an unresolved issue whether REM sleep abnormalities are depressiogenic or whether early prolonged and more active REM sleep reflects an attempt to compensate for elevated levels of a waking depression.

REM sleep abnormalities were well-documented in depression, whereas REM sleep changes in bipolar disorder are variable; reduced, increased, or unchanged REM sleep may be occurred in manic phase. Shift in mood may be occur during sleep (8). In a recent study, Beauchemin and Hays (8) demonstrated that dream content related to prevailing mood state and certain types of dream preceded upward mood changes in bipolar disorder (manic-depression). To replicate these findings, one year later, they (9) monitored sleep, dream content and mood, in both bipolar and unipolar patients during depressed state. They found that REM latency tends to increase as the mood improves in bipolars but was stable (and even decreases with mood improvements) in unipolar depressives; dream content continued to systematically relate

Address reprint requests to: Dr. Mehmet Yucel Agargun, Yüzüncü Yıl University School of Medicine, Department of Psychiatry Van 65200 Turkey
E-mail: myagargun@kure.com.tr

Accepted February 21, 2003

to prevailing mood state, but the patterns seen were different in unipolars and bipolars; and dreams of death were frequent in bipolar disorder marking the transition of a mood shift upward.

Kavanau (10) recently hypothesized that the pathological processes underlying many mental disorders appeared to exert their deleterious influences by inducing abnormalities in brain waves, largely in slow waves of less than about 14 cycles/s. He suggested that the pathologically altered slow waves, in turn, cause long-lasting weakening or dysfunction of synapses of affected circuits, frequently resulting in mental disorders and deviant sleep. He also proposed dreams as the brain's memory circuits are reinforced during sleep by self-generated brain waves. Thus, it is reasonable to suggest that frightening dreams, pathologically, may induce psychopathological conditions; they may induce manic episodes. In this paper, we reported three cases presenting dream-induced manic episodes and discussed relationship between dreams and the first episode of the illness in terms of mood-regulatory functions of dreams as well as refreshment theory of neural circuits during nightmare in the brain.

## CASE 1

Mr. A, a 18-year-old male patient with a DSM-IV diagnosis of manic episode. He was admitted to the hospital complaining insomnia, restlessness, irritability, grandiose ideas, pressure of speech, distractibility, and feeling of increased energy. This was the first episode and he had no history of substance abuse, severe organic disease, or mental retardation. He was come from a low socioeconomic backgrounds. He was a student in high school. His dream did not related to his previous actual experiences with death, catastrophes, or earthquakes at all. Regarding the onset of manic episode, he reported that he disputed with his big brother and then slept late afternoon. He reported he had a nightmare. He told his father this bad dream to upon awaking:

*"I was at a public place with my relatives. There were also other people there. It was doomsday. Earthquakes occurred minute by minute. There were lots of damaged houses. All people were dispersing from their houses. They were crying out. A lot of people were injured and some of them were dying. I woke up soon."*

Just after he reported this nightmare, he begun anxiously to tell his relatives *`prepare yourself for death! Doomsday is drawing here soon. Everybody is on wrong way. Death is coming to you. Put your winding sheet.`* He became ill in that evening and admitted to the hospital. He was treated by olanzapine 15 mg/day.

## CASE 2

Mrs. B, a 21-year-old female patient with a DSM-IV diagnosis of manic episode with postpartum onset. She was admitted to the hospital complaining pressure of speech, increased energy, a decreased need for sleep, over-activity, and irritability. She was come from a low socioeconomic background. She was a homeworker. She never had an actual experience with death, catastrophes, or earthquakes before her nightmare. Regarding the onset of manic episode, she reported nightmare in the 8th day after delivery. She reported this bad dream to her husband upon awaking:

*"I saw a catastrophic scenario. People were crying out and dispersing from destroyed buildings. Most of them were dying. I was not sure whether I died or not.*

She was treated by using haloperidol 20 mg/day plus clonazepam 1 mg/day.

## CASE 3

Mrs. C, a 48-year-old female patient with a DSM-IV diagnosis of manic episode (mix type). She was come from a low socioeconomic

background. She was a housewife. She never experienced actually any catastrophic event previously. She was admitted to the hospital complaining irritability, elevated mood, over-activity, insomnia, and distractibility. Just before onset of manic episode, she reported a catastrophic and frightening dream:

*The buildings were being destroyed. People were dying. There was blood in everyplace in dream scenario. I saw a lot of cemeteries. When I woke up, I felt anxiety and fear of dying. I had palpitation, frequent breathing, sweating, and dizziness.*

Just after this dream, she began to present manic symptoms. She admitted to the hospital soon. She was treated by using haloperidol 20 mg/day plus clonazepam 2 mg/day.

## DISCUSSION

Nightmares are long frightening dreams involving threats to survival or security, from which the sleeper awakens. They typically occur later in the night during REM sleep and produce vivid dream imagery, complete awakenings, autonomic arousal, and detailed recall of the event. Nightmares should be distinguished from sleep terrors, narcolepsy, sleep panic attacks, and other awakenings. DSM-IV (11) diagnostic criteria for Nightmare disorder are "Repeated awaking from the major sleep period or naps with detailed recall of extended and extremely frightening dreams, usually involving threats to survival, security, or self-esteem. The awakening generally occur during the second half of the sleep period" (Criterion A); "On awakening from the frightening dreams, the person rapidly becomes oriented and alert (in contrast to the confusion and disorientation seen in sleep terror and some forms of epilepsy)" (Criterion B); "The dream experience, or sleep disturbance resulting from the awakening, causes clinically significant distress or impairment in social, occupational, or other important areas of functioning" (Criterion C); and "Do not occur exclusively in the course of another mental disorder and are not due to the direct physiological effects of a substance or a general medical population" (Criterion D).

Nightmares cause psychological distress, social or occupational dysfunction. Lifetime prevalence for a nightmare experience in the general population is unknown but may well approach 100% and age is clearly a mediating factor; from children to adult and elderly groups have nightmares with a prevalence of 30 to 68 respectively (12). Nightmares may be associated with psychopathology, in particular, in young adults and adults. Recurrent nightmares are characterized by a high comorbidity of mood and anxiety disorder as well as posttraumatic stress disorder. Recently, we found a significant association between repetitive and frightening dreams and suicidal tendency in patients with major depression (13).

In each case we presented, manic episode was induced by a frightening dream, described as nightmare. Although an association of nightmares with unipolar or bipolar depressive episodes as a causal condition have been reported in literature previously, a relationship between nightmares and the first manic episode had never been suggested. Bipolar patients usually report fewer dreams during depression than during hypomania and a change in dream content was expected to closely precede an upward shift in mood (8,9). Moreover, dreams reported by bipolars were expected to report more death dreams regardless of mood states. In three cases, this death-mood shift connection was found. We think that this connection is not only in the culture of these three patients, but also it is universal phenomenon. Beauchemin and Hays (8,9) reported death thema in dreams during shift in mood from depression to mania. However, this should be replicated by larger samples.

What is the underlying biological mechanism in nightmare-induced elevation in

mood? We suggest two approaches to explain this problem in terms of our patients. The first, sleep physiology provides an ideal medium for transition to mania (14). Specifically increased cathecolamine synthesis is afforded by REM sleep dreaming and in predisposed individuals this surge could cause a manic episode. Dopamine, serotonin and norepinephrine, main neurotransmitters in the brain, have been suggested to have functional roles in the production of dreams (15,16). Most agents affecting dopaminergic neuroreceptors have been reported in clinical trials to induce nightmares in some patients (17). In addition, brainstem cholinergic neurons can be excited to induce REM sleep (18). Thus, it seems reasonable to suggest that monoaminergic dysregulation occurs concurrently during a nightmare and this may induce a manic episode. However, it interesting that ethiopatogentically nightmares precede an elevation in mood in predisposed individuals such as ours. Secondly, it may be suggested that dreaming typically shows a delirium profile, like that found in alcohol- and fever-induced states (19). Specifically the first patient dreamt his nightmare in late afternoon and he was confused somewhat just after awaking. In general, dreams accompany activations of brain circuits by spontaneous, self-generated waves of electrical potentials that convert recently acquired short-term memories into long-term memories (consolidation), largely by a repetitive process known as 'hippocampal replay' (20). Dream memories provide our only indication of priorities for the numerous other memory circuit reinforcements that take place during sleep (10). High priority apparently goes to recency of occurrence, particularly events of the same day or previous days such as our patient. A well-known 'filtering' or modulating influence of the limbic system gives first priority for nightly reinforcement ('replaying') and, consequently, for entering long-term memory, to events that arouse emotions and/or other actions and perceptions with survival value during dreams (10).

These patient's "nightmares" can also be constructed as most consistant with the "Continuity Hypothesis" in which dreams reflect the patient's waking state. According to this hypotesis (21), there is a contiunity between waking and dreaming and elements of a person's waking personality represent themselves in dreams. Thus, a person's waking characteristics will continue into their sleeping mentations. The dream networking process resets our levels and sets us in motion for the next day. The nature of nightmares being psychological incapacity to associate a dream experience when the awake state occurs. The emotional sensitivity of mood at this time disrupts mind ability to stay dreaming, thus individuals may have experienced a nightmare. On the other hand, the dream process is affected by the changes in mood state of the dreamer as sleep begins and dreams trend to act like an emotional moderator and mediator.

In conclusion, a dysregulation in neural circuits and monoaminergic systems in the brain may precede mood variation during REM sleep dreaming. This may result in nightmares at first and then a manic episode may occur in predisposed or vulnerable individuals.

## REFERENCES


1. *Reiser MF. The dream in contemporary psychiatry. Am J Psychiatry 2001;158:351–359.*

2. *Kupfer DJ, Foster FG. Interval between onset of sleep and rapid-eye-movement sleep as an indicator of depression. The Lancet 1972;30:684-686.*

3. *Benca RM. Mood disorders. In: Principals and Practice of Sleep Medicine, Kryger MH, Roth T, Dement CD, eds. W.B. Saunders Company 3rd edition, 2000:1141-1157.*

4. *Buysse DJ, Hall M, Begley A, Cherry CR, Houck PR, Land S, Ombao H, Kupfer DJ, Frank E. Sleep and treatment response in depression: new findings using power spectral analysis. Psychiatry Research 2001;103:51-67.*

5. *Cartwright RD, Lloyd SR. Early REM sleep: a compensatory change in depression? Psychiatry Res 1994;51:245-252*

6. *Vogel GW, Vogel F, McAbee RS, Thurmond AJ. Improvement of depression by REM sleep deprivation. Archives of General Psychiatry 1980;37:247-253.*

7. *Agargun MY, Ozbek H. Drugs effects on dreaming. In: Psychopharmacological Basis of Sleep Disorders. Lader M, ed. 2003 (in press).*

8. *Beauchemin KM, Hays P. Dreaming away depression: the role of REM sleep and dreaming in affective disorders. J Affect Disord 1996;41:125-133.*

9. *Beauchemin KM, Hays P. Prevailing mood, mood changes and dreams in bipolar disorder. J Affect Disord 1995;35:41-49.*

10. *Kavanau L. Memory failures, dream illusions and mental malfunction. Neuropsychobiology 2001;44:199–211.*

11. *APA (American Psychiatric Association). Diagnostic and statistical manual of mental disorders, 4th edition. (DSM-IV). Washington: The American Psychiatric Association; 1994.*

12. *Nielsen T, Zadra A. Dreaming Disorders. In: Principles and Practice of Sleep Medicine. Kryger MH, Roth T, Dement W, ed. W.B. Saunders Company, Philedelphia, PA, 2000:753-772.*

13. *Agargun MY, Çilli AS, Kara H, Tarhan N, Kıncır F, Öz H. Repetitive and frightening dreams and suicidal behavior in patients with major depression. Compr Psychiatr 1998;39:198-202.*

14. *Hartmann E. Mania, depression, and sleep. In: Kales A, ed. Sleep physiology and pathology. J.B. Lippincott, Philedelphia PA, 1968;189.*

15. *Hobson JA. The Chemistry of Conscious States. Little, Brown, 1994.*

16. *Pageli JF, Helfter P. Drug induced nightmares—an etiology based review. Hum Psychopharmacol Clin Exp 2003;18:59–67.*

17. *Jouvet M. The Paradox of Sleep: The Story of Dreaming. MIT Press: Cambridge, 1999.*

18. *Cartwright RD. Dream and drug-induced fantasy behavior: A comparative study. Arch Gen Psychiatry 1966;15:7–15.*

19. *Hobson JA. Dreaming as delirium: A mental status analysis of our nightly madness. Semin Neurol 1997;17:121–128.*

20. *Wilson MA, McNaughton BL. Reactivation of hippocampal ensemble memories during sleep. Science 1994;265:676–679.*

21. *Hall CS, Nordby VJ. The individual and his dreams. New York: Signet, 1972.*