Sleepwalking and Night Terrors Related to Febrile Illness

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Sleepwalking and night terrors have been defined as disorders of arousal (1) that occur early in the night and have their onset during stage 3 or 4 sleep (2, 3). During a sleepwalking episode, the individual seems confused, detached, and relatively unresponsive. Night terrors are more dramatic; patients manifest terror and panic, and there is extreme autonomic discharge and vocalization. In both disorders, patients are difficult to arouse, and complete amnesia or minimal recall of the episode is frequent.

A genetic component underlies these disorders in that patients often have a family history of sleepwalking, night terrors, or both (4). Sleepwalking and night terrors typically begin in childhood or early adolescence and are usually ‘outgrown’ by the end of adolescence, suggesting a delay in CNS maturation (5). When sleepwalking or night terrors have a postpubertal onset or continue into adulthood, however, psychopathology is a more significant causative factor (6, 7). These shared characteristics have led us to propose that sleepwalking and night terror have a common etiology and are part of the same pathophysiologic spectrum (8).

In this paper, we report on febrile illness as a precipitating factor for the onset of sleepwalking or night terrors. To our knowledge, this is the first report establishing this relationship. We have evaluated five children or adolescents who began to sleepwalk or to experience night terrors during or immediately after a febrile illness. The following three case reports illustrate our observations of this phenomenon.

Case Reports

Case 1. A 9-year-old girl had two sleepwalking episodes following recovery from a streptococcal pharyngitis complicated by otitis media and associated with high fever (104°–105°). The first episode occurred 3 days after the fever had subsided, and the second episode took place a month later. There was no family history of sleepwalking or night terrors.

The second episode, like the first, occurred approximately 2 hours after the patient went to bed. She suddenly walked downstairs into the room where her parents were watching television and stood motionless. When her parents spoke to her she mumbled incoherently, and they realized she was again sleepwalking. As her father led her to her room, she was hesitant and confused. In less than a minute after returning to bed, she was asleep. Over the next 5 years there were no further episodes.

Case 2. A young boy had two sleepwalking episodes during febrile illnesses, one at age 11 and another at age 13. The family history was negative. Prior to the second episode, the boy had been away from home for several days. He reportedly had a fever and had slept poorly for the previous 2 or 3 days. The first night after he came home, 2 hours after he went to bed he walked downstairs and out of the house. Barefooted and scantily clothed, he walked through the snow to the neighbors’ house. The neighbors called, and when his brother came he had to shake the child to arouse him. Subsequently he was well oriented but had no recollection of the event. The next day he was found to have otitis media; he was given antibiotics and became afebrile. There were no further episodes over a 6-month follow-up period.

Case 3. A 12-year-old boy had a series of night terror episodes with associated somnambulistic activity that began during illness associated with high fever. There was a family history of sleepwalking in a sister and a maternal uncle. The child came home from school with a high fever and went to bed. About an hour and a half after falling asleep, he appeared at the living room door screaming that he was ‘‘smothering in mud’’ and ‘‘had to die.’’ When he fully awakened, his temperature was 105°.

About 2 weeks later, the patient began to have an episode each night for several nights. After an hour and a half of sleep, he would frantically rush from room to room, shouting obscenities. He seemed frightened and perspired profusely. His parents thought he was ‘‘going crazy’’ and sought our evaluation. They were reassured that the course of this disorder is usually benign and were cautioned as to the psychological problems that could result from their overreacting. They were also advised of the necessity for safety measures. Over a 6-month period the episodes became less frequent and finally ceased. Three months later, however, he had three more episodes during a febrile illness. Over the next 2 years, there were no additional episodes.

We also evaluated two other patients whose episodes had an onset associated with febrile illness. One, a girl who first developed night terrors and related somnambulistic activity at age 12 after an upper respiratory infection with high fever, had a strong family history of night terrors, sleepwalking, and body rocking. She continued to have frequent and intense night terrors independent of febrile episodes over 4-year-follow-up. The other was a boy who had two sleepwalking episodes at age 10 when he had ‘‘flu.’’ Family history was negative. The first episode occurred after 2 days of high fever associated with markedly disrupted sleep for the previous night; the second took place 1
day after he became afebrile. No further episodes were reported during 2-year-follow-up.

None of the five patients we have described was taking any psychoactive medication at the time of the episodes. In addition, we found no evidence of psychopathology in these patients.

Discussion

In all five patients, the onset of sleepwalking or night terrors occurred during either the active course of febrile illness or the recovery period. The episodes were differentiated from delirium by their occurrence early in the night, comparatively short duration, and persistence after the febrile period.

In the three children with no family history of sleepwalking or night terrors, the sleepwalking was limited to only two episodes. The two patients who had a strong family history experienced more frequent night terrors, and the episodes continued for several months or years following the febrile illness. It is possible that the latter patients eventually would have developed these disorders and that the febrile episode served to hasten their appearance.

All five patients developed their disorders during late childhood or early adolescence (ages 9-12). This is a time when the CNS is still developing, and it is possible that during this stage of maturation an individual is more likely to develop sleepwalking or night terrors in relation to febrile illness.

The occurrence of sleepwalking and night terrors with febrile illness might be further explained by the effects of fever on sleep, particularly stages 3 and 4 (slow-wave) sleep. It is well known that with elevated temperature, sleep is fragmented and total sleep time is considerably reduced. In addition, stages 3 and 4 have been shown to decrease significantly when fever is experimentally induced (9). The initial suppression of stages 3 and 4 sleep with high fever may be followed by a rebound in these sleep stages, predisposing subjects to disorders of arousal from slow-wave sleep. Our contention is supported by Fisher and associates' suggestion that longer periods of stages 3 and 4 sleep preceding a night terror episode result in a more intense episode (10).

In evaluating the child or adolescent with sleepwalking or night terrors, the physician should be careful to rule out febrile illness as a causative factor before attributing the condition to psychopathology or an organic cause.

REFERENCES