and it can cause impairment of social, occupational, or other areas of functioning. Sunlight is the most powerful external time cue for regulating and synchronizing the body’s circadian rhythms with the environment, Dr. Avidan said. It promotes wakefulness as input from the retina goes to the suprachiasmatic nucleus (SCN) of the hypothalamus, which contains a circadian pacemaker.

To opposite ends, the pineal gland releases melatonin in response to darkness. Melatonin promotes sleep, but levels of it decrease with aging. Compensating with the dietary supplement has been shown to help advance the circadian clock, according to Dr. Avidan.

For patients with delayed sleep, he recommended exposure to bright light—as much as 10,000 lux—from 7 a.m. to 9 a.m. every morning and took a walk for an hour or more in bright sunlight.

“In a few days, I was on South African time,” he told those attending a meeting on sleep medicine sponsored by the American College of Chest Physicians.

Light therapy can be highly effective in correcting jet lag and other circadian rhythm disorders, according to Dr. Avidan, medical director of the University of California, Los Angeles, neurology clinic and associate director of UCLA’s sleep disorders center.

Melatonin, a dietary supplement with no approved medical indications, is another useful treatment when delayed sleep is a problem, he said, and ramelteon (Rozerem) shows promise. Although ramelteon is approved only for insomnia, Dr. Avidan said he prescribed it off label to patients with the type of circadian rhythm disorder that causes night owls to complain they can’t fall asleep at normal bedtimes or wake up early in the morning. Often they are tired all day, but not at night, with detriment to their quality of life. “Circadian-related disruption leads to insomnia, dysomnia, or both,” he said, and can cause impairment of social, occupational, or other areas of functioning.

Light and Melatonin Can Reset Circadian Rhythm

POLYSOMNOGRAPHY STUDY: MIGRAINE LINKED TO DISTURBED SLEEP IN CHILDREN

BY PATRICE WENDING
Chicago Bureau

CHICAGO — Sleep apnea was observed in more than half of children with migraine in a study presented at the annual meeting of the American Academy of Neurology. Polysomnography revealed sleep apnea in 56% of children with migraine, compared with 10% of those without migraine headache in a study of 90 children aged 5-19 years with headache and sleep complaints.

The association between sleep apnea and migraine was significant, with an odds ratio of 2.1, Dr. Martina Vendrame, chief resident, Temple University Hospital, Philadelphia, and colleagues reported.

Two-thirds of the children with migraine also had frequent arousal during sleep. Children with chronic migraine, defined as 15 days or more of migraine per month, took longer to fall asleep, had a shorter total sleep time, woke more frequently during the night, and had shorter REM and slow-wave sleep.

“Clinicians should ask all children with headaches and their parents about sleep problems,” including snoring, awakenings during sleep, and day-time sleepiness, Dr. Vendrame told reporters during a press briefing at the meeting. If concerns are raised, patients should be referred to ENT specialists for evaluation and treatment of sleep apnea.

Two-thirds of children in the study identified with sleep apnea were evaluated by ENT specialists, and half underwent tonsillectomy. Of these, 80% had some benefit, including reduced migraine frequency, she said.

Dr. Vendrame acknowledged that the presence of headache could contribute to sleep disturbances, as children suffering from headache will often take daytime naps. In addition, it is widely accepted that headache and sleep disorders share common pathophysiologic mechanisms. Previous studies have evaluated the relationship between headache and sleep disturbances, but this is the first to use polysomnography in children, she said.

The study comprised 60 children with migraine, 11 with chronic daily headaches, 6 with tension headaches, and 13 with nonspecific headaches.

Sleep apnea was also noted among 54% of patients with nonspecific headache, and was observed more frequently in those with a higher body mass index.

Children with chronic daily headache had shorter total sleep time, longer sleep latency, shorter REM sleep, and a higher arousal index.

When the child’s breathing stopped, blood pressure increased to 138/75, indicating that this was a sleep apnea event.

“This is a very common condition,” Dr. Vendrame said.

The study was conducted at the Christopher Hospita l for Children, Drexel University, Philadelphia; and the authors had no conflicts of interest to disclose.

Light and Melatonin Can Reset Circadian Rhythm

Altered Brain Response Seen in IBS Patients

BY JANE SALDOF O’NEIL
Senior Editor

SCOTTSDALE, ARIZ. — Before traveling from California to South Africa, Dr. Alon Y. Avidan prepared for the time change by spending afternoons in his office, out of the sun. After he arrived in South Africa, between 3 a.m. and 7 a.m. every morning and took a walk for an hour or more in bright sunlight.

People flying west should seek morning light at the new location and avoid light in the evening. When traveling east, they should do the opposite.

“People traveling east across two or more time zones will have difficulty falling asleep, whereas those traveling west may struggle to maintain sleep.”

In both cases, he said, exposure to and avoidance of light at appropriate times can be “very effective.”

People traveling west should seek morning light at the new location and avoid exposure to light in the evening. When traveling east, they should do the opposite. “Avoid light in the early morning, and get as much light as possible in the afternoon/evening,” Dr. Avidan said.

He said it would be advisable to avoid exposure of children to the direction and added that slow-release caffeine, if administered correctly, has been shown to improve daytime alertness, and melatonin has been shown to foster sleep after an earl·y light. For specific recommendations geared to time zones of departure and arrival, he recommended using the jet lag calculator in the travel clinic section of www.fleetstreetclinic.com, a British Web site.

Dr. Avidan disclosed receiving a consultant fee and serving on the speakers bureau and advisory committee of Takeda Pharmaceuticals, which sells ramelteon in North America. He also listed relationships with Sepracon Inc., GlaxoSmithKline, and Boehringer Ingelheim.

Altered Brain Response Seen in IBS Patients

BY PATRICE WENDING
Chicago Bureau

CHICAGO — Patients with irritable bowel syndrome have altered brain responses to the anticipation of pain and to pain itself, which might make them more sensitive to painful stimuli, reported Dr. Steven M. Berman and his colleagues from the Center for the Neurobiology of Stress at the University of California, Los Angeles.

During expectation of pain, irritable bowel syndrome patients generate higher levels of tonic nociceptor activity, producing a bias toward interpretation of network activity as pain, and are inefficient at reducing such activity when discrimination of nonpainful stimulation should be maximized, they said (J. Neurosci. 2008;28:149-59).

Functional magnetic resonance imaging (fMRI) was used to measure the blood oxygen level-dependent response to anticipated and delivered rectal distention in 14 female IBS patients and 12 healthy controls (mean age 36 years). When controls were anticipating a painful stimulus, brain activity decreased in several regions, but there was less of this anticipatory deactivation in the IBS patients.

When actual rectal distension was performed using a computer-driven pump and rectal balloon. Four to six sessions of 16 inflations were performed. Each inflation was preceded by an expectancy cue. During rectal distention, increases in activity in the insula, dorsal anterior cingulate cortex, and dorsal brainstem were more extensive in IBS patients than in controls.

The results showed that during expectation of experimental abdominal/pelvic discomfort, female IBS patients are more anxious and less able than healthy controls to downregulate activity within the CNS network activated by potentially aversive stimuli, the authors noted.