

Medi Quest BRS Hospital

A monthly News letter from BRS Hospital

SLEEP DISORDERS IN CHILDREN

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Parasomnia

Definition: They are episodic undesirable behaviours that intrude onto sleep . They are not associated with insomnia or excessive day time sleepiness

They can be classified as

- Parasomnias associated with NREM sleep occurring in the first one third of night.

Parasomnias in NREM sleep are confusional arousals ,sleep terrors, and sleep walking.

- Parasomnias associated with REM sleep occurring in the last third of sleep.
Commonly parasomnias in REM sleep are nightmares and sleep paralysis

Parasomnias associated with NREM sleep Confusional Arousals

Occur on transition from deep NREM sleep to lighter stages of sleep or into awake state

Confusional arousals

Seen in toddlers

Onset within two to three hours of sleep

Child sits up in bed, may whimper, cry remain in consolable

The duration in 5-30minutes

These events are benign

Sleep terrors:

Occur in the first one third of nocturnal sleep

The child awakens abruptly from sleep with a loud screaming and is agitated.

Has a flushed face, sweating and tachycardia. The child may jump out of bed as if running away from a unseen threat.

EEG shows high amplitude rhythmic delta or theta activities.

Sleep walking:

NREM parasomnia pearls between age 8 and 12years

In Mild episodes, a toddler sits up or crawls in bed or walks and silently stands near the bed, which can go unnoticed. Autonomic dysfunction may co-exist. In a more severe form children become agitated and run around the house.

They run the risk of injuring themselves. Autonomic dysfunction may co-exist

DD :

Nocturnal seizures can mimic sleep walking, sleep terrors and confusional arousals. Age of onset and nocturnal pattern distinguish these parasomnia from seizures



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GE reflex:

Can lead to abrupt arousal from sleep

Management of NREM Parasomnia:

Infrequently occurring (one to two times/month)
Confusional arousals, sleep terrors and sleep walking
need not be treated.

Toddler should be given adequate time to nap.
In Sleep walking – discuss environmental safety
issues with the parents.

Unless the child is likely to get injured parents should
be advised to not restrain or awake the child.

Medical strategies:

Anticipatory awakening 15 to 20 minutes prior to usual
time of occurrence may abort event
If no specific underlying triggers are found ,
Clonazepam (0.25 to 0.5mg at bed time) can be tried.

Parasomnias associated with REM sleep:

1. Nightmares
2. REM sleep behaviour disorder
3. Isolated sleep paralysis

Nightmares:

Nightmares are disturbing dream that awaken the
dreamer. Full alertness generally returns immediately
upon awakening after a nightmare and recall of the
dream experience remains
Intact.

The dream sequence is vivid and real, become more
disturbing as they unfold
Emotions if present invoke anxiety, fear, terror, anger,
rage and disgust
These are no bodily movements as tone and mobility are
activities inhibited or autonomic symptoms.

Management:

Reassurance
Rescripting child are taught to create more pleasant
ending to recurring nightmares

Desensitisation:

Make the child draw a diagnosis of the objects in
nightmare or write down content of
nightmare which may help make the appearance less
severe.

Hypnotherapy

Cognitive Behavioral therapy

REM Sleep Behaviour Disorder

REM sleep behaviour disorder is characterised by
aggressive motor behaviour namely flailing of limbs ,
agitation and yelling as a part of dream enactment ,
resulting from loss of muscle atonia during REM
sleep.

Management : is with Clonazepam

Sleep Related Movement Disorders

- Restless leg syndrome
- Rhythmic movement disorder

Restless Leg Syndrome :

Common , treatable Neurologic condition
characterised by an urge to move the legs usually
accompanied by uncomfortable or unpleasant
sensations in the legs.

Symptoms begin or worsen at rest or inactivity occurs
during the evening or at night , and is relieved by
activity .

ADHD , depression and anxiety occur more frequently
in children with RLS.

Diagnosis is by history .

Iron status should be evaluated , a serum Ferritin level
of 50-100 mcg /l is optimal. Iron supplementation is



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advised for those below this range.

Periodic Limb Movement Disorder

Characterised by repetitive limb jerking - dorsiflexion of ankle or flexion of knees during stage 1 and 2 NREM sleep. The duration of movements is 0.5 to 10 seconds and occurs at an average interval of 5 to 90 seconds . There is difficulty sleeping and there is day time somnolence. Diagnosis is established by documenting abnormal number of PLMS during polysomnography. Children have PLMS of more than five per hour in this condition.

Management of RLS and PLMD

Oral supplementation with iron if S.Ferritin level less than 50 mcg/l in both RLS and PLMD

In RLS Non pharmacologic treatment for mild cases and Gabapentin for children with severe symptoms above 6 years of age . Start with 100 mg , increase dose every two weeks based on need upto a maximum of 600 mg.

In both RLS and PLMD benzodiazepines Clonazepam 0.25 to 0.5 mg have been used.

Clonidine has been used when there is severe sleep onset problems in both RLS and PLMD.

In RLS dopamine agonists Pramipexole have proved to be useful.

In refractory cases combination therapy with Dopamine agonists and Gabapentin , or Clonidine (sleep onset) with Gabapentin or Clonazepam for sleep consolidation.

For under 6 years with established diagnosis of RLS or PLMD with difficult to control symptoms low dose Clonazepam or Gabapentin have been used.

NARCOLEPSY

Narcolepsy is a life long chronic neurologic disorder characterized by The classic tetrad of EDS, cataplexy,

hypnagogic hallucinations, and sleep paralysis

CLINICAL FEATURES

1.Excessive daytime sleepiness (EDS)

is an essential clinical feature of narcolepsy and the most common presenting symptom in both children and adults. The onset can be as early as five to six years of age, but in rare cases it may be apparent even in the preschool years.

2. Cataplexy is the most specific symptom of narcolepsy

Cataplexy is characterized by sudden, transient loss of muscle tone; the weakness or paralysis usually arises in response to strong emotions such as laughter, surprise, anger, fright, or anticipation of reward. Consciousness is fully preserved. Episodes usually last a few seconds to three to five minutes. The severity of attacks ranges from a slight head or shoulder drop to sudden collapse to the floor.

Cataplexy characterized by oculo-bucco-facial weakness is prominent in children, manifested by the jaw dropping open, eyelid drooping (ptosis), head rolling, or tongue thrusting movements

· Hypnagogic hallucinations—

Hypnagogic hallucinations consist of vivid, dream-like imagery at sleep onset; the same phenomena can more occasionally occur on awakening, when they are then referred to as hypnopompic hallucinations.

· Sleep paralysis

is a momentary inability to move the body, most commonly on awakening in the morning or during the night, but occasionally as one is drifting off to sleep.

Disturbed night time sleep is a core feature of Narcolepsy. Depression , Obesity and precocious

puberty are other associated features of narcolepsy.

DIAGNOSIS

The diagnosis of narcolepsy is established on the basis of characteristic clinical features combined with nocturnal polysomnography (PSG) and a multiple sleep latency test (MSLT)

MANAGEMENT

Narcolepsy is a lifelong disorder. There are no curative therapies currently available, and management is symptomatic.

Behavioral and lifestyle modification —

Sleep hygiene .

- Planned naps during the daytime can partially mitigate drowsiness
- Regular exercise during the daytime can enhance alertness.

Pharmacotherapy

Daytime sleepiness — Treatment options for daytime sleepiness include central nervous system stimulants (salts of methyl phenidate or amphetamines), wake-promoting agents such modafinil , and sodium oxybate]

Cataplexy — Treatment options for cataplexy in children with narcolepsy type 1 include sodium oxybate and certain antidepressant medications, which have an anticataplectic effect through suppression of rapid eye movement (REM) sleep. Tricyclic antidepressants, serotonin reuptake inhibitors, and serotonin-norepinephrine reuptake inhibitors are alternative first-line therapies for cataplexy, particularly in children with comorbid depression.

The take home message is to elicit a sleep history in children , know about sleep hygiene and identify and treat common sleep disorders in children.



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