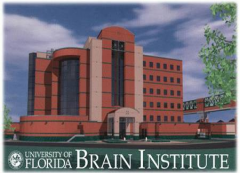




Parasomnias



Parasomnias



- Disorders of Arousal (NREM Sleep)
 - Confusional Arousals
 - Sleep Walking
 - Sleep Terrors
- Parasomnias Usually Associated with REM
 - REM Behavior Disorder
 - Recurrent isolated sleep paralysis
- Nightmare Disorder
- Other Parasomnias
 - Sleep Related Dissociative
 - Sleep Enuresis
 - Sleep Related Groaning
 - Exploding Head Syndrome
 - Sleep Related Hallucinations
 - Sleep Related Eating Disorder
 - Parasomnia, Unspecified
 - Due to Drug or Substance



Disorder of arousal- Confusional Arousals



- A. Recurrent mental confusion or confusional behavior occurs during an arousal or awakening from nocturnal sleep or a daytime nap

Key Points

Aka Sleep inertia

Occurs help of Non-REM slow-wave sleep

Retrograde amnesia for many intercurrent events

Fragmentary or no recall of dream mentation

Poor response to efforts to provoke behavioral wakefulness

Episodes of mental confusion following arousal from sleep

Typically from slow wave sleep in 1st third of night

Sleep talking and occasional shouting is common

Last 5-15 mins (can last as long as 30-40 min)

Prevalent in children and adults <35 yr.

17% of children 3-13 yrs.

Treatment:

reassurance

clonazepam rarely



Disorder of arousal- Sleepwalking (Somnambulism)



- A. Ambulation occurs during sleep
- B. Persistence of sleep, and altered state of consciousness, or impaired judgment during ambulation as demonstrated by at least one of the following:
 - i. Difficulty in arousing the person
 - ii. Mental confusion when awakened from an episode
 - iii. Amnesia either complete or partial for the episode
 - iv. Inappropriate or nonsensical behavior
 - v. Potentially dangerous behavior



Disorder of arousal- Sleepwalking (Somnambulism)



Key Points

Most common in children aged 4-6 years

Frequently disappears during adolescence.

Adult cases are not infrequent; if present, often precipitated by stress or medications

Strong family history is common; often family or personal history of other arousal disorders from SWS

Usually occur in first half of the night from slow-wave sleep but occasionally stage II

Usual duration of an episode is 1-5 minutes.

Once aroused, shows mental confusion with amnesia for the event.

Eyes open typically (compared to REM parasomnia which have eyes closed)

Adults may be precipitated by zolpidem particularly if prior history of sleepwalking

Always recommend safety measures such as locks, sleeping on the first floor, etc.

Treatment:

reassurance

environmental control

Sleep hygiene

clonazepam

Differential diagnosis: Seizure, RBD, arousal disorder, nocturnal eating disorder



Disorder of arousal- Sleep Related Eating Disorder



- A. Recurrent episodes of involuntary eating and drinking occurring during the main sleep period
- B. One or more of the following must be present with recurrent episodes of involuntary eating or drinking:
 - i. Consumption of peculiar forms or combinations of food or inedible or toxic substances
 - ii. Insomnia related to sleep disruption from repeated episodes of eating, with complaints of nonrestorative sleep or EDS
 - iii. Sleep related injury
 - iv. Dangerous behaviors performed while in pursuit of food or while cooking
 - v. Morning anorexia
 - vi. Adverse health consequences from recurrent binge eating of high caloric foods



Disorder of arousal- Sleep Terrors



- A. Sudden episode of tear or occurs during sleep, usually initiated by a cry or loud scream that is accompanied by autonomic nervous system and behavioral manifestations of intense fear
- B. At least one of the following associated features is present:
 - i. Difficulty in arousing the person
 - ii. Mental confusion when awakened from episode
 - iii. Amnesia either complete or partial for episode
 - iv. Potentially dangerous behavior



Disorder of arousal- Sleep Terrors



Key Points

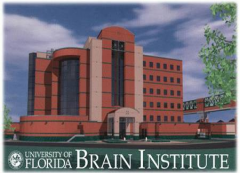
- Autonomic symptoms include tachycardia, tachypnea, skin flushing, diaphoresis, mydriasis, and increased muscle tone
- Familial pattern may be present
- Differential diagnosis: Seizure, RBD, arousal disorder, nocturnal eating disorder



REM parasomnia- REM Behavior Disorder



- A. Presence of REM sleep without atonia: The EMG finding of excessive amounts of sustained or intermittent elevation of submental EMG tone or excessive phasic submental or limb EMG twitching
- B. At least one of the following is present:
 - i. Sleep related injuries or disruptive behaviors
 - ii. Abnormal REM sleep behavior documented during sleep study
 - iii. Awakening short of breath
- C. Absence of EEG epileptiform activity during REM sleep unless RBD can be clearly distinguished from any concurrent REM sleep related seizure disorder



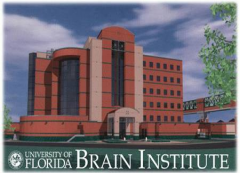
REM parasomnia- REM Behavior Disorder



Key Points

Predominantly male after 50 yr. of age

- Often with underlying neurological disorder such as Parkinsonism (1/3 have RBD), MSA (90% have RBD), narcolepsy, and stroke
- Medication may precipitate
 - venlafaxine
 - SSRI
 - mirtazapine
- Intermittent loss of REM EMG atonia
- Exaggerated motor activity with dreams
- Tx: reassurance; enviromental control; clonazepam
- PSG shows increased chin EMG in REM with prolonged limb movements
 - Increase in REM density and SWS time



Differential Diagnosis of Nocturnal Events



	NREM Parasomnia	REM Behavior Disorder	Nocturnal Seizures	Psychogenic Events
Time of Occurrence	First 1/3 of night	During REM; latter 2/3 of night	Any time (most common during first 2 hours and last 2 hours of sleep)	Anytime
Memory of Event	Usually none	Dream recall	Usually none but frontal lobe may have some recall	None
Stereotypical Movements	No	No	Yes	No
PSG Findings	Arousal from delta sleep	XS EMG tone during REM sleep	Potentially epileptic activity	Occur from awake state



Frontal Lobe Seizures vs NREM Parasomnia

Differential Diagnosis

	Frontal Lobe Seizures	NREM Parasomnias
Age of onset	11.8 +/- 6.3	Usually < 10 yo
Attacks per month	20 to 40 (multiple events per night)	1-4
Clinical course	Increasing frequency or stable	Decreasing/disappearing
Movement semiology	Stereotypic	Polymorphic
Attack onset	Any time during night	First third of night
Attack distribution	2- NREM (65%)	3-4 NREM
Motor Pattern	2-3 repetitive types of attacks	Absence of motor pattern
Duration of attacks	< 1 minute (usually 15 to 30 sec)	Several minutes

Diagnostic Evaluation

- 1) **Daylab video EEG (awake only): essentially all normal**
- 2) **Daylab videoEEG (after sleep deprivation): 52.2% abnormal**
- 3) **24 hour videoEEG (daytime and nocturnal): 87% abnormal**