

Pre-Polysomnography evaluation of the patient

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Awareness of sleep disorders is increasing globally, India is no exception. Referrals by medical community to sleep disorder clinics have gone up in India. Even self referrals have increased. This is a testimony to the fact that years of efforts through TV and print media and internet revolution besides the word of mouth from patients have led to more and more patients seeking this specialized help. This has led to mushrooming of sleep clinics across the country especially the larger cities. The onus is now on us, the sleep physicians' fraternity, to make a proper assessment of each new referral before we decide who should be subjected to a polysomnography (PSG) study. The onus is also on us as well as our medical institutions to ensure that the PSG study is conducted properly with high quality acquisition of data according to international protocols. A proper revalidation should then be done by every sleep lab to make the reporting acceptable worldwide.

Pre-PSG evaluation of patient needs detailed history and physical examination.

Sleep disorder patient can have following major complaints:-

- Excessive daytime sleepiness (EDS).
- Disturbed, disruptive or non refreshing sleep.
- Problem falling asleep or maintaining sleep after awakening in the middle of the night.
- Heavy snoring which disturbs the sleeping partners.
- Witnessed choking or pauses in breathing during sleep.

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- Abnormal leg movements as patient's complaint or as witnessed by sleeping partners.
- Witnessed sleep talking, sleep walking, loud grinding of teeth or any other sleep behavior changes &
- Frequent night shift changes leading to poor sleep, tiredness etc affecting social behavior.

Historically the sleep disorders have not received their due importance. Worldwide experience, as also in India reveals that the patients seeking help in sleep clinics / sleep labs belong more to the category of hypersomnolence with EDS rather than Insomnia or other sleep disorders. The increasing awareness of obstructive sleep apnoea and its strong association with snoring and EDS is responsible for this trend. On the other hand Insomnia is not usually taken seriously by the patients and their physicans. Tranquilisers and anxiolytics have been widely abused in India and sold over the counter for easy access to the self medicating public. Other sleep disorders are not so frequent. However, a complete history of not only sleep related symptoms but also other organ system involvement should be carefully taken.

A history of snoring in an obese/overweight individual with witnessed apnoeas (stoppage of oro-nasal air flow for over 10 seconds despite abdomino-thoracic effort to breathe) makes a strong case for Obstructive Sleep Apnoea (OSA). It is frequently associated EDS. Patients may give history of episodes of choking during sleep. They may complain of dryness of mouth at night, polydypsia and nocturia. Some of them may prefer to sleep while sitting up in the bed, lying on the side or in prone position, others may complain of memory impairment or reduced sexual drive. History, physical and throat examination help us make a strong preliminary diagnosis. In suspected OSA the oro-pharyngeal examination may reveal narrow oro-pharynx, overhanging soft palate, large uvula, heavy tonsillar tissue

or large thick tongue. Patient may have retracted jaw. Clinical features of Hypothyroidism should be looked into and thyroid function tests should not be missed in such patients. A patient with EDS may also be evaluated using EPWORTH SLEEPINESS SCALE.

EPWORTH SLEEPINESS SCALE

SCORE YOURSELF

- 0 = no chance of dozing
 1 = slight chance of dozing
 2 = moderate chance of dozing
 3 = high chance of dozing

SITUATION CHANCE OF DOZING

Sitting and reading	_____
Watching TV	_____
Sitting inactive in a public place (e.g. a theater or a meeting)	_____
As a passenger in a car for an hour without a break	_____
Lying down to rest in the afternoon when circumstances permit	_____
Sitting and talking to someone	_____
Sitting quietly after a lunch without alcohol	_____

Score

- 0-10: Normal range
 10-12 Borderline
 12-24 Abnormal

If a patient has chronic symptom of EDS without any obvious features of OSA, then Narcolepsy or Idiopathic CNS Hypersomnia or even Upper Airway Resistance Syndrome can be a possibility. Leading questions into a history of cataplexy, sleep paralysis, hypnagogic hallucinations or automatism will favor the diagnosis of Narcolepsy. A picture of Insomnia, Restless Leg Syndrome, bruxism, sleep deprivation or altered sleep phase syndrome is obvious from the history. An assessment of associated metabolic syndrome like Diabetes Mellitus, Hypertension, Dyslipidemia and Coronary Heart Disease should be done as a whole and patient is explained the necessity for polysomnography study. He should be explained the role and need for

various electrode placements and information that would be gathered to achieve the diagnosis.

Following is a list of scenarios in which PSG study should be done-

- When an individual has EDS with clinical features of OSA.
- When an individual has EDS in the absence of obvious reasons of sleep deprivation, day- night shift schedule and Delayed Sleep Phase syndrome.
- When a COPD patient has EDS with or without chronic hypercapnia.
- When an individual has EDS with obesity and hypercapnia.
- When an individual has significant EDS with gross obesity even without hypercapnia.
- When there is unexplained, very chronic EDS even without any classical clinical features of Narcolepsy.
- When EDS is associated with cataplexy, sleep paralysis, hypnagogic hallucinations or automatism.
- When there is history of chronic Insomnia to see any associated compounding factors and also to rule out impaired sleep perception.
- When the history is suggestive of abnormal sleep behavior disorder (REM or Non-REM) viz Sleep Walking, Sleep Talking, Bruxism, aggressive behaviour during sleep etc.

Some additional indications in highly specialized sleep labs can be

- Cardiovascular sleep studies.
- Assessment of nocturnal epilepsy and
- To assess impotence.

When there is a suspicion of narcolepsy, Multiple Sleep Latency Test (MSLT) must be done. It should be clear from above description that the role of PSG is very widespread but a thorough assessment of the patient must be done before advising the PSG. It will avoid unwanted PSG's and the positive yield of the study would be very high. A clear and detailed explanation and assurance about the procedure will allay any fear of electrode placement in the minds of many patients. The intent, purpose and the utility of the procedure should be kept clearly in focus while advising PSG. So far the service of PSG is, however, very highly under-utilized in our country and thus sleep disorders remain highly under diagnosed.