Hypersomnolence in Non-SAHS Patients

Nikolaus C. Netzer MD

Hermann Buhl Institute for Hypoxia – and Sleep Medicine Research, Bad Aibling
Paracelsus Medical University, Salzburg, Austria
Definitions of Hypersomnolence (DSM IV, AASM, ICSD)

Real hypersomnia: Hypersomnolence is measurable with a positive MSLT and ESS score, sleep attacks during the day, extended sleep time, unbearable sleep pressure during day

Chronic Fatigue: Hypersomnolence is not measurable in MSLT
Definitions of Hypersomnolence (DSM IV, AASM, ICSD)

Definition (by Netzer): There is no hypersomnolence in Venice! What about Beijing?
Listing of Hypersomnolence by ICSD not caused by Insomnia, Sleep Apnea or otherwise disturbed nighttime sleep (Disomnias)

- Idiopathic hypersomnolence with extended sleeptime
- Idiopathic hypersomnolence without extended sleeptime
- Behavioural caused hypersomnolence
- Hypersomnolence caused by medications
- Narcolepsy with and without cataplexy
- Kline-Levin Syndrome
Listing of Hypersomnolence by ICSD not caused by Insomnia, Sleep Apnea or otherwise disturbed nighttime sleep (Disomnias)

- Hypersomnolence in combination with a psychiatric disorder not caused by medication
- Hypersomnolence caused by the menstruation cycle
- Narcolepsy caused by an organic disease
- Hypersomnolence caused by organic disease
Listing of Hypersomnolence by ICSD caused by insomnia, disomnia or parasomnias

- Idiopathic insomnia
- Insomnia caused by depression or any other psychiatric disorder
- Shift Workers syndrome
- Jet lag
- Rem Sleep behavioural disorders and other parasomnias like somnambulism etc.
- Epilepsy
- RLS- PLMS
- Parkinsons disease
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

- 54 year old truck driver (Milk truck with a morning start at 3am, work day finishes at 2pm)
- Known moderate to severe OSAHS since two years sucessfully treated (2 titration nights) with BiPaP 12/6 cm H2O
- No other organic disease known
- Usual bed time 10pm (5 hours sleep at night and 2 in the afternoon)
- Mildly obese
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- Clinical tests for real hypersomnolence (hypersomnia): MSLT positive, ESS 24, according to patient no additional drugs (see next two slides)
- Patient history for disomnia: Sleep behaviour before since 30 years without problem, no jet lag, according to bed partner no sleep disbehaviour
Real sample case of unclear hypersomnia in a pulmonary sleep lab

Hypersomnia caused by drugs (4806, f 68%, patients with different drugs asked for hypersomnia):

- **Cetirizin** (82/139) 59%
- **Katadolon** (48/106) 45%
- **Seroquel** (190/462) 41%
- **Keppra** (68/176) 39%
- **Doxepin** (68/193) 35%
- **Lyrica** (144/434) 33%
- **Mirtazapin** (185/573) 32%
- **Opipramol** (94/295) 32%
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

Hypersomnolence caused by drugs (4806, f 68%, patients with different drugs asked for hypersomnolence):

- Citalopram (207/714) 29%
- Cipralex (159/565) 28%
- Tramadol (70/251) 28%
- Bisoprolol (51/191) 27%
- Tilidin (56/210) 27%
- Cymbalta (109/410) 27%
- Fluoxetin (80/304) 26%
- Paroxetin (60/238) 25%
- Trevilor (123/652) 19%
- Ramipril (47/308) 15%
Real sample case of unclear hypersomnia in a pulmonary sleep lab

Testing for Narcolepsy: No early REM-Onset,
no kataplexy,
No extraordinary orexin levels
treatment with Modafinil did not change the complaints,
no sleep attacks in the later afternoon, only sleep attacks in the morning and EDS until siesta at 3pm
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

- Testing for Epilepsy:
  - No epilepsy attacks known in the past
  - Regular EEG in two tests
  - No signs of nightly epilepsy in the sleep lab polysomnography
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Testing for RLS and PLMS:

Cave: Up to 30% of OSAHS patients have additional RLS or PLMS

In this case no leg movements independent of apneas in 5 polysomnographies
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

- Testing for Insomnia with and without depression:
- According to patient and bed partner no insomnia (sleeps with BiPAP like a stone throughout the night, wake up clock sounds very loud to get him awake)
- No depression according to neuropsychological counsel and negative for depression in the Becks Inventory
- No psychiatric disorder (Schizophrenia etc.) known
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

Testing for Dementia:
- No signs for Alzheimer's disease or vascular dementia
- Negative in the Mini Mental Status Test and clock drawing for cognitive impairment
- No signs for dementia in the neuropsychological counsel
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

Testing for other drugs:
- No excessive alcohol use (1-2 0.5 l Bavarian beers in the evening, no hard liquor or wine)
- No known use of opioid-like drugs
- No alcohol consumption in the morning or during daytime because of tough police controls
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

Organic disease screening:

- Regular status of thyroid hormones
- Kidney functions tests negative for disease
- Regular ECG, stress ECG, Heart Ultrasound
- Normal liver values
- Normal Head CT (No trauma, no stroke)
- And so on........
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

Kline-Levin Screening:

- Male sex: yes
- No hypersexuality
- No Eating disorder
- No Hypersensitivity for light and noise
- No depression
- Longer wake period between 5 and 10 pm
Real sample case of unclear hypersomnolence in a pulmonary sleep lab

- Parkinson screening:
  - Neurological counsel negative for parkinsons
  - No signs of movement disorder
  - Regular dopamin levels
  - No on-off times etc.
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Screening for other neurological and neuromuscular diseases:

- MS
- ALS
- Marfan
- Etc.
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Screening for sexual hormonal status
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Our treatment trial:

- Increasing pressure with BiPAP-Therapy to eliminate all apneas and hyponeas
- Additional oxygen to keep oxygen level at over 95%
- Increasing the modafinil dose
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The final solution of the case?

Presented in oral form:  ????????
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Searching for unclear hypersomnolence is like being a detective in a tv crime show:

How far do you want to go with the search, how far does your budget reach!

Thank you for the attention!