Sleep Disorders: The Forgotten Diagnoses

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Six Categories of Sleep Disorders

- Breathing disorders e.g. obstructive sleep apnoea.
- Insomnia – not able to get enough sleep.
- Movement Disorders e.g. restless legs, periodic limb movements.
- Circadian rhythm disorders – body clock out of sync with outside world e.g. delayed sleep wake phase disorder.
- Hypersomnolence e.g. narcolepsy, idiopathic hypersomnia.
- Parasomnias – unwanted experiences and behaviours in the night: NREM - sleepwalking, night terrors; REM – REM sleep behaviour disorder, nightmares.

What We Know About Sleep in ID Patients

- Difficulties with sleep are a common problem in the population.
- They are likely to be more common in ID patients: 13 – 86% (Didden, 2001).
- Poor sleep is often a source of frustration and distress for the patient.
- It is also a source of frustration and distress for the carers/family.
- Sleep disorders are associated with increased hyperactivity, stereotypy, aggression and self injury (Brylewski, 1999).
- There is surprisingly little research into sleep disorder epidemiology, aetiology and treatment in adults.
- There is a much larger body of research in children but we don’t know if we can extrapolate from that.

Obstructive Sleep Apnoea

- Repeated narrowing/closure of the upper airway.
- Leads to repeated arousals and sleep fragmentation.
- Often causes significant oxygen desaturations with longer term reductions in grey and white matter volume in the brain.
- Causes daytime sleepiness, irritability, low mood and impulsiveness.
- Increases the rate of hypertension, cardiac arrhythmias, heart failure and stroke.
- In children with Down Syndrome it leads to significantly poorer cognitive function e.g. reduction in verbal IQ = 9 points.

OSA in Down Syndrome

- Trois (2009) studied 16 adults with Down Syndrome. 15 had OSA; 3 moderate, 11 severe (median number of events/hr =37 (0 - 118).
- Severity of OSA correlated with BMI.
- A recent questionnaire based study found a prevalence of OSA symptoms in adults with DS in Scotland of 20% (Hill, 2020).
- Giménez (2018) found a prevalence of 78% OSA in DS on objective measures, but this was not detected on self report or carer report measures.
- Therefore one cannot rely solely on symptoms to screen for OSA.
- By comparison: Prevalence in Prader Willi = 30% (Ghergan 2017)

Treating OSA in Down Syndrome

- CPAP is the gold standard but many patients don’t tolerate it.
- Surgery is possibly more effective in this group than in normal adults.
- Weight loss.
- Hypoglossal nerve stimulators.

Restless Legs Syndrome

- Uncomfortable sensation – can be anywhere in the body, but usually the legs.
- Worse at night.
- Worse at rest.
- Temporarily relieved by movement.
- Easy to localise but hard to describe.
- Manifests as sleep onset insomnia.

Diagnosing RLS

- General physicians correctly diagnose RLS in less than 10% of patients (Hening, 2004).
- It is surprisingly rare for patients to volunteer RLS symptoms. You need to specifically ask about them.
- Look out for physical agitation at night.
- Bed refusal may be due to RLS.
- Signs of restless sleep due to related periodic limb movements.
- Car journeys, cinema visits etc. more difficult at night than day.
- May report pain or more unusual expressions of discomfort.

What Causes RLS?

- Antipsychotics
- Antihistamines
- Antidepressants
- Radiculopathy
- Iron deficiency
- Vitamin deficiencies
- Pregnancy
- Diabetes
- Renal Dysfunction
- Peripheral neuropathy
- Genetics e.g. fragile X (Summers, 2013)

Treating RLS

- Iron (if ferritin<75mcg/L).
- Change their medication if possible.
- 1st Line in UK - Dopaminergics e.g. ropinirole, pramipexole, rotigotine – low doses, but risk of psychosis, compulsive behaviours, augmentation.
- 1st Line in many sleep clinics: – pregabalin, gabapentin as these avoid
- Clonazepam
- Opiates

Circadian Rhythm Disorders

- The circadian rhythm governs a range of physiological functions such as sleep/wake, glucose and fat metabolism, temperature, metabolic rate.
- Misalignment between the internal circadian clock and the outside world leads to dysfunction in these domains.
- It has been theorised that the interaction between dysfunctional circadian rhythm and inflammation may play a role in the development of autism (Pinato, 2019).
- Autism associated with an advanced sleep phase (Ballester, 2019).

Delayed Sleep-Wake Phase Disorder

- Delayed sleep onset time and delayed waking time.
- Extremely tired in the morning and difficult to get them out of bed.
- Become more alert as the day goes on and most alert late at night when others are going to bed.

Associations between Delayed Sleep-Wake Phase and Psychiatric Disorders:

There is evidence for a role for DSWPD in:

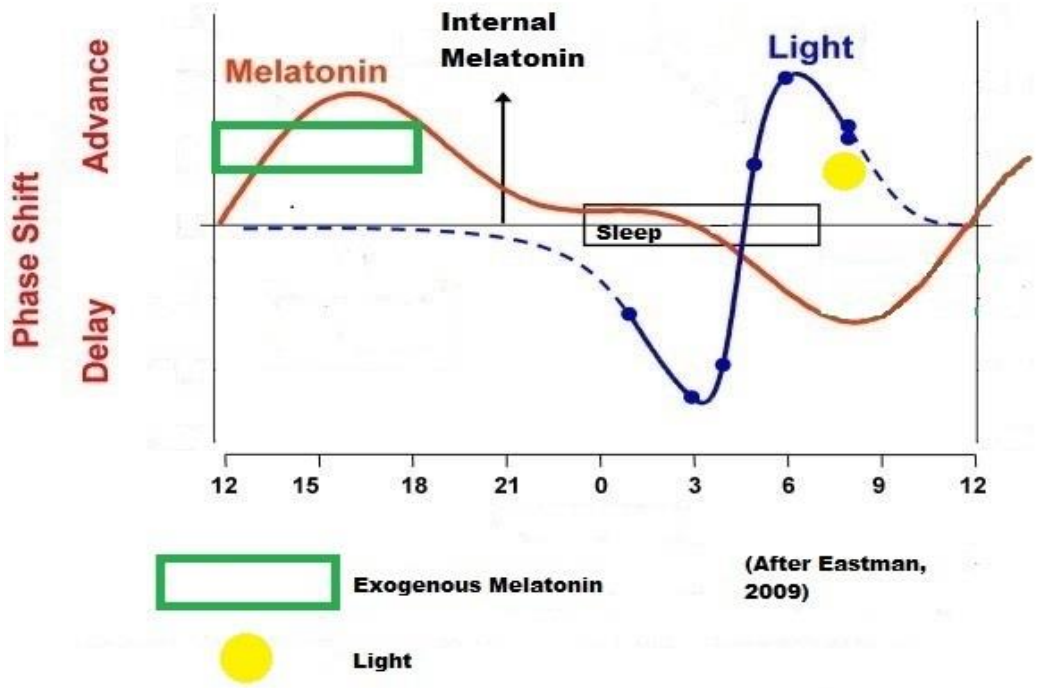
- Major Depressive Disorder
- Bipolar Disorder
- Obsessive Compulsive Disorder
- Personality Disorders
- Schizophrenia
- Attention Deficit Hyperactivity Disorder

DSWPD and ADHD

- Delayed circadian rhythm in 75% of children and adults with ADHD.
- Melatonin secretion delayed by 105 min in adults and 45 min in children. (Kooi, 2014)
- Treatment of the DSWPD (e.g. with bright light) improves the ADHD symptoms (Fargason, 2017).
- Many ADHD patients are photophobic and wear sunglasses, further delaying the circadian rhythm (Kooi, 2014).

Treating Delayed Sleep Wake Phase Syndrome – Melatonin & Light

- 6 hours earlier than the time of sleep onset the night before.
- Lower doses and immediate release may be better.
- If using Circadin consider chewing the tablet to break down slow release mechanism.
- Light should be used immediately on waking.



Really Clichéd Conclusion

- Sleep disorders can have a significant impact on behaviour, cognition and wellbeing.
- They affect the patient and their carers. Treating a sleep disorder in your patient may improve sleep of the whole family!
- Services for sleep in adults with ID are lacking.
- More research is sorely needed!!!!

Questions?

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