



Dr Alex Bartle

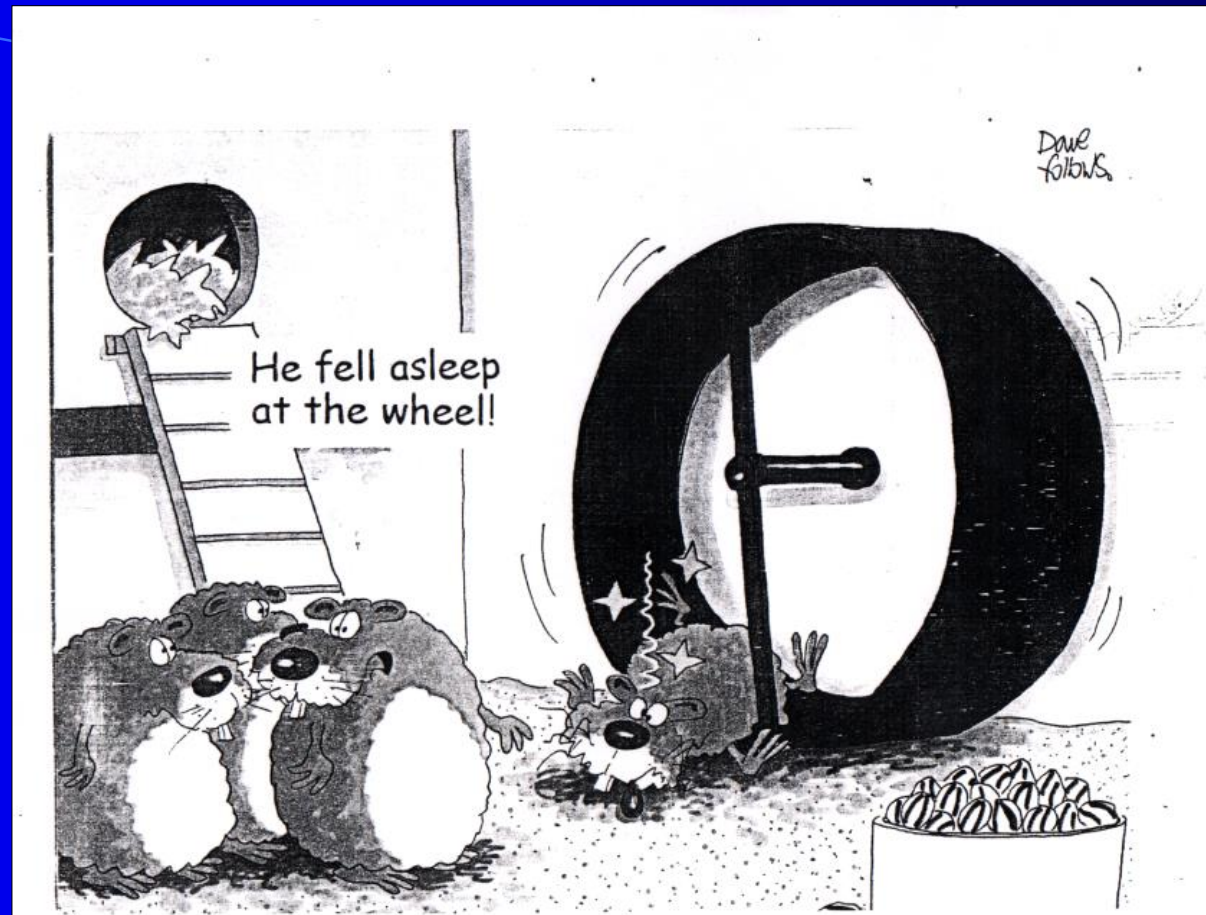
Medical Director
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Friday, August 09, 2019

(Room 1)

16:30 - 17:25 WS #47: Medication and Sleep

17:35 - 18:30 WS #57: Medication and Sleep (Repeated)



Medication and Sleep

GP CME South2019

Programme.

- Medication vs CBTi
- History of medication for sleep
- Hypnotics
- Stimulant medication
 - For some sleep disorders and especially Medication that hinders sleep
- What to do in General practice

Insomnia

Treatments:

CHEMICAL

Herbal

Allopathic

BEHAVIOURAL (CBTi)

Seep hygiene

Relaxation therapies

Stimulus control

Bed Restriction Therapy

Insomnia

HERBAL MEDICINES

- VALERIAN
- KAVA
- ST JOHN WORT
- MELATONIN
- Mg++
- CHAMOMILLE

Insomnia

Herbal

Advantages

- Freely available
- Probably less side effects

Disadvantages

- Few studies
- Inconsistent product
- Unknown interactions of side effects
- Less effective

Insomnia

HISTORY

Antiquity	- Alcohol and Laudanum
1860's & 70's	- Bromides and Chloral Hydrate
1880's	- Paraldehyde, urethane
1900's	- Barbiturates
1960's	- Benzodiazepines - 1 st Chlordiazepoxide (Librium)
1980's – 90's	- Zopiclone, Zolpidem
2000	- Zaleplon

Insomnia

HYPNOTICS – Which one?

Benzodiazepines

- Triazolam (T_{1/2} 2-6hrs)
- Temazepam (T_{1/2} 8-20hrs)
- Clonazepam (T_{1/2} 20-60hrs)

Non Benzodiazepines

- Zopiclone (T_{1/2} 4-6hrs)
- Eszopiclone (T_{1/2} 6hrs)
- Zolpidem (T_{1/2} 1.5-2.4hrs)
- Zaleplon (T_{1/2} 1hr)

Insomnia

Benzodiazepines

Benefits

- effective
- wide margin of safety
- slow tolerance

Adverse effects

- residual sedation
- anterograde amnesia
- rebound insomnia
- Dependence

Less (?no) tolerance or augmentation with Eszopiclone)

Contraindications and Precautions

Insomnia

Sedating Antidepressants

Doxepin ($T_{1/2}$, 17-24hrs)

Amitriptyline, (T_{max} 1.5-6hrs; $T_{1/2}$ 10–50hrs)

Mirtazapine (T_{max} $\frac{1}{4}$ -2hrs; $T_{1/2}$ 20-40hrs)

Trimipramine (Surmontil) ($T_{1/2}$ 24hrs)

Imipramine ($T_{1/2}$ 20hrs)

Less sedative: Nortriptyline.

Effexor XR – Insomnia or Sedation

Not sedative: Moclobamide

SSRI's - take in the morning

Use:

- Insomnia with Clinical Depression
- Sleep maintenance insomnia

Insomnia

Tricyclic Antidepressants

Adverse effects:

- Cardiotoxic – Cardiac dysrhythmias
- Anticholinergic – Dry Mouth; Constipation;
- Orthostatic Hypotension
- Increase RLS/PLMs
- Impaired daytime performance. Confusion.
- Urinary retention
- Rapid tolerance

Insomnia

Antihistamine

Diphenhydramine – Benadryl (T_{max} 2-2.5hrs: $T_{1/2}$ 5-11hrs)
- Unisom

Use;

- Insomnia with allergic symptoms

Adverse effects;

- Daytime drowsiness
- Impaired learning
- Constipation/Dry mouth
- Urinary retention
- Weight gain
- Occasionally - Insomnia

Insomnia

Antipsychotics

Quetiapine (T_{max} 1-2hrs ;T_{1/2} 7hrs);

Olanzapine (T_{max} 4-6hrs; T_{1/2} 20-54hrs)

Use;

Insomnia with psychotic illness/mania/Bipolar Depression

Adverse effects;

- Daytime drowsiness
- Orthostatic hypotension / dizziness and falls
- Tachycardia
- Weight gain
- Urinary retention

Insomnia

Anticonvulsants

Gabapentin (T_{max} 3-3.5hrs; $T_{1/2}$ 5-9hrs)

Use;

- Insomnia with pain
- Dependence
- Partial Seizures

Adverse effects;

- Daytime sedation
- Dizziness
- Ataxia

Sedating Drugs

Others.

Opioids. Fragments sleep resulting in daytime fatigue.
Respiratory suppression can result in
Central Sleep Apnoea

α Blockers

Clonidine. Increased somnolence. ADHD

Prazocin. Increased somnolence and PTSD

Triptans. Somnolence, but less with Sumatriptan.

NSAIDS. Suppress melatonin production .

Insomnia

Melatonin

Two therapeutic uses:

1. As a chronobiotic

Use a small dose (0.5mg), 5hrs before desired sleep onset

2. As a soporific

Use a larger dose (2mg or 3mg) $\frac{1}{2}$ -1 hr before desired sleep onset

Insomnia

Melatonin

Two therapeutic uses:

1.As a chronobiotic

Melatonin in the evening will advance the sleep phase (Earlier to sleep and earlier to wake)

Melatonin in the morning will (theoretically) delay the sleep phase (Later to sleep and later to wake)

Insomnia

Melatonin

Two therapeutic uses:

2. As a soporific

For children with ADHD or ASD

Some small evidence that their melatonin levels
are low

For those over 55 yrs

Melatonin levels tend to fall with age

Not helpful for those under 55yrs

Insomnia

Melatonin

Melatonin 2mg Slow release.

- Helpful for insomnia over 55yrs
- Large supraphysiological dose.
- Despite a relatively short $\frac{1}{2}$ life, some may last through to the morning and therefore delay sleep onset.
- May result in morning fatigue. Significant individual variability

Insomnia

Melatonin

Melatonin 2mg Slow release.

- It is a reliable product. Accurate 2mg
- Long term effects of Melatonin are unknown, especially in the preteen/teenage years
- If used for travel (jet lag) trial it first.

Placebo effect is strong for sleep.

Stimulants

β Blockers

The more lipophilic the more sedative in the day, but disrupt sleep.

Low risk

- Bisoprolol
- Atenolol
- Nadolol
- Sotalol

Higher risk

- Pindolol
- Carvedilol
- Labetelol
- Metopralol
- Propranolol

Stimulants

Corticosteroids

- Prednisone
- Cortisol
- Dexamethasone

- No effect of inhaled steroids

Stimulants

Stimulants for ADHD/Narcolepsy

Methylphenidate

Dexamphetamine

Modafinil

Theophylline

Other OTC cold treatments, and diet aids

Ephedrine	More
Pseudoephedrine	Less

Insomnia

Use short acting hypnotics for short term treatment in low dose.

Any medication/OTC product taken at night may become their 'sleeping tablet'.

Consider **morning** Anti-Anxiety Rx which will support the behavioural strategies in the evening.

Restless Leg Syndrome/Periodic Limb Movements in Sleep (Willis Ekblom Disorder)

- Iron therapy – especially for children
- Dopamine agonists.
 - Ropinerole
 - Pramipexole
 - PreGabalin
 - Sinemet/Madopar
- Sedatives. - Clonazepam
- Opiates.
 - Codeine,
 - Oxycodone

Rem-Sleep Behaviour Disorder (RBD)

Clonazepam 0.5mg – 2.0mg (rarely)

? A 'class' effect

Affect of Drugs

Coffee - stimulant

Alcohol - initially a sedative
- breakdown products are stimulant

Nicotine - low concentration – sedative effect
- higher concentration – stimulant

Marijuana - increases the time needed to fall sleep
- reduces REM sleep

LSD/Speed - Insomnia
- reduces both REM and NREM sleep

Caffeine Content

Coffee per cup

Plunger	110-300 mg
Espresso	100 mg
Instant	40-100 mg
Decaffeinated	2-5 mg

Tea per cup

1-Minute brew	9-33 mg
5-Minute brew	20-50 mg

OTC stimulant

No-Doz (per tablet) 100mg

Soft drinks per can

Big Red (355 ml)	114 mg
Top Secret (335 ml)	110 mg
Red Bull (250 ml)	80 mg
Coca-Cola (355 ml)	46 mg
Diet Coke (355 ml)	45 mg
Pepsi Max (355 ml)	44mg

Pepsi (355 ml)	38 mg
Pepsi Lite (355 ml)	37mg

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Thank You

Dr Alex Bartle