INSOMNIA IN THE GERIATRIC POPULATION

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CHANGES IN SLEEP ARCHITECTURE

- Reduction in slow wave sleep (stage 3 and 4)
- Increase in lighter stages of sleep (stage 1 and 2)
- Decrease in REM sleep
- Decrease in total sleep time
- Greater sleep fragmentation = more nighttime awakenings
- Changes in circadian rhythms
  - Decrease in melatonin, VIP and vasopressin-expressing neurons in the suprachiasmatic nucleus

Source: “Sleep Problems in the Elderly”, American Family Physician, 1999 May
TYPES OF INSOMNIA

• **Primary Insomnia**: trouble initiating sleep, non-restful sleep that impairs daytime functioning

• **Secondary Insomnia**: Attributable to primary sleep disorder (OSA, RLS, etc), medical condition, psychiatric condition, medication, psychosocial factors
ASSESSING INSOMNIA

- Low threshold for referral to polysomnography
- Screen for secondary causes
  - Medication Screen: B-Blockers, bronchodilators, steroids, decongestants, diuretics, etc.
- Sleep Diaries
  - Record time into/out of bed, number/length of awakenings, sleep satisfaction + times of caffeine, exercise, alcohol
  - Interview any bed partners
- Questionnaires
  - Pittsburgh Sleep Quality Index
  - Insomnia Severity Index
Nonpharmacologic Interventions

• Behavioral Treatment (Sleep Hygiene)\textsuperscript{2}
  • Reduce time in bed
  • Bed = Sleep
  • Consistent wake times
  • Eliminate/Reduce daytime naps
  • Environmental changes

• Cognitive Behavioral Therapy
  • Combinations of sleep hygiene, sleep restriction, stimulus control, and relaxation techniques to change maladaptive behaviors
  • Sessions once weekly for 4-8 weeks

• Light Therapy\textsuperscript{3}
PHARMACOLOGIC INTERVENTIONS TO AVOID

- Benzodiazepines -> avoid in the elderly
  - Increased half life in the elderly
  - Rebound insomnia
  - Associated with addiction, daytime sedation, dizziness and falls
- Non-Benzo Hypnotics -> avoid in elderly
  - Zolpidem (Ambien)
  - Zaleplon (Sonata)
  - Eszopiclone (Lunesta)
PHARMACOLOGIC INTERVENTIONS

- **Ramelteon**
  - Melatonin M₁ and M₂ agonist
- **Trazadone**
  - Non-tricyclic antidepressant with sedating properties
  - Side Effects: Drowsiness, GI disturbance, headache, hypotension, agitation
- **Suvorexant**
  - Orexin antagonist
NON-PRESCRIPTION INTERVENTIONS

• **Alcohol**-> avoid
  • Increases latency of sleep onset, decreases REM sleep initially then increases REM sleep rebound and causes early morning awakening

• **Antihistamines**-> avoid
  • Associated with cognitive impairment, daytime drowsiness, anticholinergic effects

• **Melatonin**
  • Needs more large-scale studies, but appears effective in circadian rhythm disturbances + improves sleep latency and quality, morning alertness, quality of life
  • Appear safe, but unregulated
The geriatric population has intrinsic changes in sleep architecture
Evaluate by ruling out causes of secondary insomnia + sleep diaries/questionnaires
Best intervention: sleep hygiene + CBT
Avoid: Benzos, non-benzo hypnotics, antihistamines, alcohol
Consider: Light therapy, trazadone, Ramelteon
Melatonin in the future


