REM SLEEP BEHAVIOUR DISORDER & TRAUMA: A CASE FROM THE PARKINSON’S CLINIC

Dr Alice Powell
Dr Christopher Blackwell
Professor Simon JG Lewis

Brain and Mind Centre, University of Sydney
• 66 ♂ RHD retired executive assistant

• Presented twice to BMC (2015, 2019) with increasingly distressing dreams
  • Thrashing, flailing arms, kicking and screaming – recalls most episodes
  • Recurrent theme of being chased

• First episode - son diagnosed with bowel cancer, second - family discord

• 2015: thought related to anxiety and antidepressant use – venlafaxine weaned

• 2019: highly anxious about underlying neurological condition – ED presentation with panic attack
PAST HISTORY

• Childhood physical abuse, traumatic incident 20s
• Lifetime anxiety
• Previous bouts of depression – venlafaxine until 2015
• Migraine, asthma, cataracts
• Ex-smoker, 7-14 SD/week (may under-report)

• Meds: citalopram 20mg, zopiclone/lorazepam/diazepam PRN, oestradiol patch, Symbicort inhaler
PHYSICAL EXAMINATION FINDINGS

• Highly anxious
• Slight interruption to left finger taps, subtly reduced left arm swing (stable since 2015)
• MoCA 29/30 (recall), neuropsychological testing within normal range
• Sniffin sticks 8/12 (#12 wrong)
• Colour discrimination slightly reduced
ADDITIONAL TESTING & INVESTIGATIONS

- Bloods, MRI unremarkable
- PSG 2019: increased EMG activity in REM with possible dream enactment
RBD & NEURODEGENERATION

• Loss of muscle atonia (RSWA on PSG), repeated sleep-related vocalisation and/or complex motor behaviours

• Involves degeneration of brainstem SLD glutamatergic neurons which usually generate muscle atonia in REM sleep

• Can be idiopathic (iRBD) or secondary: established neurodegenerative disease, narcolepsy, psychiatric illness, antidepressant use

• >90% of those with iRBD will go on to develop an alpha-synucleinopathy (PD, DLB, MSA) [1]
RBD & ANTIDEPRESSANT USE

- Strong link between psychiatric disorders (especially depression and antidepressant use) and RBD [2]
- Unclear whether pRBD is a distinct pathophysiological process or antidepressant use simply unmasks symptoms earlier [2]
- Lifetime diagnosis of depression associated with increased risk of PD (HR 6.8)
- SSRIs and SNRIs may induce transient RSWA but the phenomenon is not ubiquitous with antidepressant use (12.2% in one PSG study) [3]
- Risk of conversion to synucleinopathy in this population is unknown
RBD & TRAUMA – ‘TRAUMA ASSOCIATED SLEEP DISORDER’

- Dream enactment behaviour also reported in patients with PTSD (typically younger males)
- Dream content related to previous traumatic experiences
- Proposed amygdala hyperactivity and impaired frontal lobe activity in TSD contributed to by sleep deprivation
- PSG may demonstrate RSWA but also autonomic hyperarousal (tachycardia, tachypnoea, diaphoresis)
- Link between TSD and neurodegeneration unclear [4]
CONCLUSIONS & DISCUSSION POINTS

• iRBD is a recognised manifestation of an alpha-synucleinopathy with most older adults going on to develop an overt neurodegenerative syndrome
• Psychiatric illness and antidepressant use associated with secondary RBD but risk of neurodegenerative disease unclear in this population – more research needed
• Anxiety and depression are also recognised prodromal features of neurodegenerative disease

• For this patient:
  - Cannot give a label of iRBD, TSD is possible
  - Reassuring she has not developed other overt features of neurodegeneration but ongoing risk unclear
  - Transitioned to agomelatine
  - We will continue to monitor longitudinally
REFERENCES


RBD: DIAGNOSTIC CRITERIA

Box 2 | ICSD-3 diagnostic criteria for RBD

To obtain a diagnosis of rapid eye movement (REM) sleep behaviour disorder (RBD), the following criteria must all be met.

- Repeated episodes of sleep-related vocalization and/or complex motor behaviours.
- These behaviours are documented by polysomnography to occur during REM sleep or, based on a clinical history of dream enactment, are presumed to occur during REM sleep.
- Polysomnography demonstrates REM sleep without atonia.
- The disturbance is not better explained by another sleep disorder, mental disorder, medication or substance abuse.

TSD: DIAGNOSTIC CRITERIA

Table 1
Proposed diagnostic criteria for trauma associated sleep disorder.

1. Onset after combat or other extreme traumatic experience
2. A history of altered dream mentation that is related to prior traumatic experience
3. Self or witnessed reports of disruptive nocturnal behaviors (DNB) to include at least one of the following:
   a. Abnormal vocalizations
      i. Screaming or yelling
   b. Abnormal motor behaviors in sleep
      i. Tossing, turning, or thrashing
      ii. Combative behaviors such as striking bed partner
4. Symptoms of autonomic hyperarousal or polysomnogram (PSG) monitoring demonstrates one of the following:
   a. Tachycardia
   b. Tachypnea
   c. Diaphoresis
   d. If documented on PSG, these findings occur in association with rapid eye movement (REM) sleep without atonia or DNB, and are not due to sleep disordered breathing
5. PSG may demonstrate:
   a. REM sleep without atonia; “any” EMG activity index is variable
   b. Dream enactment behavior in REM sleep
6. Absence of electroencephalographic (EEG) epileptiform activity on PSG