P077

RELIABILITY OF THE CLINICAL CHARACTERIZATION OF ISOLATED REM SLEEP BEHAVIOR DISORDER

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Purpose: Compare agreements between polysomnography-based (PSG) diagnosis of isolated REM-sleep-behavior-disorder (iRBD) and Non-REM-Hypertonia (NRH), a novel biomarker independently associated with synucleinopathy-related neurodegenerative diseases.

Methods: Sixteen patients with histories of dream-enactment-behavior (DEB)(women=38%; age:64.6±13.0) underwent PSG with simultaneously-recorded Sleep Profiler (SP).

Two boarded sleep neurologists independently characterized iRBD. Physician1 combined abnormal qualitative REM-sleep-without-atonia (RSWA) by submental electromyography, with video-confirmation of probably DEB. Physician2 relied solely on qualitative RSWA. SP was auto-staged, technically reviewed, and reprocessed for automated abnormal NRH detection. Kappa scores measured physician and NRH agreements.

Results: In the 14 records with REM sleep, iRBD was characterized in: Physician1=64%, Physician2=79%, NRH=71% of the records. Across the three methods, unanimous iRBD agreement occurred in 57% of the records (positive=7, negative=1).

The between-physician agreement in iRBD classifications was fair (kappa=0.32). The agreement between NRH and Physician1 was moderate (kappa=0.52) versus slight with Physician2 (kappa=0.05). NRH comparisons to consensus physician agreement yielded one false-positive and one false-negative iRBD finding. Physician2 classified: a) iRBD in two cases that were negative by Physician1 and NRH, and b) one negative case that Physician1 and NRH characterized as iRBD. Physician1 identified one negative case that was classified iRBD by Physician2 and NRH. Additionally, NRH was abnormal in one of the two records with no REM sleep.

Discussion: NRH may assist in iRBD risk assessment, given it agreed with at least one physician in 86% of the cases and the between-physician iRBD agreement was only fair. NRH also characterized iRBD-risk in patients with insufficient REM sleep for RSWA assessment.

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ORAL APPLIANCE FABRICATION SETTINGS IMPACT TREATMENT EFFICACY

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Purpose: Assess the impact of custom oral appliance (CA) fabrication settings on treatment outcomes.

Methods: CPAP-intolerant patients completed a two-night home-sleep-apnea study (HSAT); Night1=baseline, Night2=Apnea Guard® trial appliance (AG). The AG vertical-dimension-of-occlusion (VDO) selection was based on tongue-scallop (women=5.5/6.5 mm, men= 6.5/8.0 mm), with a target protrusion of 70% from neutral-maximum while in situ.

Study1 CA VDO was dependent on sex (women=2.5 mm, men=5 mm), with protrusion set using a George-Gauge measured 70% from maximum retrusion-protrusion with dentist-directed titration. Study2 CA was fabricated to the AG VDO and target protrusion bite-registration.

Efficacy HSATs were conducted after completion of Study1 CA titration with vertical-elastics optional, and at the AG target protrusion with vertical-elastics mandatory in Study2. Statistics included Mann-Whitney, Chi-squared, and Bland-Altman analyses.

Results: The Study1 (n=84) and Study2 (n=46) distributions were equivalent for tongue-scallop (64/63%) and sex (women=45/41%), however, noted differences in age (53.8±11.9 vs. 58.4±12.2; P=0.052), body-mass-index (29.4±5.7 vs. 27.8±4.0; P=0.128) and pre-treatment AHI severities (24.6±14.4 vs. 29.2±17.4 events/h; P=0.155) were observed.

The Bland-Altman biases were significant different (Study1=4.2±7.8 vs. Study2=1.3±7.0 events/h, P=0.035). The significant Study1 differences between the CA vs. AG AHIs (12.3±9.2 vs. 8.2±5.9 events/h, P<0.0002) were not apparent in Study2 (11.7±8.0 vs. 10.4±6.7 events/h, P=0.362), however, the Study2 AG AHI values were higher (P=0.055).

Discussion: Despite the trend toward greater Study2 pre-treatment and AG AHI severities, CA treatment efficacy was equivalent to the AG once VMO was controlled and fabricated using the AG VDO and protrusion bite-registration. These findings confirmed CA fabrication settings impact treatment outcomes.

P079

EFFECT OF SLEEPWEAR FIBRE TYPE ON MENOPAUSAL SLEEP QUALITY – STUDY PROTOCOL AND PRELIMINARY DATA

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Introduction: Vasomotor symptoms and sleep disturbances are common in menopausal women. Different fabric types affect thermal comfort through moisture absorption and thermal insulation. This study examined the impact of cotton and wool sleepwear on menopausal women's sleep quality.

Methods: This is a randomized, crossover, repeated-measures and triple-blinded trial comparing the sleep quality and vasomotor symptoms of healthy menopausal women between cotton and wool sleepwear at 30°C, 50% relative humidity. Participants undergo 6 laboratory visits. After a screening visit and a familiarization night, participants are randomized to 4 nights (2 nights in cotton and 2 nights in wool sleepwear) during which polysomnography and actigraphy recordings are taken including objective hot flush events, room temperature and relative humidity measurements, as well as subjective questionnaires on clothing comfort, mood and vasomotor symptoms.

Results: Eleven participants (age 51.2±4.7 years, BMI 26.8±2.9 kg.m-2, Insomnia Severity Index 11.1±5.5) completed all six visits so far. Reasons for exclusion: 3 didn't have vasomotor symptoms; 1 on HRT, 5 had severe sleep disturbances, 3 on medications, 4 had diabetes, 1 asthma, and 1 had BMI>30. All sleep-related outcomes are pending analysis (blinding).

Discussion: Recruitment is a major study challenge. Many participants found it hard to arrange a time to attend overnight studies due to family/work commitments. The COVID-19 pandemic changed people's attitude as some were hesitant to attend

the laboratory. Menopause transition status is an important time during women's lifespan. Effective management, e.g., through appropriate sleepwear, would be helpful to improve menopausal women's symptom and quality of life.

P080

AN EMBEDDED PATHWAY TO MANDIBULAR ADVANCEMENT SPLINT (MAS) CONSTRUCTION IN A TERTIARY HOSPITAL REDUCES BARRIERS TO CARE FOR LOW-INCOME INDIVIDUALS

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Introduction: The aim of this study was to report the outcomes of patients referred within and to a tertiary hospital dental unit for subsidised construction of a MAS over a 5-year period.
Methods: Medical records of patients referred from 2015–2020 were examined for reason for referral, details of diagnosis, pathway to diagnosis, treatment, compliance, clinician-reported and lab-based outcomes and follow-up reviews.
Results: One hundred patients referred from: The Hospital Sleep Unit 40, other Tertiary Hospitals 27, Private Sleep Clinics 13, Medical GPs 10. 76 patients were confirmed health care card holders. 30 patients did not proceed for reasons of cost or poor oral health. 59 patients were newly fitted with a MAS (27F,32M), 17 severe, 21 moderate, 17 mild OSA, mean age 52.9(+13.9) years, BMI 30.2(+6.3) kg/m2, ESS 11.4(+5.3). 22 of 36 patients with serial ESS scores had excessive daytime sleepiness upon initial presentation. 15/22(68%)($p<0.005$) of patients had resolution of their excessive daytime sleepiness following MAS wear. 8/15(53%) of patients had a subsequent AHI <50%. 33 patients (56%) continued MAS wear, mean follow-up time 13.8(±14.6) months with an average of 5.8(+3.0) visits. 6 were lost to follow up, 20 patients (33%) ceased MAS wear with 10(50%) of these stopping because routine dental treatment affected the device fit or discomfort later developed.
Conclusion: Subsidised expert construction of MAS embedded in a tertiary hospital is a well-utilised and effective service which reduces barriers for patients. The referrals to this service appear to be appropriate, with most patients proceeding to MAS construction.

P081

ASSESSMENT OF CHANGE IN PALATOGLOSSUS LENGTH WITH MANDIBULAR ADVANCEMENT AND RELATIONSHIP TO RESPONSE TO MANDIBULAR ADVANCEMENT SPLINT THERAPY IN OBSTRUCTIVE SLEEP APNOEA

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Background: The palatoglossus is a muscle of the soft palate extending from the palatine aponeurosis inferolaterally along the pharyngeal wall inserting at the posterolateral surface of the tongue. Palatoglossal stimulation dilates the retropalatal space in subjects with obstructive sleep apnoea (OSA). Whether there is alteration in palatoglossus length during mandibular advancement and how this relates to Mandibular Advancement Splint (MAS) outcomes is unknown.
Methods: Participants with OSA referred for MAS underwent upper airway MRI with and without mandibular advancement. The linear distance between the origin of the palatoglossus muscle at the palatine aponeurosis and its insertion at the tongue was measured to approximate palatoglossus length. The difference in measured lengths with and without mandibular advancement was calculated. Change in palatoglossus with advancement was compared to treatment outcomes.
Progress to date: 71 participants with mean±SD AHI 26.0±16.1 events/hr were included in our study. Mean±SD palatoglossus length was 49.58±5.74mm. With mandibular advancement, mean±SD palatoglossus length was 51.21±5.46mm this was a significant change in length of mean±SD 1.63±4.3mm. This was a mean±SD 4.79±9.08% alteration in length with mandibular advancement. Treatment response was not significantly related to change in palatoglossus length ($p> 0.05$).
Intended outcome and Impact: Our intention was to demonstrate significant length alteration in palatoglossus with mandibular advancement and correlate this to treatment outcome. This may highlight palatoglossus as a target for MAS or other OSA therapies for future clinicians.

P082

GENDER MODERATES THE EFFECTS OF TOTAL SLEEP DEPRIVATION AND SLEEP RESTRICTION ON RISK PREFERENCE

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Introduction: Total sleep deprivation (TSD) affects risk preference in decision-making. However, little work has examined the effects of sleep restriction (SR), or the potentially moderating role of gender, on risk preference. Here, we investigate the effects of TSD, SR, and gender on risky decision-making.
Methods: 47 healthy adults (age=24.57±5.26 years, 24F) were randomly assigned to either of 2 counterbalanced protocols: 1) well-rested (WR: 9-hours time-in-bed for 6 nights) and 30hours TSD; or 2) WR and SR (4-hours time-in-bed for 4 nights). Participants performed the Lottery Choice Task (LCT) on the last day of each week. LCT requires a series of choices between two risky gambles with different risk levels. In one block, participants sought to maximise monetary gain (GAINS), and in another block, they sought to minimise losses (LOSSES). A trial-level analysis evaluated participants' likelihood of choosing the "safer" gamble under influence of each sleep condition.
Results: The version*condition*gender interaction was significant. GAINS: everyone became more risk averse during TSD. Females also became more risk averse during SR, but males did not. LOSSES: everyone became more risk seeking during SR. During TSD, females became relatively more risk averse, while males became relatively more risk seeking.
Conclusion: TSD and SR had similar impacts on risk preference. However, gender moderated some effects. Women generally became more risk averse during sleep loss for both GAINS and LOSSES. Men were more risk averse for GAINS and risk seeking for LOSSES. This has implications for real-world situations where individuals are required to make risky decisions.