P21 NEURODEVELOPMENTAL DISORDERS AND INSOMNIA: OUTCOME OF SLEEP-PRACTITIONER INTERVENTION ON SLEEP, WELLBEING AND MEDICATION PRESCRIBING

[1]Heather Elphick*, [2]Louis Stokes, [3]Vicki Beevers, [4]Heidi Taylor. [1]*Sheffield Children's Hospital, Western Bank, UK*; [2]*University of Sheffield, Sheffield, UK*; [3]*The Sleep Charity, Doncaster, UK*; [4]*South Yorkshire Integrated Care Board, Sheffield, UK*

10.1136/bmjresp-2023-BSSconf.32

Over 80% children with neurodevelopmental diagnoses have sleep difficulties, including bedtime resistance, night-time awakenings and shortened sleep duration (McDonald 2019). The impact on the wellbeing of the child and family can be considerable. Behavioural interventions can be highly effective (Elphick 2019) but many children in the UK are prescribed melatonin due to inconsistent access to trained sleep practitioners.

The study aimed to support children with neurodevelopmental problems to develop long-term strategies for promoting sleep, in turn improving the health and well-being of the child and family and to reduce drug prescriptions where not needed.

A longitudinal randomised case control study with delayed intervention in the control arm was carried out with children aged 4–11 years with a neurodevelopmental condition who had been taking melatonin for at least 12 months for severe sleep disturbance. Each child's parents/carers received support from a trained sleep practitioner for 8 weeks.

Melatonin was actively weaned or stopped. Evaluation of sleep and wellbeing parameters was completed at 3 timepoints.

32 participants were recruited and randomised; 20 completed the intervention and evaluation at all 3 timepoints. From baseline to final evaluation, time to settle to sleep improved from 137.9 to 81.7 minutes ($p<0.05$); mean total CSHQ score improved from 55.8/99 to 46.7/99 ($p<0.05$); mean total wellbeing scores improved from 18.8/30 to 13.8/30 (child - $p<0.05$); and from 22.1/45 to 17.9/45 (parent - $p<0.05$); mean quality of life score (CHU 9D) improved from 18.8/45 to 13.8/45 ($p<0.05$); mean total SDQ score improved from 22.3/40 to 19/40 ($p=0.052$). 42% participants stopped melatonin and a further 35% reduced the dose. Cost savings for melatonin prescriptions was equivalent to £5,937.48/year for the 26 patients analysed ($p<0.05$).

We suggest that, even in a complex group of children, a non-pharmacological approach to sleep support delivers an effective, sustainable alternative to melatonin prescribing.

P22 UNDIAGNOSED OBSTRUCTIVE SLEEP APNOEA IN THE PERIOPERATIVE PERIOD: PREVALENCE AND MANAGEMENT

Tom Chambers*, Rachel Solomons, Prina Ruparelia. *Barts Health Nhs Trust, London*

10.1136/bmjresp-2023-BSSconf.33

Introduction Obstructive sleep apnoea (OSA) is common and significantly underdiagnosed. It increases the risk of type two diabetes, cardiovascular disease, and death, and treatment with continuous positive airways pressure (CPAP) reduces these risks.[1]

Patients with OSA are at significantly increased risk of perioperative complications and treatment with CPAP therapy reduces these risks.[2]

Opportunities to identify and treat patients with OSA should be taken whenever possible.

Methods We designed a pathway to identify high risk patients who were undergoing major surgery (figure 1). Patients underwent a home sleep study using peripheral arterial tonometry technology (WatchPAT®ONE).

Project aims 1) Assess prevalence of undiagnosed OSA in high risk patients in the perioperative period

2) Identify patients for perioperative multidisciplinary team (MDT) discussion regarding surgical risk

3) Initiate long term management of OSA

Results In 14 months between 17/02/22 and 17/04/23, 91 patients were identified as high risk and underwent a home sleep study. Of these, 69 (75.8%) were newly diagnosed with OSA, with 43 (47.3%) being diagnosed with moderate or severe OSA.

Newly diagnosed patients were discussed by the MDT regarding risks of surgery. Patients with moderate or severe OSA were seen urgently in clinic for review and initiation of CPAP therapy.

Discussion Undiagnosed OSA is a significant burden in the perioperative period. The pre-operative period is an optimum time to screen, diagnose, and treat patients. As well as highlighting patients at increased surgical risk, long term

Abstract P22 Figure 1 Pathway for screening and diagnosis of high risk patients. BMI = body mass index (kg/m^2). STOPBANG = screening questionnaire. AHI = apnoea hypopnoea index. ODI = Oxygen Desaturation Index. OSA = obstructive sleep apnoea

management of patients can be initiated, thus reducing long term negative health outcomes.

REFERENCES

1. Dodds S, Williams LJ, Roguski A, Vennelle M, Douglas NJ, Kotoulas SC, *et al*. Mortality and morbidity in obstructive sleep apnoea-hypopnoea syndrome: results from a 30-year prospective cohort study. *ERJ Open Res [Internet]*. 2020 Jul;**6**(3). Available from: http://dx.doi.org/10.1183/23120541.00057-2020
2. Berezin L, Nagappa M, Poorzargar K, Saripella A, Ariaratnam J, Butris N, *et al*. The effectiveness of positive airway pressure therapy in reducing postoperative adverse outcomes in surgical patients with obstructive sleep apnea: A systematic review and meta-analysis. *J Clin Anesth*. 2023 Feb;**84**:110993.

P23 EVALUATION OF THE MANAGEMENT OF PATIENTS WITH DIAGNOSIS OF IDIOPATHIC HYPERSOMNOLENCE BY SHEFFIELD CHILDREN'S HOSPITAL SLEEP SERVICE

Emily Jenkins*, Heather E Elphick, Janine Reynolds, Ruth Kingshott, Kelechi Ugonna. *Sheffield Children's Hospital, Sheffield, UK*

10.1136/bmjresp-2023-BSSconf.34

Introduction Idiopathic Hypersomnolence (IHS) is a chronic neurological condition marked by an insatiable need to sleep, not eased by a night's slumber.[1] It's a diagnosis of exclusion and patients will have had cerebrospinal fluid hypocretin levels measured to rule out narcolepsy. It is a difficult condition to manage, requiring optimal multidisciplinary team input.

The service evaluation will identify patients from 2012–2022 in the sleep service with a diagnosis of IHS to see if they have been managed appropriately in the view of standardising and improving future care.

Methodology Patient diagnosis and management data was collected retrospectively from sleep study results and electronic patient records. All patients with a diagnosis of IHS or idiopathic hypersomnia in the past 10 years were included.

Results From 2012–2022, 12 patients were found to have intermediate hypocretin levels (>110 but <200pg/mL). Sex ratio 5:1 (M:F) and mean age 9.1 years at referral.

Only 50% had a full set of sleep studies, including Full Polysomnogram (PSG), Multiple Sleep Latency Test (MSLT) and actigraphy (figure 1). Data showed none of the patients had the complete list of blood tests recommended (including Haemoglobin, Ferritin, Vitamin D and Thyroid Function).

Study limitations include retrospective analysis, small numbers, and the fact that investigations may have been performed elsewhere prior to referral.

Discussion This study highlighted that the clinical pathway needs refining to ensure children with IHS are correctly investigated to rule out other causes of excessive sleepiness and improve subsequent management. This may decrease the amount of unnecessary invasive investigations.

Recommendations include integrating clear cut clinical pathways incorporating all 3 sleep studies and blood tests to ensure optimal management will be a suggestion locally from the project.

REFERENCE

1. Anon. About Idiopathic Hypersomnia [online]. Hypersomnia Foundation. Revised Feb 2022. [Accessed 08/09/2022]. https://www.hypersomniafoundation.org/ih/

P24 A PILOT PATHWAY USING HOME RESPIRATORY POLYGRAPHY WITH WATCHPAT AS A FIRST LINE INVESTIGATION FOR OBSTRUCTIVE SLEEP APNOEA IN PATIENTS UNDER THE AGE OF 40

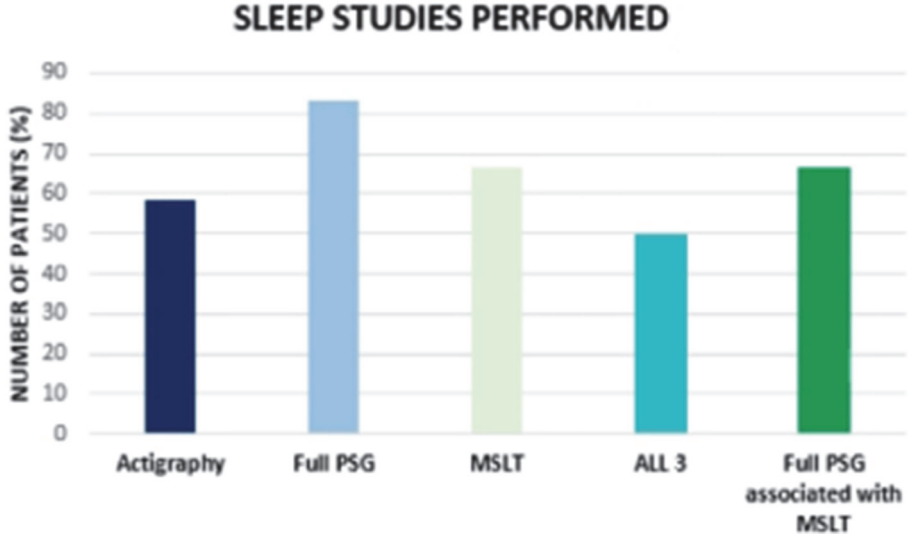
Nicholas Budhram*, Emily Eavis, Laura Buckley. *Bristol Sleep Unit, Bristol*

10.1136/bmjresp-2023-BSSconf.35

Introduction Rising demand for sleep services requires our service to integrate newer, more efficient respiratory polygraphy technology into our diagnostic pathways.

An initial audit of 103 patients showed that 50% of our patients aged <40 years required respiratory polygraphy or full polysomnography (PSG) despite oximetry and clinical review. In contrast, only 16% of patients aged ≥40 years required further investigation to reach a definitive management decision.

Methods We undertook a service improvement project to assess the impact of using respiratory polygraphy (WatchPAT) as the initial diagnostic test in patients aged <40. The outcomes evaluated were: number of appointments needed to reach a definitive management plan, cost effectiveness, and



Abstract P23 Figure 1