

Introduction

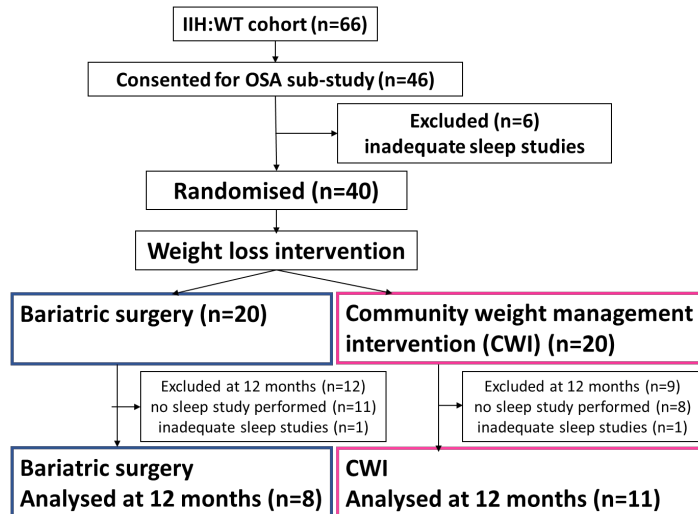
- Obesity is a risk factor for idiopathic intracranial hypertension (IIH) and obstructive sleep apnoea (OSA) (1, 2).

Objectives:

- We aimed to determine the prevalence of OSA in IIH.
- Evaluate the diagnostic performance of OSA screening tools in IIH.
- Evaluated the relationship between weight loss, OSA and IIH over 12 months.

Methods and Study Flow

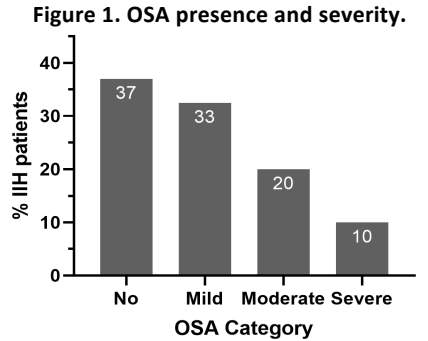
- A sub-study of a multi-centre, randomised controlled parallel group trial comparing the impact of bariatric surgery vs. community weight management intervention (CWI) on IIH-related outcomes over 12 months (IIH:WT) (1, 3).



- OSA was assessed using home-based polygraphy (ApneaLink Air, ResMed) at baseline and 12 months.
- OSA was defined as an apnoea-hypopnoea index (AHI) ≥ 15 or ≥ 5 with excessive daytime sleepiness (Epworth Sleepiness Scale ≥ 11) (2).

Results

Table 1. Baseline Characteristics	Median (IQR)
Total cohort, No. (All Female)	40
Age (years)	30.2 (27.0, 34.8)
Body mass index (kg/m ²)	43.5 (38.7, 48.0)
Intracranial pressure (cmCSF)	34.5 (29.3, 39.0)
OCT global peripapillary retinal nerve fiber layer thickness (μ)	123.0 (98.0, 206.0)
OCT optic nerve head central thickness (μ) (n=27)	617.0 (517.0, 784.0)
Visual field perimetric mean deviation (dB)	-2.3 (-3.7, -1.5)
Apnoea-hypopnoea index (AHI)	7.6 (4.3, 16.0)



- OSA prevalence based on the AASM criteria was **47% (n=19)** and AHI ≥ 5 was noted in 25 (63%) IIH patients (**Figure 1**).
- The **STOP-BANG** had the **highest sensitivity (84%)** compared to the Epworth Sleepiness Scale (69%) and Berlin (68%) to detect OSA.
- Bariatric surgery** resulted in **greater reductions** in AHI vs. CWI (median [95%CI] -2.8 [-11.9, 0.7], $p=0.017$) (**Figure 2**).
- Over 12 months there was a **positive association** between changes in papilloedema and AHI ($r=0.543$, $p=0.045$), despite adjustment for changes in the body mass index ($R^2=0.522$, $p=0.017$) (**Figures 3A, 3B**).

Figure 2. AHI in patients with IIH comparing CWI and bariatric surgery (*, $p < 0.05$).

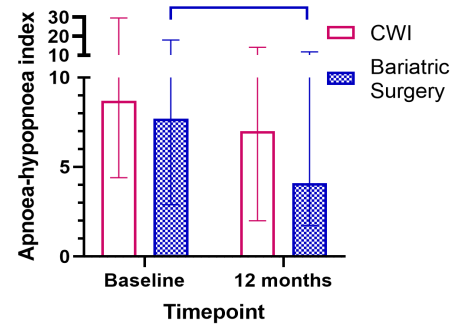
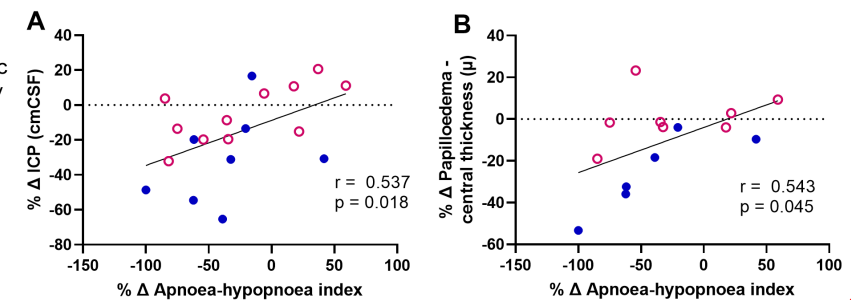


Figure 3. A and B percentage change (Δ) of AHI against percentage change (Δ) in intracranial pressure and OCT central thickness in IIH patients.



Conclusion

- This was the largest prospective study assessing OSA status in a cohort of IIH patients.
- OSA is common in IIH and the STOP-BANG questionnaire was the most sensitive screening tool.
- Bariatric surgery improved OSA in patients with IIH.
- OSA might be associated with worse IIH outcomes and improvements in OSA severity were associated with improvements in papilloedema.