Mild but Not Minor: Investigating the Clinical Burden of MAA Use in Mild Obstructive Sleep Apnoea

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Background

- Obstructive sleep apnoea (OSA) is highly prevalent and associated with reduced quality of life, excessive daytime sleepiness and increased healthcare use.
- Severity is typically classified using the Apnoea-Hypopnoea Index (AHI), but this does not reflect symptoms or burden – patients with the same AHI can experience very different symptom burden and treatment needs.
- Despite this, mild OSA is often assumed to be low-burden[1, 2], leading to delayed recognition and undertreatment.
- The MERGE trial showed that treating mild OSA with continuous positive airway pressure (CPAP) significantly improves quality of life and daytime sleepiness symptoms[3], challenging the assumption that mild OSA carries little clinical significance.
- In clinical practice, mandibular advancement appliances (MAA) are frequently offered as first-line therapy for mild OSA.
- However, the clinical burden of MAA in this group – defined as both symptom burden and treatment burden – remains poorly understood, highlighting the need for closer evaluation to guide treatment choices and optimise patient care.

Aims

- ✓ To compare the symptom burden of mild OSA with moderate and severe disease.
- ✓ To evaluate the treatment burden of OSA, focusing on healthcare utilisation and treatment type (CPAP vs MAA).
- ✓ To determine the contribution of MAA to treatment burden in mild OSA.

Methods

- This was a retrospective observational study at King's College Hospital Sleep & Ventilation Clinic.
- Consecutive new patients seen between May-September 2023 were included if they had a confirmed OSA diagnosis and completed baseline questionnaire.
- Severity was defined by AHI: mild (5-14), moderate (15-29), and severe (≥30).
- Patient records were reviewed for one year after the first clinic visit.
- Key outcomes assessed were:
  - Symptom burden: core OSA symptoms (snoring, daytime tiredness, waking unrefreshed and nocturnal choking) and the Epworth Sleepiness Scale (ESS)
  - Treatment burden: treatment type (CPAP vs MAA) and healthcare utilisation during follow-up

Results

The Symptom Burden

- Core OSA symptoms were highly prevalent across all severities, with no clear gradient by AHI
- Excessive daytime sleepiness (ESS≥11) was common in all groups
- Mild OSA patients had symptom burden comparable to moderate and severe patients

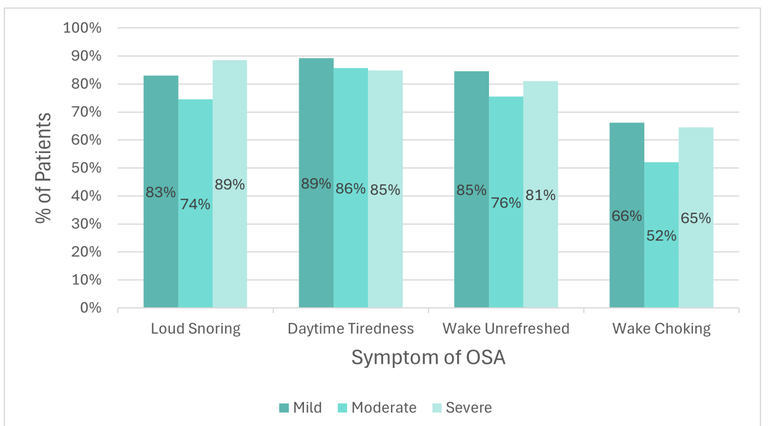

Figure 1. Core OSA symptoms by severity

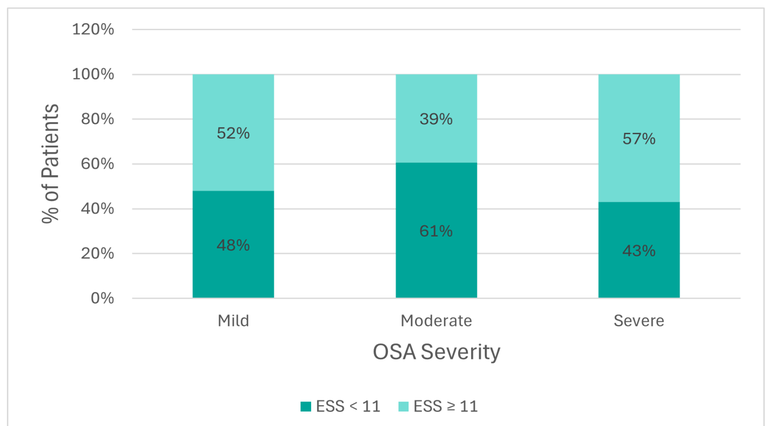

Figure 2. ESS distribution by severity

The Treatment Burden

- Patients on MAA had significantly more follow-up appointments than CPAP patients (p<0.001)
- Mild OSA patients attended more appointments than moderate or severe groups (p<0.001)
- Both MAA use and mild OSA are associated with a greater healthcare burden

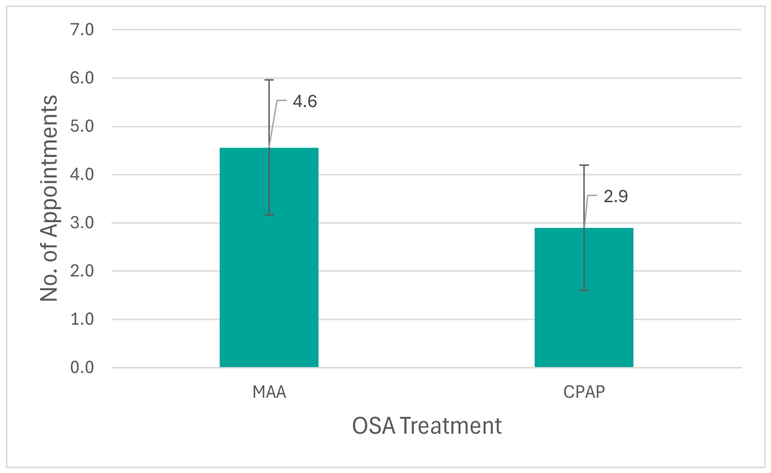

Figure 3. Appointment engagement by treatment type

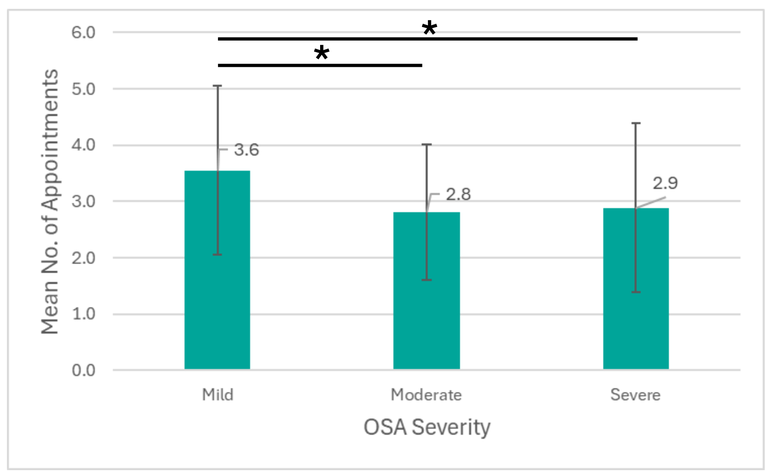

Figure 4. Appointment engagement by severity

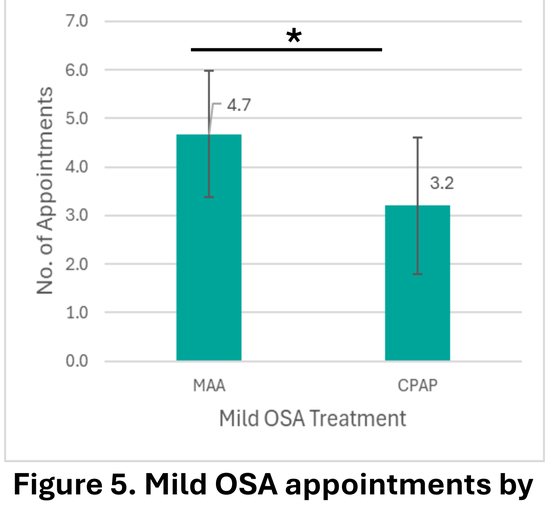

Figure 5. Mild OSA appointments by treatment type

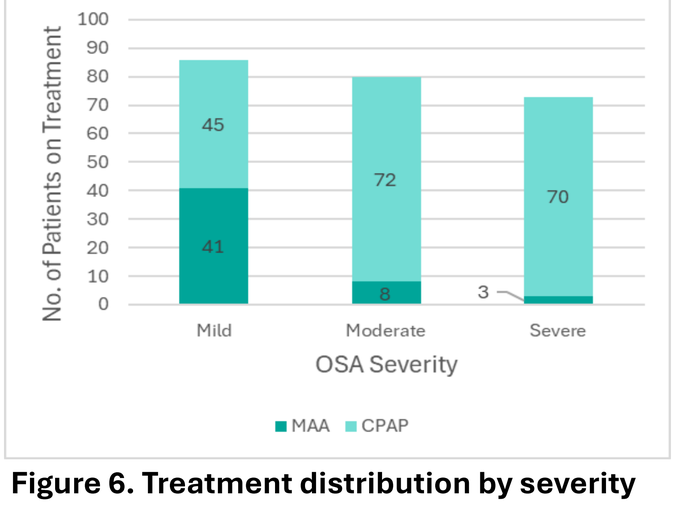

Figure 6. Treatment distribution by severity

Mild OSA in Focus

- Within mild OSA, MAA patients attended more appointments than CPAP patients (p<0.001)
- MAA was prescribed more frequently in mild OSA compared with other severities
- The greater treatment burden in mild OSA is largely driven by MAA use

Conclusions

- ➢ Mild OSA patients report symptoms at levels comparable to moderate and severe patients – mild OSA is therefore clinically significant and not 'mild'
- ➢ MAA use in mild OSA is common but is associated with a higher treatment burden, with a greater healthcare utilisation than patients using CPAP
- ➢ These findings highlight the need to define the role of MAA in mild OSA and evaluate whether the additional treatment burden placed on patients is justified

References

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