Auto-PAP in treating OSA

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Introduction

Obstructive sleep apnea (OSA) is becoming a common sleep disorder in developing countries due to sedentary lifestyle and disturbed sleep architecture. Once the patients are diagnosed with moderate to severe sleep apnea, various modes of ventilation can be used as treatment option. APAP is one such mode of ventilation commonly used. However treatment outcomes depend on the adherence to the therapy. There are various factors that prevent the adherence to the therapy. If we are able to identify these factors and are able to overcome them we can efficiently improve the treatment outcomes.

Aims and objectives:

1. To study the efficacy of APAP in OSA patients
2. To study the adherence and treatment outcome in OSA patients on APAP

Material and methods

Sample size: 50 OSA patients

Inclusion criteria

1. Patients with AHI ≥15
2. Patients aged 20 years and above
3. Patients with ESS score ≥11
4. Patients with BMI≥30

Exclusion criteria

1. Patients unable to consent.
2. Patients with CNS Lesions (Stroke) and unable to follow commands and those taking Psychiatric medications (eg lorazepam, diazepam, sodium valproate, clonazepam,etc)
3. Patients with recent history of myocardial infarction (< 3 months)

Methodology

We sequentially grouped patients based on APAP efficacy (adequatly vs. inadequately treated; inadequately treatment defined as residual AHI of ≥ 10), APAP usage (sufficient vs. insufficient, insufficient defined as < 50% usage for ≥ 2h/night) and therapy outcomes (optimal vs. non optimal and non optimal outcomes defined as non adherence e and satisfaction. We subsequently compared each group.

Results

1. Study population was male predominated with 56% males and 44% females
2. The adequately treated were older (56.8 ± 9.7 vs. 40.4 ± 13.1 years, $p < 0.01$) and had lower BMI (31.9 ± 6.3 vs. 37.9 ± 9.1 kg/m2, $p < 0.01$.
3. The adequately treated had higher baseline central apnea indices (CAI), longer leaks, higher peak pressures, and were less compliant.

4. The insufficient APAP usage was seen in younger (51.7 ± 11.6 vs. 55.5 ± 13.2 years, $p = 0.03$) and comprised more females (56.1 vs. 43.9%, $p = 0.04$).

5. The leak duration per usage hour was higher in the non-adherent group (median:1.1; IQR 8.4 vs. median: 0.2; IQR 1.7 min/h; $p < 0.01$.

6. Leak duration was the common factor associated with treatment effectiveness and optimal therapy outcomes.

7. Overall APAP satisfaction was average with 30% patients not able to continue APAP therapy

Conclusion

APAP is a good mode of ventilation in especially in older OSA patients. However the overall satisfaction with APAP was average with 30% of our study subjects not able to continue the therapy.

Table 1: APAP adherence data

Sr. no.:	Adherence measure	Value
1.	Sufficiently treated (defined as ≥ 4 hours of use on 70% of nights in consecutive 30 day period in first 90 days of therapy)	35
2.	Device usage (hours/session)	6
3.	Daily usage (hours/night)	5
4.	Propertion of days with net zero usage %	2

References

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