Feasibility of a positional therapy protocol in positional OSA

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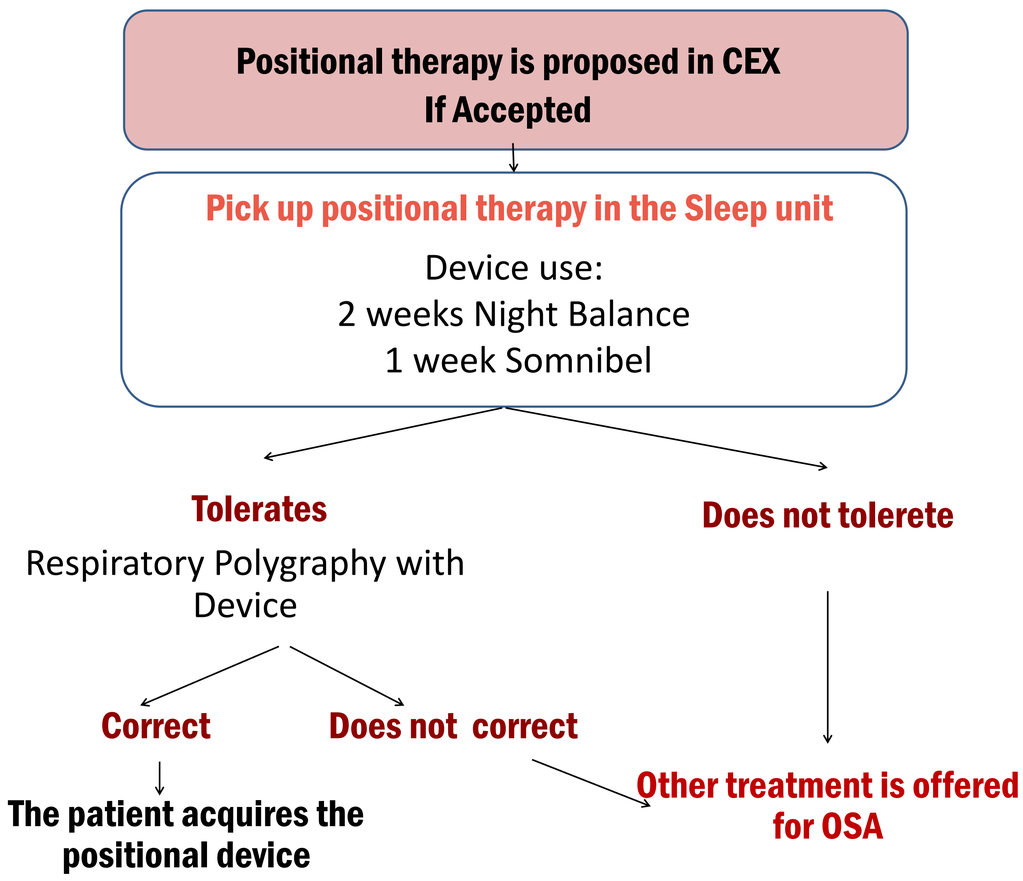
INTRODUCTION

Positional therapy (PT) is indicated as first-line treatment for positional obstructive sleep apnea (POSA) in supine isolated OSA (siOSA), defined as non-supine AHI < 5 events per hour and POSA patients who can not tolerate first-line treatments. The objective of the study was to assess the feasibility of our center protocol to assess the response to treatment with PT



METHODS

Retrospective observational study in patients with POSA and indication for PT who were recruited in the sleep unit from January 2019 to November 2022. The protocol consisted in carrying out a trial period with PT in patients who accepted its use. Two devices were used (Somnibell© or Nightbalance©). Patients who tolerated therapy in that period underwent respiratory polygraphy (RP) with PT. In case OSA was considered corrected after norcturnal RP the device was offered as treatment.

RESULTS

31 patients were included with an age of 58 (8) years, 13% women, BMI 28 (3.5), AHI 18.5 (14-25), Supine AHI 47 (24), non-supine AHI 7.5 (4-15), study time in supine 39.7% (27). Only 17 (55%) of the 31 patients who tried the device tolerated it or expressed the intention to bought it. Table 1 describes the results of the control RP with PT. Patients significantly improved AHI, supine AHI, and time in supine position. The distribution by AHI severity was: 35% AHI<5, 41% AHI 5-15, 24% AHI 15-30. During follow-up, 8 patients (47%) acquired the device, although currently only 5 (29%) patients continued with the treatment .

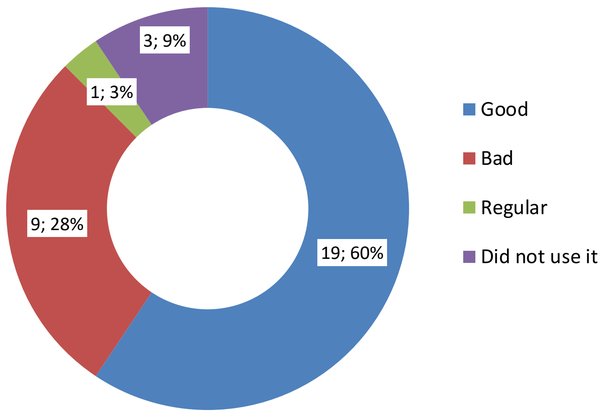


Figure 1: Baseline variables (N:31): Tolerance after the trial period

Positional therapy data	N 31
Use time/d (h), mean (SD)	7,5 h (1,3)
Average number of nights, median (q25-q75)	7 (5-7)
Median number of postural changes (q25-q75)	5,5 (2,3-9,8)
Number of activations mean median (q25-q75)	5,5 (2,3-9,8)
% T not supine median (q25-q75)	97,4 (95-99)
% T supine median (q25-q75)	2,3 (11-4,6)

Table 1: Positional therapy data during the trial period

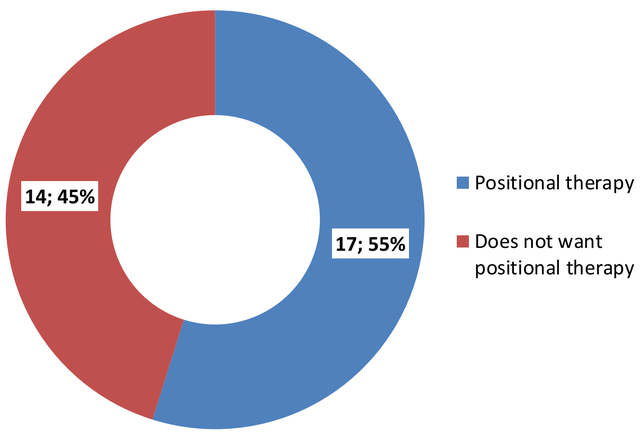


Figure 2: Baseline variables (N:31): Patients who wanted positional theray after trial

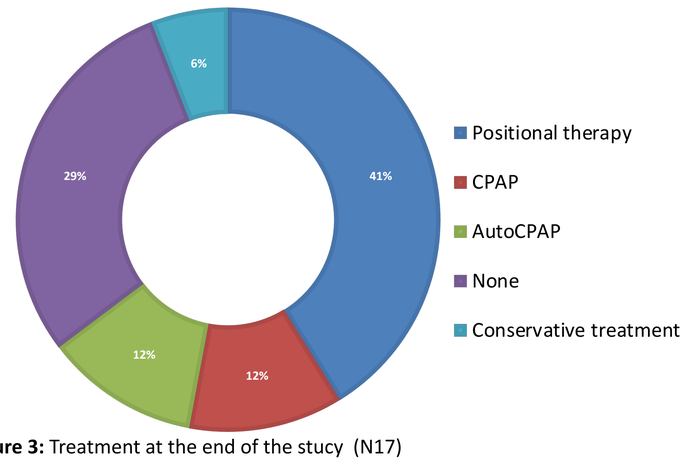


Figure 3: Treatment at the end of the stucy (N17)

Respiratory variables (N 17)	Baseline	Positional therapy	Difference (SD)	p
AHI (events/h) mean (SD)	20.5 (9)	9.5 (7)	-11 (9)	**<0.0001**
Supine AHI (events/h), mean (SD)	46.8 (22)	19 (11)	-28 (23)	<0.0001
Non supine AHI (events/h) mean (SD)	9.7 (7)	7.5 (7)	-2 (9)	0.318
Apneas/h, median (q25-q75) *	4.2 (0.8-9)	1.3 (0.6-4.3)	1.4 (24)	0.806
% saturation time below 90%, median (q25-q75) *	1.4 (0.1-5.1)	1.2 (0-6.9)	-1,46 (17)	0.938
% PR Study dime in supine, median (q25-q75) *	39.7 (26.5)	12 (3-24)	-23 (25)	**0.001**
Epworth, median (q25-q75)*	10 (9-14.7)	9 (3.5-12.75)	2.5 (2.5)	**<0.001**
AHI %				
<5	0%	35%		
5-15	23%	41%		
15-25	71%	24%		
>30	6%	0%		**0.001**

Table 2: 17 patients who accepted PT **before/after positional therapy** comparison variables

CONCLUSION

The protocol used in PT in our center is feasible and saves control RP in patients who initially do not tolerate treatment. PT was effective in POSA patients who tolerate PT. On the other hand, the number of patients who do not tolerate the treatment and who do not want to acquire the device is not negligible. In addition, during follow-up, many patients stop treatment.

REFERENCES

1. O. Mediano, N. Gonzalez Mangado, J.M Montserrat et al., Documento internacional de consenso sobre la apnea obstructiva del sueño, Archivo de Bronconeumología Archivos 58 (2022) 52–68

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