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Does physician education of alternative therapies for obstructive sleep apnea improve utilization?

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Background

The rate of CPAP compliance has ranged from 29-83% in the literature. Alternative strategies including oral appliances, body positioning devices, and surgery need to be considered for those patients intolerant to CPAP.

In August 2014, we performed our first upper airway stimulator (UAS) insertion. This is a new technology for use in patients with OSA unable to tolerate CPAP that induces muscle tone at the base of tongue and palate during sleep, thus relieving obstruction.

We hypothesize that after institution of a UAS program, sleep physician education, and readily available literature, the utilization of alternative therapies for patients unable to tolerate CPAP would improve.

Methods

We conducted a retrospective chart review of patients in the Jefferson Sleep Disorder Center (JSDC) consisting of 2 cohorts of patients. The first was a group of patients undergoing PSG in March, 2014 prior to institution of the UAS program. The second was a cohort of patients undergoing PSG in July 2016 after institution of the UAS program, positive initial results, readily available literature in the JSDC, and a physician in-service including details of the procedure and outcome, quality of life, and complication rate data.

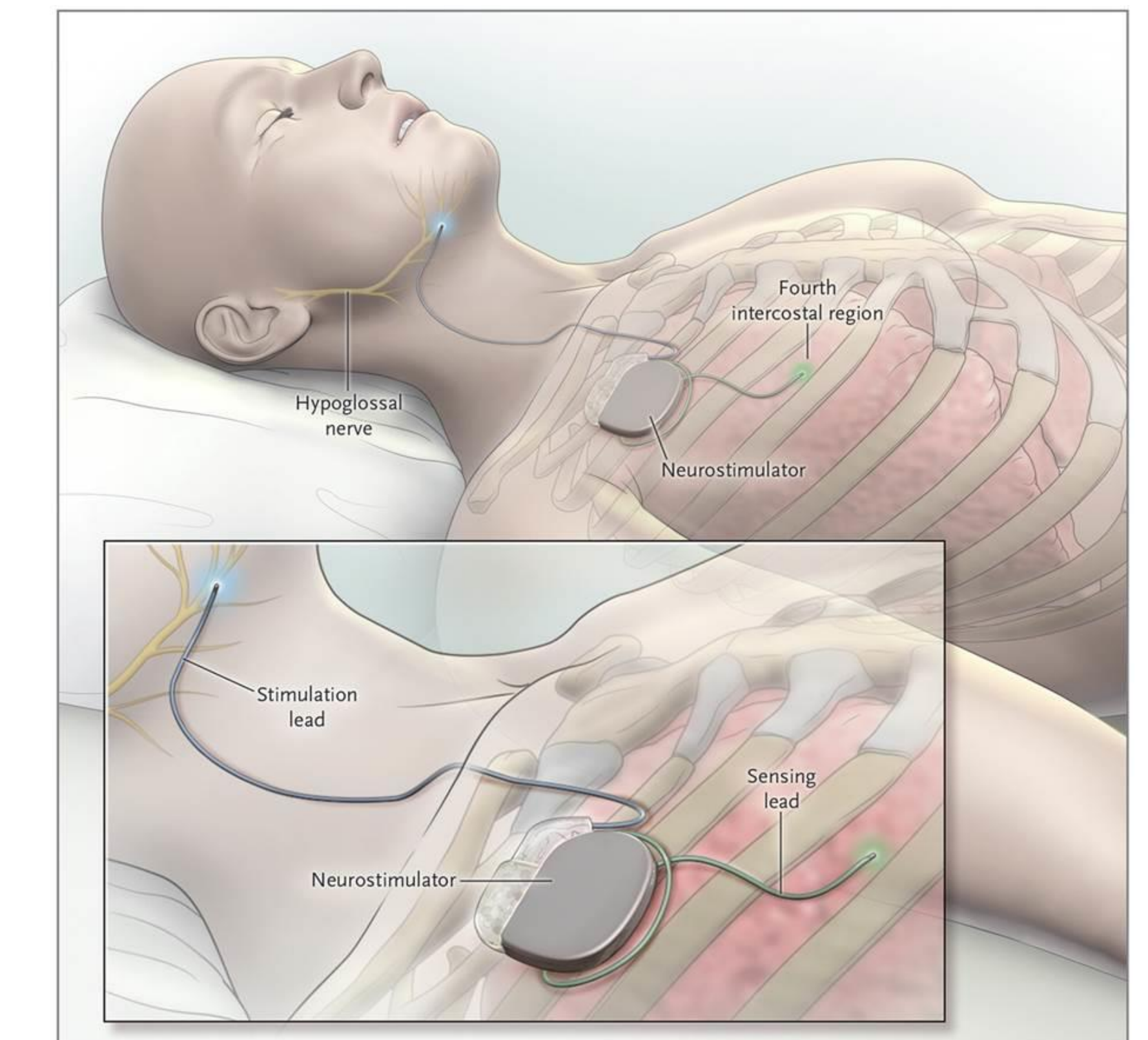
We collected demographic and PSG data. We then reviewed the electronic medical record and assessed the first and second followup at the JSDC for CPAP compliance data and referral for oral appliance, body positioning device, or surgical evaluation.

	March 2014	July 2017
Number of patients undergoing Sleep Study	196	184
Dx w OSA and Rx CPAP	118	110
Followed up/Inc criteria	77	69

	2014	2016	p value
Gender	49M 28F	44M 25F	
Age	54.70±12.29	55.20±13.10	0.623
AHI	26.13±22.48	31.20±26.16	0.470
Nadir	78.12%±10.42	79.24%±9.45	0.226
ESS	11±6.99	11.14±6.05	0.636

	2014	2016	p value
Time to FU	143.99±206.73	103.79±99.09	<0.0001
% Days used	67.58%±32.37	77.20%±29.40	0.182
Usage per night (minutes)	226.31±178.24	281.38±164.56	0.541
Pressure	8.80±3.27	8.50±2.54	0.191
AHI	3.39±4.05	5.36±4.03	0.368
Compliance	36%	48%	0.026

	2014	2016	p value
All referral	13	17	0.306
Positioning Device	1	1	1
OAT	5	3	0.722
Surgery	7	13	0.071



Results

196 patients underwent a sleep study in March 2014 with 77 meeting inclusion criteria. 184 patients underwent a sleep study in July 2016 with 69 meeting inclusion criteria. There was no difference in gender, age, AHI, O₂ Nadir, Epworth sleepiness score (ESS), percent days using CPAP at initial followup, compliance at initial followup, treatment AHI at initial followup, compliance at second followup, treatment AHI at second followup, or surgical referrals after noncompliance at second followup between the two groups.

There was a significant difference in time to initial followup ($p < 0.001$). The proportion of patients sent for a surgical referral after initial followup was greater in those undergoing PSG in 2016 and this approached significance ($p = 0.071$).

Conclusion

CPAP remains the first line therapy for OSA. However, there are numerous alternative treatment options for those unable to tolerate CPAP and institution of a UAS program along with physician education can increase utilization of these therapies.