Positional Therapy: An Easy Suggestion, but Often Not the Right Answer

Point-Counterpoint: Is Avoidance of Supine Sleep an Adequate Treatment for OSA?

Amy L. Meoli, MD, FAASM

Penn State Hershey Sleep Research and Treatment Center, Hummelstown, PA

Obststructive sleep apnea (OSA) is a common disorder that leads to complex metabolic and inflammatory derangements that cause or contribute to increased morbidity and mortality. Effective treatment of OSA leads to improvements in comorbid disease states, mortality, accident rate, and quality of life. Furthermore, treatment of OSA has been shown to reduce health care dollar expenditures.

Given the high prevalence of OSA, the costs associated with evaluation and treatment of this condition are considerable. Trends directed towards cost reduction are increasing, including home sleep testing, mandatory compliance documentation, and alternative treatment options.

Many patients with mild to moderate OSA have increased disease severity in the supine sleep position, both in frequency of events and severity of oxygen desaturation. OSA is considered positional if there is a two-fold increase in the apnea-hypopnea index (AHI) in the supine sleep position as compared to lateral positions. Other defining characteristics may include an AHI of less than 5 or 10 events per hour in lateral sleep positions. Two articles in this issue of *JCSM* address position modification treatment of positional OSA. De Vries et al.¹ examined short- and long-term compliance, defined as 3 and 6 months, respectively, in patients using either a sleep position trainer (SPT) or tennis ball technique (TBT). Eijsvogel et al.² focused on short-term (1 month) compliance rates in patients using SPT versus TBT. The former study allowed patients to decide between using a SPT or TBT due to lack of insurance reimbursement for SPT, whereas the latter group randomized patients to treatment option and provided the SPT. Both studies excluded patients with significant comorbidities.

Eijsvogel et al. found good short-term compliance with the SPT (75.9%) that was greater than the TBT (42.3%). Compliance in this study was defined as at least 4 hours use on 70% of days. De Vries et al. also found good short-term compliance, with mean duration of use 7.2 hours and mean weekly frequency 6.5 days. Long-term compliance was poor, with 33 out of 53 patients discontinuing position modification treatment. This is similar to the results of an earlier questionnaire study of TBT treatment of OSA patients after an average of 2.5 years showing compliance rate of less than 10%.³ A smaller questionnaire study of 6-month TBT compliance rate also showed low rates of continued use.⁴

There are several significant areas of concern given the current degree of assessment of position modification training

for OSA that limit its recommendation as an effective form of treatment. Position modification treatment of OSA is certainly an attractive option from the standpoint of cost effectiveness. However, the poor long-term compliance rates with TBT and now SPT are concerning. While Eijsvogel et al.² demonstrated superior compliance with SPT over TBT, this was only in the short term. Disease outcome studies showing improvements with positional therapies are lacking, especially in patients with significant comorbidities. Various techniques for positional training exist, including a variety of alarm systems and padded devices to hinder supine sleep, that are not reimbursed by the majority of insurance carriers. The out of pocket patient cost for such devices places additional impediment to compliance. A further limitation of this form of therapy is lack of objectively defined compliance monitoring available with most techniques that is required in persons in transportation and other high-risk industries. The safety of this limited form of therapy in patients in the perioperative period is not well known.

The effectiveness of any form of therapy needs to be defined in terms of improved patient outcome, compliance, and acceptance to truly be considered as cost efficient. In my opinion, positional therapy for OSA outside of a minority of patients with mild positional disease and without significant comorbidities or occupational risk has not been shown to be an effective long-term management technique.

See the papers in this issue on positional therapy on pages 131 and 139.

CITATION

Meoli AL. An easy suggestion, but often not the right answer. *J Clin Sleep Med* 2015;11(2):91–92.

REFERENCES

1. de Vries GE, Hoekema A, Doff MH, et al. Usage of positional therapy in adults with obstructive sleep apnea. *J Clin Sleep Med* 2015;11:131–7.
2. Eijsvogel MM, Ubbink R, Dekker J, et al. Sleep position trainer versus tennis ball technique in positional obstructive sleep apnea syndrome. *J Clin Sleep Med* 2015;11:139–47.
3. Bignold J, Deans-Costi G, Goldsworthy M, et al. Poor long-term compliance with the tennis ball technique for treating positional obstructive sleep apnea. *J Clin Sleep Med* 2009;5:428–30.
4. Oksenberg A, Silverberg D, Offenbach D, et al. Positional therapy for obstructive sleep apnea patients: a 6-month follow-up study. *Laryngoscope* 2006;116:1995–2000.

SUBMISSION & CORRESPONDENCE INFORMATION

Submitted for publication January, 2015

Accepted for publication January, 2015

Address correspondence to: Amy L. Meoli, MD, FAASM, Penn State Hershey Sleep Research and Treatment Center, 1214 Research Blvd., Hummelstown, PA 17036; Tel: (717) 531-8520; Fax: (717) 531-0678; Email: amlyat@aol.com

DISCLOSURE STATEMENT

Dr. Meoli has indicated no financial conflicts of interest.