

# BÖLÜM 31

## Uyku Apne Sendromunda Kulak Burun Boğaz Cerrahisi



Seyda AKBAL ÇUFALI<sup>1</sup>

### TANIM

Obstrüktif Uyku Apnesi Sendromu (OUAS) üst hava yolunda sebebi bilinmeyen şekilde faringeal kollapslarla seyreden; apne, hipopne ve arousallar sonucunda epizodik olarak oksihemoglobin düşüşüne sebep olan bir hastalıktır. Hastaların başvuru şikayetlerinde gündüz aşırı uyku hali, konsantrasyon ve hafiza bozukluğu gibi semptomlar olabilir. Ana semptom ise horlamadır. (1)

### HASTA SEÇİMİ

OUAS tedavisinde halen altın standart tedavi pozitif hava basıncı (positive airway pressure (PAP)) cihazları ile yapılan tedavilerdir. Bu nedenle tüm hastaların öncelikle bu konuda yeterince bilgilendirilmesi gerekmektedir. PAP tedavisi kabul etmeyen, PAP tedavisini tolere edemeyen ve bu nedenle yeterli tedavi alamayan ve PAP tedavisini engelleyecek anatomik üst solunum yolu anormalliği olan hastalarda uyku cerrahisi düşünülmelidir (2).

Cerrahi kararının verilmesinde dikkate alınacak en önemli iki parametre apne hipopne indeksi (AHI) ve vücut kütlesi indeksi (BMI)'dır.

- BMI < 40 olan hastalar, eğer yeterli bilgi verilmesine rağmen PAP tedavisi kabul etmiyorsa veya PAP tedavisini anatomik anormallikler nedeniyle yeterince kullanamıyorsa mutlaka uyku cerrahı tarafından değerlendirilmelidir.
- BMI > 40 olan hastalarda hastalar bariatrik cerrahi değerlendirilmesi için yönlendirilmelidir.

<sup>1</sup> Op. Dr., Ankara Şehir Hastanesi KBB Kliniği, seydaakbal@gmail.com

edilir; 4-5 mm öne ekspansiyon sağlandıktan sonra vidalama ile dentoalveolar ark da yeniden oluşturularak sabitlenir.

Postoperatif dönemde pansuman ve beslenme desteği önemlidir. Kanama, hava yolu ödemi, nekroz ve osteomiyelit, maloklüzyon, parestezi gibi önemli komplikasyonlar gözlenebilen bir cerrahidir. (51,52)

## KAYNAKLAR

1. Durán J, Esnaola S, Rubio R, Iztueta A. Obstructive sleep apnea-hypopnea and related clinical features in a population-based sample of subjects aged 30 to 70 yr. *Am J Respir Crit Care Med.* 2001;163(3 Pt 1):685-689. doi:10.1164/ajrccm.163.3.2005065
2. Kaw R, Chung F, Pasupuleti V, Mehta J, Gay PC, Hernandez AV. Meta-analysis of the association between obstructive sleep apnoea and postoperative outcome. *Br J Anaesth.* 2012;109(6):897-906. doi:10.1093/bja/aes308
3. Mokhlesi B, Hovda MD, Vekhter B, Arora VM, Chung F, Meltzer DO. Sleep-disordered breathing and postoperative outcomes after elective surgery: analysis of the nationwide inpatient sample. *Chest.* 2013;144(3):903-914. doi:10.1378/chest.12-2905
4. Epstein LJ, Kristo D, Strollo PJ Jr, et al. Clinical guideline for the evaluation, management and long-term care of obstructive sleep apnea in adults. *J Clin Sleep Med.* 2009;5(3):263-276.
5. Aurora RN, Casey KR, Kristo D, et al. Practice parameters for the surgical modifications of the upper airway for obstructive sleep apnea in adults. *Sleep.* 2010;33(10):1408-1413. doi:10.1093/sleep/33.10.1408
6. Georgalas C. The role of the nose in snoring and obstructive sleep apnoea: an update. *Eur Arch Otorhinolaryngol.* 2011;268(9):1365-1373. doi:10.1007/s00405-010-1469-7
7. Jiang GF, Sun W, Li N, Sun Y, Zhang NK. Treatment effect of uvulopalatopharyngoplasty on autonomic nervous activity during sleep in patients with obstructive sleep apnea syndrome. *Chin Med J (Engl).* 2004;117(5):761-763.
8. Epstein LJ, Kristo D, Strollo PJ Jr, et al. Clinical guideline for the evaluation, management and long-term care of obstructive sleep apnea in adults. *J Clin Sleep Med.* 2009;5(3):263-276.
9. Ryan CF. Sleep x 9: an approach to treatment of obstructive sleep apnoea/hypopnoea syndrome including upper airway surgery. *Thorax.* 2005;60(7):595-604. doi:10.1136/thx.2004.03644
10. Powell NB, Riley RW, Troell RJ, Blumen MB, Guilleminault C. Radiofrequency volumetric reduction of the tongue. A porcine pilot study for the treatment of obstructive sleep apnea syndrome. *Chest.* 1997;111(5):1348-1355. doi:10.1378/chest.111.5.1348
11. Powell NB, Riley RW, Troell RJ, Blumen MB, Guilleminault C. Radiofrequency volumetric reduction of the tongue. A porcine pilot study for the treatment of obstructive sleep apnea syndrome. *Chest.* 1997;111(5):1348-1355. doi:10.1378/chest.111.5.1348
12. Farrar J, Ryan J, Oliver E, Gillespie MB. Radiofrequency ablation for the treatment of obstructive sleep apnea: a meta-analysis. *Laryngoscope.* 2008;118(10):1878-1883. doi:10.1097/MLG.0b013e31817d9cc1
13. Akpinar ME, Yigit O, Kocak I, Altundag A. Does the length of uvula affect the palatal implant outcome in the management of habitual snoring? *Laryngoscope.* 2011;121(5):1112-1116. doi:10.1002/lary.21731
14. Brietzke SE, Mair EA. Injection snoreplasty: how to treat snoring without all the pain and expense. *Otolaryngol Head Neck Surg.* 2001;124(5):503-510. doi:10.1067/mhn.2001.115400
15. Brietzke SE, Mair EA. Injection snoreplasty: extended follow-up and new objective data. *Otolaryngol Head Neck Surg.* 2003;128(5):605-615. doi:10.1016/s0194-5998(03)00229-8

16. Olszewska E, Panek J, O'Day J, Rogowski M. Usefulness of snoreplasty in the treatment of simple snoring and mild obstructive sleep apnea/hypopnea syndrome - Preliminary report. *Otolaryngol Pol.* 2014;68(4):184-188. doi:10.1016/j.otpol.2013.07.005
17. Al-Jassim AH, Lesser TH. Single dose injection snoreplasty: investigation or treatment?. *J Laryngol Otol.* 2008;122(11):1190-1193. doi:10.1017/S0022215108002648
18. Nordgård S, Wormdal K, Bugten V, Stene BK, Skjøstad KW. Palatal implants: a new method for the treatment of snoring. *Acta Otolaryngol.* 2004;124(8):970-975. doi:10.1080/00016480310017090
19. Choi JH, Kim SN, Cho JH. Efficacy of the Pillar implant in the treatment of snoring and mild-to-moderate obstructive sleep apnea: a meta-analysis. *Laryngoscope.* 2013;123(1):269-276. doi:10.1002/lary.23470
20. Lin HC, Friedman M, Chang HW, et al. Effects of Pillar implants for sleep-related breathing disorders on middle ear function. *Eur Arch Otorhinolaryngol.* 2013;270(8):2339-2343. doi:10.1007/s00405-013-2411-6
21. Fujita S, Conway W, Zorick F, Roth T. Surgical correction of anatomic abnormalities in obstructive sleep apnea syndrome: uvulopalatopharyngoplasty. *Otolaryngol Head Neck Surg.* 1981;89(6):923-934. doi:10.1177/019459988108900609
22. Littner M, Kushida CA, Hartse K, et al. Practice parameters for the use of laser-assisted uvulopalatoplasty: an update for 2000. *Sleep.* 2001;24(5):603-619. doi:10.1093/sleep/24.5.603
23. Maurer JT. Update on surgical treatments for sleep apnea. *Swiss Med Wkly.* 2009;139(43-44):624-629.
24. Martinho FL, Zonato AI, Bittencourt LR, et al. Obese obstructive sleep apnea patients with tonsil hypertrophy submitted to tonsillectomy. *Braz J Med Biol Res.* 2006;39(8):1137-1142. doi:10.1590/s0100-879x2006000800017
25. Windfuhr JP, Savva K, Dahm JD, Werner JA. Tonsillotomy: facts and fiction. *Eur Arch Otorhinolaryngol.* 2015;272(4):949-969. doi:10.1007/s00405-014-3010-x
26. Acevedo JL, Shah RK, Brietzke SE. Systematic review of complications of tonsillotomy versus tonsillectomy. *Otolaryngol Head Neck Surg.* 2012;146(6):871-879. doi:10.1177/0194599812439017
27. Tsou YA, Huang CW, Wu TF, Hung LW, Chang WD. The effect of tongue base suspension with uvulopalato-pharyngoplasty on sleep quality in obstructive sleep apnea. *Sci Rep.* 2018;8(1):8788. Published 2018 Jun 8. doi:10.1038/s41598-018-27094-w
28. Rombaux P, Leysen J, Bertrand B, et al. Surgical treatment of the sleep-disordered breathing patient; a consensus report. *Acta Otorhinolaryngol Belg.* 2002;56(2):195-203.
29. Loord H, Hultcrantz E. Positioner--a method for preventing sleep apnea. *Acta Otolaryngol.* 2007;127(8):861-868. doi:10.1080/00016480601089390
30. Neruntarat C. Uvulopalatal flap for snoring on an outpatient basis. *Otolaryngol Head Neck Surg.* 2003;129(4):353-359. doi:10.1016/s0194-5998(03)00636-3
31. Elbassiouny AM. Soft palatal webbing flap palatopharyngoplasty for both soft palatal and oropharyngeal lateral wall collapse in the treatment of snoring and obstructive sleep apnea: a new innovative technique without tonsillectomy. *Sleep Breath.* 2015;19(2):481-487. doi:10.1007/s11325-014-1067-9
32. Yi HL, Sun XQ, Chen B, et al. Z-palatopharyngoplasty plus genioglossus advancement and hyoid suspension for obstructive sleep apnea hypopnea syndrome. *Otolaryngol Head Neck Surg.* 2011;144(3):469-473. doi:10.1177/0194599810393116
33. Pang KP, Tan R, Puraviappan P, Terris DJ. Anterior palatoplasty for the treatment of OSA: three-year results. *Otolaryngol Head Neck Surg.* 2009;141(2):253-256. doi:10.1016/j.otohns.2009.04.020
34. Salamanca F, Costantini F, Mantovani M, et al. Barbed anterior pharyngoplasty: an evolution of anterior palatoplasty. *Acta Otorhinolaryngol Ital.* 2014;34(6):434-438.

35. Marzetti A, Tedaldi M, Passali FM. Preliminary findings from our experience in anterior palatoplasty for the treatment of obstructive sleep apnea. *Clin Exp Otorhinolaryngol.* 2013;6(1):18-22. doi:10.3342/ceo.2013.6.1.18
36. Cahali MB. Lateral pharyngoplasty: a new treatment for obstructive sleep apnea hypopnea syndrome. *Laryngoscope.* 2003;113(11):1961-1968. doi:10.1097/00005537-200311000-00020
37. Pang KP, Woodson BT. Expansion sphincter pharyngoplasty: a new technique for the treatment of obstructive sleep apnea. *Otolaryngol Head Neck Surg.* 2007;137(1):110-114. doi:10.1016/j.otohns.2007.03.014
38. Vroegop AV, Vanderveken OM, Boudewyns AN, et al. Drug-induced sleep endoscopy in sleep-disordered breathing: report on 1,249 cases. *Laryngoscope.* 2014;124(3):797-802. doi:10.1002/lary.24479
39. Handler E, Hamans E, Goldberg AN, Mickelson S. Tongue suspension: an evidence-based review and comparison to hypopharyngeal surgery for OSA. *Laryngoscope.* 2014;124(1):329-336. doi:10.1002/lary.24187
40. Mimche S, Ahn D, Kiani M, et al. Tongue implant for assistive technologies: Test of migration, tissue reactivity and impact on tongue function. *Arch Oral Biol.* 2016;71:1-9. doi:10.1016/j.archoralbio.2016.06.019
41. Robinson S, Ettema SL, Brusky L, Woodson BT. Lingual tonsillectomy using bipolar radiofrequency plasma excision. *Otolaryngol Head Neck Surg.* 2006;134(2):328-330. doi:10.1016/j.otohns.2005.10.021
42. Suzuki K, Kawakatsu K, Hattori C, et al. Application of lingual tonsillectomy to sleep apnea syndrome involving lingual tonsils. *Acta Otolaryngol Suppl.* 2003;(550):65-71. doi:10.1080/0365523031000057
43. Suh GD. Evaluation of open midline glossectomy in the multilevel surgical management of obstructive sleep apnea syndrome. *Otolaryngol Head Neck Surg.* 2013;148(1):166-171. doi:10.1177/0194599812464331
44. Cheng A. Genioglossus and Genioplasty Advancement. *Atlas Oral Maxillofac Surg Clin North Am.* 2019;27(1):23-28. doi:10.1016/j.cxom.2018.11.008
45. Chang ET, Kwon YD, Jung J, et al. Genial tubercle position and genioglossus advancement in obstructive sleep apnea (OSA) treatment: a systematic review. *Maxillofac Plast Reconstr Surg.* 2019;41(1):34. Published 2019 Sep 9. doi:10.1186/s40902-019-0217-1
46. Riley RW, Powell NB, Guilleminault C. Obstructive sleep apnea syndrome: a review of 306 consecutively treated surgical patients. *Otolaryngol Head Neck Surg.* 1993;108(2):117-125. doi:10.1177/019459989310800203
47. Ephros HD, Madani M, Yalamanchili SC. Surgical treatment of snoring & obstructive sleep apnoea. *Indian J Med Res.* 2010;131:267-276.
48. Yi HL, Yin SK, Lu WY, et al. Zhonghua Er Bi Yan Hou Tou Jing Wai Ke Za Zhi. 2006;41(2):89-94.
49. Friedman M, Soans R, Gurpinar B, Lin HC, Joseph N. Evaluation of submucosal minimally invasive lingual excision technique for treatment of obstructive sleep apnea/hypopnea syndrome. *Otolaryngol Head Neck Surg.* 2008;139(3):378-385. doi:10.1016/j.otohns.2008.06.011
50. Lee JM, Weinstein GS, O'Malley BW Jr, Thaler ER. Transoral robot-assisted lingual tonsillectomy and uvulopalatopharyngoplasty for obstructive sleep apnea. *Ann Otol Rhinol Laryngol.* 2012;121(10):635-639. doi:10.1177/000348941212101002
51. Goh YH, Lim KA. Modified maxillomandibular advancement for the treatment of obstructive sleep apnea: a preliminary report. *Laryngoscope.* 2003;113(9):1577-1582. doi:10.1097/00005537-200309000-00031
52. ÖZCAN, K. Murat. Osas'da Tedavi Yaklaşımları: Üst Solunum Yolu Cerrahisi.