

Bölüm 7

ORTOGNATİK CERRAHİDE ÖNCE CERRAHİ YAKLAŞIMI

İldem KÖSE¹
Nilüfer İrem TUNÇER²

1. GİRİŞ

Günümüzde diş ve çenelerindeki deformite ve şekil bozukluklarını gidermek amacıyla ortodonti kliniklerine başvuran erişkin hasta sayısı oldukça fazladır. Çene şekil bozukluklarına bağlı estetik sorunların yanı sıra çiğneme ve yutma bozuklukları, konuşma bozuklukları ve ciddi vakalarda nefes alma güçlükleri gibi bir takım fonksiyonel zorluklar da tabloya eşlik eder. Estetik ve fonksiyonel problemler, dentofasiyal deformiteleri olan kişilerin yaşam kalitelerini önemli ölçüde düşürmekle birlikte maloklüzyonun şiddetindeki artış kişinin özgüvenini de etkilemektedir.

Geleneksel ortognatik cerrahi yaklaşımında cerrahi öncesi uzun soluklu ortodontik tedavinin gerek diş ve çevre dokular gerekse de yaşam kalitesi üzerindeki olumsuz etkilerinden dolayı ortognatik cerrahi kavramları son dönemlerde yeniden gözden geçirilmiştir. Böylece önce cerrahi, diğer bir deyişle 'Surgery First' yaklaşımı literatüre tanıtılmıştır.

2. ORTOGNATİK CERRAHİDE GELENEKSEL YAKLAŞIM

Geleneksel ortognatik cerrahi yaklaşımı, çene ilişkilerinin cerrahi olarak düzeltimi öncesinde preoperatif ortodontik tedavi ile dişlerin yeniden konumlandırılması felsefesine dayanır. Bununla birlikte ilk ortognatik cerrahi ameliyatları preoperatif ortodontik tedavi uygulanmaksızın yapılmaktaydı. 1963 yılında Poulton ve ark. (1) cerrahi öncesi ortodontik tedavi yapılmaksızın ameliyata alınan mandibular prognatizm vakalarında mevcut keser ilişkisi ve overjet miktarının, mandibulayı geriye alabilecekleri miktarı sınırladığını bildirmişler ve dişlerin düzgün

¹ Dt, Başkent Üniversitesi, koseildem@gmail.com, ORCID ID: 0000-0002-2325-7453

² Doç. Dr, Başkent Üniversitesi, Diş Hekimliği Fakültesi, Ortodonti AD, iremtuncher@gmail.com, ORCID ID: 0000-0002-3284-8220

seçilir ve ortodontist ile cerrah final oklüzyonu öngörece kadar tecrübeli ve klinik kooperasyonları yüksek ise sonuçlar da bir o kadar tatmin edici olacaktır.

6. KAYNAKÇA

1. Poulton D, Taylor R, Ware W. Cephalometric x-ray evaluation of the vertical osteotomy correction of mandibular prognathism. *Journal of Oral Medicine, Oral Surgery, Oral Pathology and Oral Radiology*. 1963 Jul;16:807-820. doi: 10.1016/0030-4220(63)90319-0.
2. Worms F, Isaacson R, Speidel T. Surgical orthodontic treatment planning: profile analysis and mandibular surgery. *Angle Orthodontist*. 1976;46(1):1-25.1976.
3. Hernandez-Alfaro F, Guijarro-Martinez R. On a definition of the appropriate timing for surgical intervention in orthognathic surgery. *International Journal of Oral Maxillofacial Surgery*. 2014;43(7):846-55. doi: 10.1016/j.ijom.2014.02.007.
4. Choi JW, Lee JY. Current concept of the surgery-first orthognathic approach. *C. 48, Archives of Plastic Surgery*. 2021;48(2):199-207. doi: 10.5999/aps.2020.01305.
5. Obwegeser HL. Orthognathic surgery and a tale of how three procedures came to be: a letter to the next generations of surgeons. *Clinics in Plastic Surgery*. 2007;34(3):331-55. doi: 10.1016/j.cps.2007.05.014.
6. Mahmood HT, Ahmed M, Fida M. Concepts, protocol, variations and current trends in surgery first orthognathic approach: A literature review. *Dental Press Journal of Orthodontics*. 2018;23(3):36.e1-36.e6. doi: 10.1590/2177-6709.23.3.36.e1-6.onl.
7. Behrman SJ, Behrman DA. Oral Surgeons' Considerations in Surgical Orthodontic Treatment. *Dental Clinics of North America*. 1988;32(3):481-507.
8. Brachvogel P, Berten JL, Hausamen E. Surgery before orthodontic treatment: a concept for timing the combined therapy of skeletal dysgnathias. *Dtsch Zahn Mund Kieferheilkd Zentralbl*. 1991;79(7):557-563.
9. Reddy NVV, Potturi A. Surgery-First Orthognathic Approach. In: Bonanthaya K, Panneerselvam E, Manuel S, Kumar VV, Rai A (eds) *Oral and Maxillofacial Surgery for the Clinician*. Singapore: Springer Nature; 2021. p. 1463-1475.
10. Frost HM. The biology of fracture healing. An overview for clinicians. Part II. *Clinical Orthopaedics and Related Research*. 1989;(248):294-309.
11. Frost HM. The biology of fracture healing. An overview for clinicians. Part I. *Clinical Orthopaedics and Related Research*. 1989;(248):283-93.
12. Hernández-Alfaro F, Guijarro-Martínez R, Molina-Coral A. "Surgery First" in Bimaxillary Orthognathic Surgery. *Journal of Oral and Maxillofacial Surgery*. 2011;69(6):e201-7. doi:10.1016/j.joms.2011.01.010.
13. Hernández-Alfaro F, Guijarro-Martínez R, Peiró-Guijarro MA. Surgery First in Orthognathic Surgery: What Have We Learned? A Comprehensive Workflow Based on 45 Consecutive Cases. *Journal of Oral and Maxillofacial Surgery*. 2014;72(2):376-90. doi: 10.1016/j.joms.2013.08.013.
14. Uribe FA, Farrell B. Surgery-First Approach in the Orthognathic Patient. *Oral and Maxillofacial Surgery Clinics of North America*. 2020; p. 89-103. doi: 10.1016/j.coms.2019.08.009
15. Choi SH, Shi KK, Cha JY. Nonsurgical miniscrew-assisted rapid maxillary expansion results in acceptable stability in young adults. *Angle Orthodontist*. 2016; 86(5): 713-720. doi: 10.2319/101415-689.1

16. Choi JW, Bradley JP. Surgery first orthognathic approach without presurgical orthodontic treatment: questions and answers. *Journal of Craniofacial Surgery*. 2017; 28(5):1330-1333. doi: 10.1097/SCS.0000000000003733.
17. Villegas C, Janakiraman N, Uribe F. Rotation of the maxillomandibular complex to enhance esthetics using a “surgery first” approach. *Journal of Clinical Orthodontics*. 2012;46(2):85-91
18. Wei H, Liu Z, Zang J. Surgery-first/early-orthognathic approach may yield poorer postoperative stability than conventional orthodontics-first approach: a systematic review and meta-analysis. *Journal of Oral Medicine, Oral Surgery, Oral Pathology and Oral Radiology*. 2018;126(2):107-116. doi: 10.1016/j.oooo.2018.02.018.
19. Aymach Z, Sugawara J, Goto S. Nonextraction “surgery first” treatment of a skeletal Class III patient with severe maxillary crowding. *Journal of Clinical Orthodontics*. 2013; 47(5):297-304
20. Villegas C, Uribe F, Sugawara J. Expedited Correction of Significant Dentofacial Asymmetry Using a “Surgery First” Approach. *Journal of Clinical Orthodontics*. 2010;97-103.
21. Ching EW, Huang CS, Chen YR. Characteristics and Corrective Outcome of Face Asymmetry by Orthognathic Surgery. *Journal of Oral and Maxillofacial Surgery*. 2009;67(10):2201-2209. doi: 10.1016/j.joms.2009.04.039
22. Liou EJW, Chen PH, Wang YC. Surgery-first accelerated orthognathic surgery: postoperative rapid orthodontic tooth movement. *Journal of Oral Maxillofacial Surgery*. 2011;69(3):781-5. Doi: 10.1016/j.joms.2010.10.035
23. Choi JY, Baek SH, Kwon YH. New paradigm in orthognathic surgery and orthodontic treatment (surgery first orthognathic approach and minimum presurgical orthodontic approach).
24. Sugawara J, Aymach Z, Nagasaka DH. “Surgery first” orthognathics to correct a skeletal class II malocclusion with an impinging bite. *Journal of Clinical Orthodontics*. 2010 Jul;44(7):429-438.
25. Leelasinjaroen P, Godfrey K, Manosudprasit M. Surgery first orthognathic approach for skeletal class III malocclusion corrections-a literature review. *Journal of Medical Association of Thailand*. 2012;s:172-180.
26. Nagasaka H, Sugawara J, Kawamura H. “Surgery first” skeletal Class III correction using the Skeletal Anchorage System. *Journal of Clinical Orthodontics*. 2009;43(2):97-105.
27. Kim JY, Jung HD, Kim SY. Postoperative stability for surgery-first approach using intraoral vertical ramus osteotomy: 12 month follow-up. *British Journal of Oral Maxillofacial Surgery*. 2014 Jul;52(6):539-544. doi: 10.1016/j.bjoms.2014.03.011.
28. Choi JW, Bradley JP. Surgery First Orthognathic Approach Without Presurgical Orthodontic Treatment: Questions and Answers. *Journal of Craniofacial Surgery*. 2017 Jul;28(5):1330-1333. doi: 10.1097/SCS.0000000000003733.
29. Baek SH, Ahn HW, Kwon YH, Choi JY. Surgery-first approach in skeletal class III malocclusion treated with 2-jaw surgery: evaluation of surgical movement and postoperative orthodontic treatment. *Journal of Craniofacial Surgery*. 2010;21(2):332-8. doi: 10.1097/SCS.0b013e3181cf5fd4.
30. Choi JW, Lee JY, Yang SJ, Koh KS. The reliability of a surgery-first orthognathic approach without presurgical orthodontic treatment for skeletal class III dentofacial

- deformity. *Annals of Plastic Surgery*. 2015;74(3):333-341. doi: 10.1097/SAP.0b013e-318295dcce.
31. Yang L, Xiao YD, Liang YJ. Does the Surgery-First Approach Produce Better Outcomes in Orthognathic Surgery? A Systematic Review and Meta-Analysis. *Journal of Oral Maxillofacial Surgery*. 2017;75(11):2422-2429. doi: 10.1016/j.joms.2017.06.002.
 32. Wang YC, Ko EWC, Huang CS. Comparison of transverse dimensional changes in surgical skeletal Class III patients with and without presurgical orthodontics. *Journal of Oral Maxillofacial Surgery*. 2010;68(8):1807-1812. doi: 10.1016/j.joms.2009.09.089.
 33. Liao YF, Chiu YT, Huang CS. Presurgical orthodontics versus no presurgical orthodontics: treatment outcome of surgical-orthodontic correction for skeletal class III open bite. *Plastic and Reconstructive Surgery*. 2010;126(6):2074-2083. doi: 10.1097/PRS.0b013e3181f52710.
 34. Kim CS, Lee SC, Kyung HM. Stability of mandibular setback surgery with and without presurgical orthodontics. *Journal of Oral Maxillofacial Surgery*. 2014;72(4):779-787. doi: 10.1016/j.joms.2013.09.033.