

### Giriş

Kraniyofasiyal yapının en sık görülen konjenital deformitelerinden biri olan dudak ve /veya damak yarıkları (DDY)'na, beraberinde pek çok sendrom, malformasyon ve dişsel anomali eşlik edebilmektedir.<sup>(1-4)</sup>

Tannure & ark.<sup>(5)</sup>'nin yaptıkları meta analizde de belirttikleri üzere; DDY'e sahip bireylerde normal bireylere göre daha fazla dişsel anomali gözlenmektedir.

DDY ile dişsel anomali mevcudiyeti arasında bir ilişki olup olmadığını değerlendiren araştırmacılar, yarık varlığı ile diş sayı (eksikliği/ fazlalığı) ve yapı (kron morfolojisi) anomalisi arasında anlamlı ilişki olduğunu bildirmişlerdir.<sup>(5)</sup> Bulunan anlamlı ilişki DDY ve diş anomalilerinin her ikisinin de gelişiminde poli veya monogenetik kalıtım ve çoklu ekzojen etkenler gibi aynı etiyolojik faktörlerin rolünün olmasına bağlanmıştır.<sup>(6,7)</sup>



**Şekil 1.** Erken karışık dişlenme dönemindeki unilateral DDY'li hastanın süt lateral kesici dişlerinde eksiklik gözlenmektedir.

Dişsel anomaliler sadece yarık bölgesinde değil aynı zamanda yarık olmayan bölgelerde de görülebilmektedir.<sup>(8)</sup> Ayrıca, sıklıkla daimi dişlenme döneminde gözlenmekle birlikte süt dişlenme döneminde de rastlanmaktadır (Şekil 1).<sup>(8)</sup>

## Kaynakça

1. Tunçbilek G, Özgür F, Balcı S. 1229 yarık dudak ve damak hastasında görülen ek malformasyon ve sendromlar. *Çocuk Sağlığı ve Hastalıkları Dergisi* 2004;47:172-176.
2. Akcam MO, Evirgen S, Uslu O, et.al. Dental anomalies in individuals with cleft lip and/or palate. *Eur J Orthod*. 2010;32(2): 207-213.
3. Letra A, Menezes R, Granjeiro JM, et.al. Defining subphenotypes for oral clefts based on dental development. *J Dent Res* 2007;86(10):986-991.
4. Menezes R, Vieira AR. Dental anomalies as part of the cleft spectrum. *Cleft Palate Craniofac J*. 2008;45:414-419.
5. Tannure PN, Oliveira CA, Maia LC, et.al. Prevalence of dental anomalies in nonsyndromic individuals with cleft lip and palate: a systematic review and meta-analysis. *Cleft Palate Craniofac J* 2012;49(2):194-200.
6. Bhatia SN. Genetics of cleft lip and palate. *Br Dent J* 1972;132(3):95-103.
7. Eerens K, Vlietinck R, Heidbüchel K et.al. Hypodontia and tooth formation in groups of children with cleft, siblings without cleft, and nonrelated controls. *Cleft Palate Craniofac J* 2001;38(4):374-378.
8. Camporesi M, Baccetti T, Marinelli A, et.al. Maxillary dental anomalies in children with cleft lip and palate: a controlled study. *Int J Paediatr Dent* 2010;20(6):442-450.
9. Cooper M, Stone R, Liu Y et.al. Descriptive epidemiology of non-syndromic cleft lip with or without cleft palate in Shanghai, China from 1980 to 1989. *Cleft Palate Cranio J*. 2000;37(3):274-280.
10. Ribeiro LL, Das Neves LT, Costa B, et.al. Dental anomalies of the permanent lateral incisors and prevalence of hypodontia outside the cleft area in complete unilateral cleft lip and palate. *Cleft Palate Craniofac J* 2003;40:172-175.
11. da Silva AP, Costa B, de Carvalho Carrara CF. Dental anomalies of number in the permanent dentition of patients with bilateral cleft lip: radiographic study. *Cleft Palate Craniofac J*. 2008;45:473-476.
12. Reina HAR. Dental characterization of colombian children with non syndromic cleft lip and palate. *Rev Odont Mex* 2016;20(3):175-181.
13. Stahl F, Grabowski R, Wigger K. Epidemiology of Hoffmeister's 'genetically determined predisposition to disturbed development of the dentition' in patients with cleft lip and palate. *Cleft Palate Craniofac J*. 2006;43:457-465.
14. Wei X, Senders C, Owiti GO, et.al. The origin and development of the upper lateral incisor and premaxilla in normal and cleft lip/palate monkeys induced with cyclophosphamide. *Cleft Palate Craniofac J*. 2000;37:571-583.
15. Ewings EL, Carstens MH. Neuroembryology and functional anatomy of craniofacial clefts. *Indian J Plast Surg*. 2009;42:19-34.
16. Vieira AR. Oral clefts and syndromic forms of tooth agenesis as models for genetics of isolated tooth agenesis. *J Dent Res*. 2003;82:162-165.
17. Vieira AR. Unraveling human cleft lip and palate research. *J Dent Res*. 2008;87:119-125.
18. Walker SC, Mattick CR, Hobson RS, et.al. Abnormal tooth size and morphology in subjects with cleft lip and/or palate in the north of England. *Eur J Orthod* 2009;31(1):68-75.
19. Howe BJ, Cooper ME, Vieira AR, et.al. Spectrum of Dental Phenotypes in Nonsyndromic Orofacial Clefting. *J Dent Res* 2015;94(7):905- 912.
20. Germeç Çakan D, Nur Yılmaz RB. Dudak damak yarıklı bireylerde görülen dişsel anomaliler. *Türkiye Klinikleri J Orthod- Special Topics* 2016;2(3); 8-14

21. Tsai TP, Huang CS, Huang CC, et.al. Distribution patterns of primary and permanent dentition in children with unilateral complete cleft lip and palate. *Cleft Palate Craniofac J* 1998;35(2):154-160.
22. Al Jamal GA, Hazza'a AM, Rawashdeh MA. Prevalence of dental anomalies in a population of cleft lip and palate patients. *Cleft Palate Craniofac J* 2010;47(4):413-420.
23. Slayton RL, Williams L, Murray JC, et.al. Genetic association studies of cleft lip and/or palate with hypodontia outside the cleft region. *Cleft Palate Craniofac J* 2003;40(3):274-279.
24. Aizenbud D, Camasuvi S, Peled M, et.al. Congenitally missing teeth in the Israeli cleft population. *Cleft Palate Craniofac J* 2005; 42(3):314-317.
25. Lekkas C, Latief BS, ter Rahe SP, et.al. The adult unoperated cleft patient: absence of maxillary teeth outside the cleft area. *Cleft Palate Craniofac J* 2000;37(1):17-20.
26. Dixon DA. Defects of structure and formation of the teeth in persons with cleft palate and the effect of reparative surgery on the dental tissues. *Oral Surg Oral Med Oral Pathol* 1968;25(3):435-446.
27. Tortora C, Meazzini MC, Garattini G, et.al. Prevalence of abnormalities in dental structure, position, and eruption pattern in a population of unilateral and bilateral cleft lip and palate patients. *Cleft Palate Craniofac J* 2008;45(2):154-162.
28. van den Boogaard MJ, Dorland M, Beemer FA, et.al. MSX1 mutation is associated with orofacial clefting and tooth agenesis in humans. *Nat Genet* 2000;24(4):342-343.
29. Vieira AR, McHenry TG, Daack-Hirsch S, et.al. A genome wide linkage scan for cleft lip and palate and dental anomalies. *Am J Med Genet A* 2008 1;146A(11): 1406-13.
30. Satokata I, Maas R. Msx1 deficient mice exhibit cleft palate and abnormalities of cranio-facial and tooth development. *Nat Genet* 1994;6(4):348-356.
31. Peters H, Neubüser A, Kratochwil K, Balling Pax9-deficient mice lack pharyngeal pouch derivatives and teeth and exhibit craniofacial and limb abnormalities. *Genes Dev* 1998;12(17):2735-2747.
32. Ardinger HH, Buetow KH, Bell GI, et.al. Association of genetic variation of the transforming growth factor-alpha gene with cleft lip and palate. *Am J Hum Genet* 1989;45(3):348-353.
33. Lidral AC, Romitti PA, Basart AM, et.al. Association of MSX1 and TGFB3 with nonsyndromic clefting in humans. *Am J Hum Genet* 1998;63(2):557-568.
34. Vastardis H, Karimbux N, Guthua SW, et.al. A human MSX1 homeodomain missense mutation causes selective tooth agenesis. *Nat Genet* 1996;13(4):417-421.
35. Stockton DW, Das P, Goldenberg M, et.al. Mutation of PAX9 is associated with oligodontia. *Nat Genet* 2000;24(1):18-19.
36. Letra A, Fakhouri W, Fonseca RF et. al. Interaction between IRF6 and TGFA Genes Contribute to the Risk of Nonsyndromic Cleft Lip/Palate. *Plos One* 2012;7(9):e45441.
37. Yildirim M, Seymen F, Deeley K. et.al. Defining predictors of cleft lip and palate risk. *J Dent Res* 2012;91(6):556-561.
38. Özkepir Ö. Sendromik Olmayan Hipodonti Olgularında Gen Polimorfizmlerinin ve Kraniofasiyal Özelliklerinin Değerlendirilmesi. Doktora Tezi, Ankara Üniversitesi Sağlık Bilimleri Enstitüsü, 2013, Ankara.
39. Aspinall A, Raj S, Jugessur A, et.al. Expanding the cleft phenotype: the dental characteristics of unaffected parents of Australian children with non-syndromic cleft lip and palate. *Int J Paediatr Dent* 2014;24(4):286-292.
40. Anderson PJ, Moss AL. Dental findings in parents of children with cleft lip and palate. *Cleft Palate Craniofac J* 1996;33(5):436-439.

41. de Lima Pedro R, Farial MDB, de Castro Costa M, et.al. Dental anomalies in children born with clefts: a case-control study. *Cleft Palate Craniofac J* 2012;49(6):e64-e8.
42. Germec Cakan D, Nur Yılmaz RB, Bulut FN, et.al. Dental anomalies in different types of cleft lip and palate: Is there any relationship? *J Craniofac Surg* 2018; 29(5): 1316-1321.
43. Al-Kharboush GH, Al-Balkhi KM, Al-Moammar K. The prevalence of specific dental anomalies in a group of Saudi cleft lip and palate patients. *Saud Dent J.* 2015;27:75-80.
44. Celikoglu M, Buyuk SK, Sekerci AE, et.al. Maxillary dental anomalies in patients with cleft lip and palate: a cone beam computed tomography study. *J Clin Pediatr Dent* 2015;39(2):183-186.
45. Vichi M, Franchi L. Abnormalities of the maxillary incisors in children with cleft lip and palate. *ASDC J Dent Child.* 1995;62(6):412-417.
46. Jiroutová O, Müllerová Z. The occurrence of hypodontia in patients with cleft lip and/or palate. *Acta Chir Plast* 1994;36(2):53-56.
47. Lopes LD, Mattos BS, Andre´ M. Anomalies in number of teeth in patients with lip and/or palate clefts. *Braz Dent J.* 1991;2:9-17.
48. Riis LC, Kjær I, Mølsted K. Dental anomalies in different cleft groups related to neural crest developmental fields contributes to the understanding of cleft aetiology. *J Plast Surg Hand Surg* 2014;48(2):126-131.
49. da Silva AP, Costa B, de Carvalho Carrara CF. Dental anomalies of number in the permanent dentition of patients with bilateral cleft lip: radiographic study. *Cleft Palate Craniofac J* 2008;45(5):473-476.
50. Antonarakis GS, Fisher DM. Presurgical Unilateral Cleft Lip Anthropometrics and the Presence of Dental Anomalies. *Cleft Palate Craniofac J.* 2015;52(4):395-404.
51. Al-Jamal GA, Hazza`a AM, Rawashdeh MA. Crown-root ratio of permanent teeth in cleft lip and palate patients. *Angle Orthod* 2010;80(6): 1122-1128.
52. Küchler EC, da Motta LG, Vieira AR, et.al. Side of dental anomalies and taurodontism as potential clinical markers for cleft subphenotypes. *Cleft Palate Craniofac J* 2011;48(1):103-108.
53. Hillson S. (1996) *Dental anthropology.* Cambridge: Cambridge University Press, Esquated Walker SC, Mattick CR, Hobson RS, Steen IN. Abnormal tooth size and morphology in subjects with cleft lip and/or palate in the north of England. *Eur J Orthod* 2009;31(1):68-75.
54. Maciel SP, Costa B, Gomide MR. Difference in the prevalence of enamel alterations affecting central incisors of children with complete unilateral cleft lip and palate. *Cleft Palate Craniofac J* 2005;42(4):392-395.
55. Malanczuk T, Opitz C, Retzlaff R. Structural changes of dental enamel in both dentitions of cleft lip and palate patients. *J Orofac Orthop* 1999;60(4):259-268.
56. Thongudomporn U, Freer TJ. Prevalence of dental anomalies in orthodontic patients. *Aust Dent J* 1998;43:395-398.
57. Berkowitz S, Mejia M, Bystrick A. A comparison of the effects of the Latham-Millard procedure with those of a conservative treatment approach for dental occlusion and facial aesthetics in unilateral and bilateral complete cleft lip and palate: part I. Dental occlusion. *Plast Reconstr Surg* 2004;113(1):1-18.
58. Peck S, Peck L, Kataja M. The palatally displaced canine as a dental anomaly of genetic origin. *Angle Orthod* 1994;64:249-256.
59. Lai MC, King NM, Wong HM. Abnormalities of maxillary anterior teeth in Chinese children with cleft lip and palate. *Cleft Palate Craniofac. J.* 2009; 46 (1): 58-64.

60. Larson M, Hellquist R, Jacobsson OP. Dental abnormalities and ectopic eruption in patients with isolated cleft palate. *Scand. J. Plast. Reconstr. Surg. Hand Surg.* 1998;32:203–212.
61. Bailit HL, Doykos JD, Swanson LT. Dental development in children with cleft palates. *J Dent Res* 1968;47:664.
62. Ranta R. Associations of some variables to tooth formation in children with isolated cleft palate. *Scand J Dent Res* 1984;92:496-502.
63. de Carvalho Carrara CE, de Oliveira Lima JE, Carrara CE, et.al. Chronology and sequence of eruption of the permanent teeth in patients with complete unilateral cleft lip and palate. *Cleft Palate Craniofac J* 2004;41(6):642-645.
64. Lai MC, King NM, Wong HM. Dental development of Chinese children with cleft lip and palate. *Cleft Palate Craniofac J* 2008;45(3): 289-296.
65. Ranta R. A review of tooth formation in children with cleft lip/palate. *Am J Orthod Dentofac Orthop.* 1986;90:11–18.
66. Duque C, Dalben Gda S, Aranha AM, et.al. Chronology of deciduous teeth eruption in children with cleft lip and palate. *Cleft Palate Craniofac J.* 2004;41(3):285-289.