

## Bölüm 3

# GENLERDEKİ POLİMORFİZMLERİN DIŞ ÇÜRÜĞÜ ÜZERİNDEKİ ETKİLERİNİN İNCELENMESİ

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### GİRİŞ

Diş çürükleri dünya çapında en sık rastlanan kronik hastalıklardan biridir (1). Dental plak, yüksek karbonhidrat diyeti, yetersiz florid uygulanması ve patojenik bakterilerin artışı diş çürüklerinin oluşmasını hızlandırabilen faktörlerdendir (2). Bu çevresel faktörlere ek olarak, bazı bireylerin çürük oluşumuna daha hassas olduğu görülmektedir. Bu durum çürük etiyopatogenitesinde etkili genetik faktörlerdeki farklılıklardan kaynaklanabilmektedir (3).

Tükürüğün kalitesinde ve miktarında, tat reseptörleri üzerinde, diş mineralizasyonunda ve immün sistem üzerinde etkili genlerdeki polimorfizmlerin diş çürüğünü etkileyebileceği düşünülmektedir (4-8). Araştırmacılar özellikle mine formasyonunda önemli rol oynayan proteinleri kodlayan genlerdeki polimorfizmler üzerinde birçok çalışma yapmıştır (9-13). Bazı genetik polimorfizmlerinin çürüğe karşı hassasiyeti artırdığını bazılarının ise çürük oluşumunu azalttığını bulmuşlardır. Aynı genom üzerindeki farklı dizilerin çok farklı etkiler ortaya çıkarabildiğini göstermişlerdir (13,14).

Literatürde mineralizasyonla ilişkili genlerdeki polimorfizmlerin diş çürüğü üzerine etkilerini inceleyen birçok çalışma yapılmıştır. Literatürde araştırma yapılmış mineralizasyon ile ilgili polimorfizmler Araşidonat 15-lipoksijenaz (ALOX15), Amelogenin-X (AMELX), Matriks metalloproteinaz-3 (MMP3), Matriks metalloproteinaz-9 (MMP9), Ameloblastin (AMBN), Kemik morfogenetik proteini-2 (BMP2), Kemik morfogenetik proteini-4 (BMP4), Distal-less homeobox-3 (DLX3), Enamelin (ENAM), Tuftelin etkileşimli protein-11 (TFIP11), Metalloproteinaz-2 doku inhibitörleri (TIMP2), Tuftelin-1 (TUFT1) ve Vitamin D reseptörü (VDR) genlerine aittir. Literatürde araştırma yapılmış immün sistem ile ilişkili polimorfizmler beta-defensin 1 (DEFB1), Laktotransferrin (LTF), Mannoza bağlayıcı lektin (MBL2), T hücre reseptörü alfa (TRAV), anjiyotensin dö-

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da da araştırmacılar, çalışmaların özgünlüğünü ve kabul edilebilirliğini artırmak için yeni polimorfizmler üzerinde araştırma yapmayı tercih etmektedirler. Fakat aynı polimorfizmler üzerinde yapılan çalışma sayılarının azlığı bu çalışmaların meta-analizinin yapılmasına imkan vermemektedir, meta-analizler yapılabilse de güçsüz kalmaktadır. Ayrıca bazı araştırmacılar süt dişler üzerine bazı araştırmacılar ise daimi dişler üzerinde araştırma yapmayı tercih etmektedirler. Bu durum da sonuçlarda heterojentiyeye ve tutarsızlıklara neden olabilmektedir. Ayrıca her popülasyonda görülen polimorfizm sıklığının farklı olması, çevresel faktörlerdeki değişkenlikler de heterojentiyeyi artırabilmektedir. Genetik polimorfizmlerin diş çürüğü üzerine etkili olduğu noktasında bilim insanlarında ortak bir kanaat olsa da güvenilir ve kesin sonuçların elde edilebilmesi için çok daha fazla çalışmaya ihtiyaç vardır.

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