BÖLÜM 1

OSTEOPOROZUN PERİODONTAL VE PERİ-İMPLANT KEMİK SAĞLIĞINA ETKİLERİ VE İLİŞKİLİ RİSK FAKTÖRLERİ

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GİRİŞ

Osteoporoz, kemiğin zayıflayarak kırık riskinin arttığı, kütlesinin azaldığı ve mikroyapısının bozulduğu metabolik bir hastalıktır. Kemik yapımı ile yıkımı arasındaki dengenin bozulması halidir. Osteoporozun patogenezinde endokrin değişim, metabolik bozukluklar, sağlıksız davranışlar ve zihinsel stres gibi birçok sistemik faktörün rolü tanımlanmıştır. Katkıda bulunan risk faktörleri arasında, glukokortikoidler gibi ilaçların kullanımı, menopozala birlikte östrojenin azalması, sigara kullanımı, diabet, D vitamini ve kalsiyumun eksik alımı sayılabilir. Yaşlanma ile artış gösteren osteoporoz, en çok 50 yaş üstü kadınları etkilemektedir. Çenelerdeki alveoler kemik de osteoporozden etkilenmekte, mineral yoğunluğunda ve kemik kalınlığında azalma olmaktadır (1). Düşük kemik yoğunluğunu taramak için mandibular kortikal indeks, kortikal genişlik ve mandibular panoramik indeks gibi ölçeklerin kullanılabileceği bildirilmiştir. Diş kaybı, periodontitis gibi bakteriyel enfeksiyonlar, yetersiz çiğneme gibi lokal faktörler de çene osteoporozü ile ilişkilendirilir. Periodontal, ortodontik ve implant tedavisi, diş çekimi gibi prosedürlerin prognozu osteoporoz ile yakından ilişkilidir (1). Kemik mineral yoğunluğunu arttırmak için kullanılan bifosfonatlar, reloksifen, demosumab, teriparatid (TPTD), romosozumab ve stronsiyum ranelat gibi ilaçlar bifosfanat ilişkili çene osteonekrozu (BRONJ) gibi ciddi yan etkilere de yol açabilir.

Periodontitis, özellikle inflamatuar alveolar kemik kaybı olmak üzere, dişi destekleyen dokuların tahribatıyla ortaya çıkan, bozulmuş periodontal konak-mik-

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siyonunu teşvik eder, bu nedenle kemik kütlesine ve kemik mikro yapısına zarar verir (88,91). Ancak vazoaktif intestinal peptid (VIP), kemik koruyucu özellikler sergiler. VIP, inflamasyon tepkisini engeller ve lokal RANKL/OPG oranını azaltır, bu nedenle sıçanlarda Escherichia coli tarafından indüklenen periodontal kemik kaybını azaltır (92). Tersine, kromogranin A ve madde P'nin (SP), inflamatuar sitokin üretimini değiştirerek, hipoksiye bağlı faktör 1 alfa'yı ve RANKL/OPG oranını artırarak zihinsel stres koşulları altında periodontitis alevlenmesinde temel bir aracı olduğu doğrulanmıştır (89). Kemik yeniden şekillenmesinin yanı sıra, bağışıklık savunma sisteminin de aktive peptiderjik nöronlar tarafından düzenlendiği öne sürülmektedir. Periodontitisten etkilenen bölgelerde, sağlıklı kontrollerle karşılaştırıldığında GCF'de SP ve VIP yükselmiş ve kalsitoninle ilişkili peptid (CGRP) azalmıştır (89). Adrenerjik sinyal yolu ise genel olarak osteoklastik alveolar kemik rezorpsiyonunu teşvik eder.

SONUÇLAR

Osteoporoz ve periodontitis, sistemik olarak kemik dokunun veya periodontal dokularının bozulmasıyla ortaya çıkan, sık karşılaşılan kronik hastalıklardır. Mevcut kanıtlar osteoporozun varlığının periodontitis riskiyle ilişkili olduğunu göstermektedir. Ancak periodontitisin altında yatan patolojik süreçte osteoporotik bireylerde yatkınlık oluşturan faktörlerin rollerine ilişkin bilgiler hala eksiktir. Bu bölüm, periodontitis ve osteoporoz arasındaki bağlantıları ortak risk faktörleri perspektifinden ortaya koymaktadır. Bu risk faktörleri arasında hormonlar (seks hormonları, kalsiyotropik hormonlar, sirkadiyen ritimle ilişkili hormonlar, GH ve TH), metabolik bozukluklar (glikoz metabolizması, lipit metabolizması ve AA metabolizması), sağlıksız yaşam tarzı (sigara ve aşırı alkol tüketimi) ve psikolojik stres yer alır. Diğer bir durum da bu yatkınlık oluşturan faktörlerin birbirinden bağımsız değil, karmaşık ve çapraz etkileşimler olduğunu göstermektedir. Gelecekte bu faktörlerin kemik ve periodontal sağlık üzerindeki etkileri konusunda daha derin bir anlayış sağlamaya ihtiyaç duyulmaktadır.

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