Bölüm 2

ANTİOKSİDANLARIN PERİODONTOLOJİDE KULLANIMI

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Periodontitis bakteriyel enfeksiyon sonucu başlayan ve konak dokunun bu enfeksiyona cevabı ile doku yıkımının ilerlediği bir hastalık olarak kabul görmektedir (1). Periodontitisin neden olduğu destek dokulardaki kemik kaybına bağlı olarak dişin kaybı meydana gelebilmektedir. Bununla birlikte periodontitisin kardiyovasküler hastalıklar ve diyabet gibi çeşitli metabolik rahatsızlıklar ile ilişkili olduğu belirtilmiştir (2).

Reaktif oksijen türleri (ROT) birçok enflamatuvar hastalığın ilerlemesinde önemli rol oynadığından dolayı son yıllarda üzerinde durulan bir konu haline gelmiştir (3). ROT hücreler tarafından üretilmektedir ve normal hücresel aktiviteler için gereklidir. Bununla birlikte ROT antioksidan aktivitesi tarafından dengelenmekte ve dokular üzerindeki zararlı etkileri engellenmektedir. Herhangi bir sebepten dolayı ROT üretimi arttığında veya antioksidan aktivitesi azaldığında oksidatif stres ortaya çıkar ve periodontal dokularda yıkım meydana gelir (4). ROT lipit peroksidasyonuna, DNA ve protein hasarına, çeşitli enzimlerin oksidasyonuna ve enflamatuvar sitokinlerin artışına neden olabilmektedir (5). Ayrıca nükleer faktör kappa B reseptör aktivatör ligandı (RANKL) üzerinde de rol oynayarak osteoklast hücrelerinin formasyonunda ve hayatta kalmasında etkili olur (6).

Bu sebepten dolayı ROT'un neden olduğu periodontal harabiyeti engellemek amacıyla çeşitli antioksidanlar kullanılmaktadır. Bu kitap bölümünde periodontolojide kullanılan bir kısım antioksidanlardan ve bu antioksidanların etkilerinden bahsedilecektir.

ANTİOKSİDANLAR

Antioksidanların Periodontal Sağlık Üzerine Etkileri

Antioksidanlar dişeti ve periodontal iyileşme süresince fibroblast göçünü ve çoğalmasını düzenleyerek fonksiyonel mekanizmalar üzerinde rol oynarlar. Antioksidanlar etkilerini 3 mekanizma ile göstermektedirler.

1. Dokuların yıkımından sorumlu olan sitokinlerin, kemokinlerin ve proenflamatuvar proteinlerin üretimini azaltır.

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liseminin neden olduğu oksidatif stresi ve alveolar kemik kaybını anti-diyabetik ve anti-oksidatif özellikleri sayesinde azalttığı gösterilmiştir (75). İmplant ile ilgili yapılan çalışmalarda ise topikal melatonin uygulamasının implant etrafındaki yeni kemik oluşumunu uyardığı tespit edilmiştir (76,77).

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