BÖLÜM 14

PERİODONTAL REJENERASYONDA TROMBOSİTTEN ZENGİN FİBRİN TÜREVLERİNİN KULLANIM ALANLARI VE ETKİNLİĞİ

Gizem TORUMTAY CİN[1]

GİRİŞ

Trombosit türevleri lökosit ve fibrin içeriğine göre dört ana gruba ayrılırlar. Bunlar; saf trombositten zengin plazma, lökosit-trombositten zengin plazma, saf trombositten zengin fibrin ve lökosit-trombositten zengin fibrindir (L-TZF). Bu sınıflama, ilk nesil trombositten zengin plazma (TZP) ve ikinci nesil trombositten zengin fibrin (TZF) olarak iki gruba da ayrılabilir[1]. İkinci nesil trombosit türevi olan TZF, ilk olarak Choukroun tarafından tanımlanmış otolog, trombinize olmayan, trombosit ve lökositten zengin yoğun ve stabil bir fibrin ağıdır. Sığır trombini gibi bir antikoagülan ilavesi gerektiren TZP'nın aksine, ilavesiz basit bir şekilde santrifüj edilerek oluşturulduğu için tamamen otologdur [(2)]. Uygun koşullarda hazırlanmış bir TZF membran, immün-enflamatuar cevap ve yara iyileşmesi ile ilgili çeşitli sitokin ve büyüme faktörlerini 10-14 gün boyunca salabilmektedir[3]. Pıhtılaşma sürecinin son aşamasında şekillenen üç boyutlu fibrin iskeleti aynı zamanda büyüme faktörleri için bir depo görevi görerek osteoblast, endotel hücreleri, kondrositler ve çeşitli fibroblast kaynaklarının çoğalmasını ve farklılaşmasını tetikler[(4,5)]. TZP'ya göre daha yavaş çözünerek trombosit ve sitokinlerin etkili bir şekilde bölgede kalmasına ve zamanla kademeli olarak salınmasına olanak sağlar [(6)].

TZF'in Yara İyileşmesindeki Etkileri

TZF'in yara iyileşmesindeki rolünde lökosit ve trombosit sitokinlerinin önemli etkileri olmakla birlikte, iyileştirici potansiyelinden esas olarak sorumlu tutulan, bu elementleri destekleyen fibrin matriksdir[(7)]. Anjiojenik özellikleri, trombosit kaynaklı büyüme faktörü, dönüştürücü büyüme faktörü, insülin benzeri büyüme faktörü ve vasküler endotelyal büyüme faktörü gibi matriks içerisine gömülü çeşitli büyüme faktörleri ve çeşitli sitokinleri barındıran 3 boyutlu fibrin matriks yapısı ile açıklanabilir. Bu moleküller düzenli ve yavaş bir şekilde salınarak yumu-

[1] Dr. Öğr. Üyesi, Pamukkale Üniversitesi Diş Hekimliği Fakültesi Periodontoloji A.D., gyaprak_dt@hotmail.com

SONUÇ

TZF'in periodontal rejenerasyonda kullanımı ile ilgili literatürde çok sayıda çalışma olmakla birlikte, sert-yumuşak doku iyileşmesi ve postoperatif ağrı üzerine olumlu etkileri sıklıkla rapor edilmiştir. Bununla birlikte, rejeneratif yöntemlerle TZF'in optimal etkisini elde etmek için protokolün standardizasyonu gereklidir. TZF'in doğru bir şekilde ve cerrahi alan başına yeterli sayıda kullanımı da bu teknikten fayda elde etmek için önemli olabilecek bir unsurdur. TZF ve türevleri, bildirilen iyi biyolojik etkileri, hazırlanma kolaylığı, düşük maliyeti ve tamamen otolog olması nedeniyle umut vadeden bir biyomateryal olma özelliğindedir.

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