Bölüm 23

KIKIRDAK DEFEKTLERİNİN TEDAVİSİNDE GÜNCEL MEDİKAL YAKLAŞIMLAR

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1.GİRİŞ

Hiyalin eklem kıkırdağı dokusu yoğun olarak hidratedir ve bununla birlikte kemik dokunun aksine hücre yoğunluğu oldukça düşük olup inervasyonu ve vaskülarizasyonu bulunmamaktadır. Bu nedenle olası yaralanmalarında rejenerasyonu oldukça düşüktür. Hiyalin kıkırdağın bu yapısı nedeni ile in vivo restorasyonu ve in-vitro rekonstrüksiyonu doku mühendisliği çalışmalarının hedefindedir. Ancak tedavide elde edilen başarı henüz kısıtlıdır.

Hyalin kıkırdağın yapısı basit olarak görülebilir ancak aldatıcıdır. İnervasyon ve vaskülarizasyon olmasada bu doku orginasyonu (hücre yoğunluğu, ekstraselüler matriks bileşimi ve kollajen liflerinin oryantasyonu) ve lokal elastik modulus nedeni ile diğer dokulardan farklı birkaç katmandan oluşur (1,2). Kıkırdak doku Kondrosit adı verilen tek tip hücrelerden oluşsada bu hücreler farklı katmanlarda farklı morfoloji ve fonksiyonlara sahiptir (3). Bu doku genellikle dört bölgeye ayrılır(4,5):

1 kondro-progenitörleri içeren sinovyal sıvı ile temas halinde olan yüzeysel bölge;
2 yuvarlak kondrositleri içeren yüzeysel bölgenin altındaki orta veya geçiş bölgesi;
3 derin veya radyal bölge ; ve
4 alttaki subkondral kemik ile doğrudan temas halinde olan kalsifiye tabaka (Şekil 1).

Osteoartrit (OA) gibi eklem kıkırdağının dejeneratif hastalıkları sakatlığa, eklemin hareketi esnasında ağrıya ve hareket kısıtlılığına yol açabilir. OA en sık görülen kas iskelet sistemi hastalığıdır. Dünya nüfusunun %10-12'sini etkilemektedir (6). Dünya Sağlık Örgütü (WHO) 2010 istatistiklerine göre 65 yaş üstü kişilerde bu insidans %49,7'ye çıkmaktadır ve bu sayılar toplumun yaşlanması ve obezite ile bağlantılı olarak artmaya devam etmektedir. Diz ve kalça OA'nin mevcut tedavileri arasında selektif ve selektif olmayan nonsteroid antiinflamatuar ilaçlar (NSAID'ler) ve ayrıca intraartiküler kortikosteroid enjeksiyonları yer alır (7–9). Böylece altta yatan nedenlere bakılmaksızın ağrı ve inflamasyonda azaltma isteği sonunda eklem replasman cerrahisine kadar giden bir sürece yol açabilir. OA'nın etiyolojisi henüz tam olarak anlaşılamamıştır; ancak yaşlanma, travma, genetik yatkınlık, obezite, inflamasyon ve metabolik sendromun bu hastalıkta rol oynadığı bilinmektedir (10).

OA'nın belirsiz etiyolojisi hastalığı iyileştirmeyi amaçlayan rejeneratif yaklaşımlar için engeller teşkil etmektedir. Bu alandaki birçok araştırma kı-

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lanmış adipozun eklem içi uygulamasından sonra hiyalin kıkırdaktaki GAG içeriğinde artış olarak görülür.Sprifermin, BMP-7, monoklonal antikorlar ve gen tedavisi gibi terapötik seçenekler umut verici çözümler sunar, ancak bu yöntemlerin güvenliğini ve etkinliğini doğrulamak için daha fazla klinik çalışmaya ihtiyaç vardır.

Sonuç olarak, oldukça yaygın olan bu hastalığın patogenezini daha iyi anlamak için multidisipliner bir bakış açısıyla çok sayıda çalışmaya ihtiyaç vardır.

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