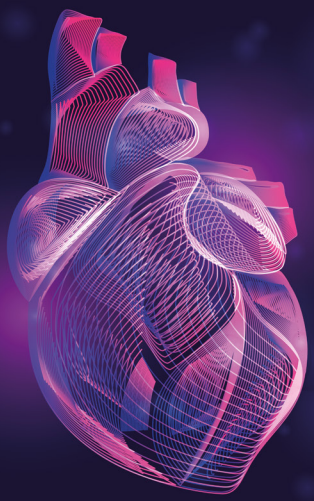

BÖLÜM 23

ENDOTEL DİSFONKSİYONUNDA GÖRÜNTÜLEME

Murat KÜÇÜKUKUR[1]

GİRİŞ

Vasküler endotel, sıvıların, besinlerin ve metabolitlerin değişimini düzenlemek için yarı geçirgen bir bariyer görevi görür. Ayrıca hemostaz ve vasküler sağlık için kritik öneme sahiptir. (1,2) Sağlıklı arterlerde, endotel hücreleri laminer kan akımı, ve dolaşımdaki yüksek yoğunluklu lipoprotein gibi sitoprotektif faktörler tarafından sürdürülen hareketsiz bir durumda bulunur. (3) Bununla birlikte, kronik hastalık durumları, metabolik koşullar dahil olmak üzere çeşitli uyaranlar da (Örneğin tip 2 diabetes mellitus, obezite, dislipidemi, sigara, ve bozulmuş kan akışı), hareketsiz fenotipi kesintiye uğratır ve endotel işlev bozukluğunu tetikler. (4,5,6,7,8,9) 1998'de Hunt ve Jurd, işlevsiz vasküler endoteli beş temel karakteristik mekanizma ile tanımladı: (i) vasküler bütünlük kaybı, (ii) yapışma moleküllerinin ekspresyonunda artış, (iii) protrombotik fenotip, (iv) sitokin üretimi ve (v) insan lökosit antijen moleküllerinin yukarı regülasyonu. (10) Artık vasküler endotel disfonksiyonu tek patolojik bir durum olmayıp, bunun yerine vasküler tonusta, geçirgenlikte, inflamasyonda ve farklılaşmada patofizyolojik olarak heterojen değişikliklerle ilişkili bir fenotip spektrumunun temsilidir ve endotelin homeostatik fonksiyonlarının kaybına yol açtığı bilinmektedir (Şekil 1). Gerçekten de, son zamanlardaki tek hücreli RNA dizileme çalışmaları, örneğin anevrizmalar ve ateroskleroz gibi hastalıklar da çok sayıda farklı endotel hücre alt tipini ortaya çıkarmış, böylece hastalıklı dokularda endotelyal hücrelerin heterojenliğini vurgulamıştır. (11-14) Dokuda yerleşik endotelin yanı sıra, endotel hücre disfonksiyonu ayrıca dolaşımdaki endotelyal değişiklikleri de içerir. Kardiyovasküler sağlık ve hastalıkta önemli rollere koloni oluşturan endotelyal hücreler ve endotel kaynaklı mikro veziküller sahiptir.

AA, amino asitler; EndMT, endotelyal – mezenkimal geçiş; eNOS, endotelyal nitrik oksit sentaz (15)

VASKÜLER DİSFONKSİYON

Fizyolojik koşullarda, uygun endotel fonksiyonunun sürdürülmesi, nitrik oksit (NO), prostasiklin (PGI2) ve/veya endotel kaynaklı hiperpolarize edici faktör gibi vazoaktif maddelerin salınımı yoluyla vazorelaksan ve koruyucu özelliklere bağlıdır. (4,9,10)

Esas olarak vazorelaksasyon ve vasküler tonus regülasyonu yaptığı bilinen nitrik oksit (NO), oksidatif strese karşı koruma, trombosit aktivasyonu ve agregasyonu, inflamasyon ve düz kas hücresi (SMC)

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len kişinin bazal durumunun teste uygunluğunun kontrol edilmesi gereklidir.

Endotel disfonksiyonu aterosklerozun ilk basamağıdır. Kardiyovaküler hastalıkların yanında, diyabet, hiperlipidemi, hipertansiyon, sigara içimi, obezite ve inflamatuvar hastalıklarda endotel disfonksiyonu ve bozulmuş FMD değerleri izlenebilir. Bozulmuş FMD değerlerini saptamak, endotel disfonsiyonunu gösterme açısından oldukça önemli olup, hastalığın ilerlemesini değiştirme açısından önemli fırsat tanır

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