1. BÖLÜM

Üriner Mikrobiyota

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Giriş

Bakteriler, mantarlar ve virüslerin insan vücudunun çeşitli kompartmanlarında yaşadığı eskiden beri bilinen bir gerçektir. İnsan mikrobiyomunun ortaya çıkışı insan sağlığı ve hastalıkları ile ilgilenen araştırmacılar için önemli bir yeni keşif alanı oluşturmuştur. "Mikrobiyota" (mikropların kendisi) ve "mikrobiyom" (bu mikropların genetik materyali) terimleri, insan sağlığı ve hastalığının çeşitli yönlerinde klinik sözlüğün bir parçası haline gelmiştir (1,2).

Mikroskopi ile gözlenen mikrop çeşitliliğinin geleneksel kültüre dayalı yöntemlerle izole edilenlerden çok daha fazla olduğunun görülmesi sonrasında insan vücudunu kolonileştiren mikrobiyal topluluklar bilimsel topluluğun dikkatini çekmiştir (2,3).

Human microbiome project (HMP), 2008 yılında mikrobiyotanın önemini ve insan sağlığı üzerindeki etkisini araştırmak için hayata geçirildi (1,4). İlk olarak gastrointestinal sistem (GİS), ağız ve burun boşlukları, deri ve vajinal bölge mikrobiyotası araştırıldı. Proje mikrobiyotanın homeostaz ve çeşitli patolojik durumlardaki rolünü inceledi (5). HMP 242 sağlıklı (ağırlıklı olarak genç) bireyin mikrobiyota profilini çıkardı. 5 ana vücut alanındaki 18 ayrı bölgeden örnekler toplandı. Bu önemli araştırma, sağlık ve hastalık hallerinde oluşan insan mik-

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idrar kültürlerinde üreme göstermeyen kalıcı AÜSS olan hastalar için özellikle anlamlı olabilir. İdrar kültürü tekniklerindeki gelişmeler çoğu klinik laboratuvarda hemen uygulanabilen bir alternatif sunsa da DNA sekanslama güncel klinik ortamların çoğu için pratik değildir. Üriner mikrobiyotanın üriner sağlığını korumadaki ve alt üriner sistem işlev bozukluğunu indüklemedeki rolünü açıklığa kavuşturacak daha fazla araştırma tedavi algoritmalarını ve önleme stratejilerini iyileştirmeye yardımcı olacaktır. Bazı mikroplar antibiyotikler, antimikrobiyal peptidler ve/veya diğer patojenik mikropları inhibe eden veya öldüren diğer antimikrobiyal bileşikler üreterek üropatojenlere karşı koruma sağlayan özelliklere sahiptir (60). Ayrıca vajinal ve bağırsak mikrobiyotasının mikrobiyal bileşimi hızla değiştirebildiği ve bu değişikliklerin üriner mikrobiyotasını etkileyebileceği iyi bilinmektedir.

Son olarak, üriner mikrobiyotaya dayalı biyobelirteçler, alt üriner sistem fonksiyonel bozuklukları için yeni tanısal, terapötik ve prognostik araçları ortaya koyabilir. MAS/İS, UUI ve KP/KPAS gibi hastalıkların tanı kriterlerinde bakteriyel rol olmamasına rağmen, asemptomatik sağlıklı bireylere göre tüm bu hastalıklarda üriner mikrobial profilin spesifik ürotipler tarafından domine edildiği görülmüştür. Üriner mikrobiyotanın bu bozuklukların etiyopatogenezi üzerindeki etkisinin giderek daha fazla anlaşılması optimal tedavi için rehberlik sağlamaya yardımcı olabilir.

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