



5. COVID-19 VE GENETİK YATKINLIK Bölüm

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GİRİŞ

İnsan şiddetli akut solunum sendromu koronavirus 2 (SARS-CoV-2) enfeksiyonunun klinik sonuçları, zararsız asemptomatik belirtilerden ölümcül koronavirus hastalığı 2019'a (Coronavirus Disease-2019; COVID-19) kadar uzanmaktadır. SARS-CoV-2'nin sebep olduğu COVID-19, dünya çapında yayılması şaşırtıcı bir hızla ilerlemiş ve dünya çapında bugün yaklaşık olarak 4,379 milyon ölümlerle sonuçlanmıştır (1). Bu tüm dünyayı etkilen sağlık krizi esnasında ve özellikle sınırlı kaynaklarımız göz önüne alındığında, enfeksiyon tehdidini azaltmak için en uygun önlemleri belirlemek son derece önemlidir. Bu ölümcül hastalığın demografisinde çarpıcı faktör, yaşlılar hastalıktan ciddi şekilde etkilenirken yani hastalık bir yaş yanlılığı gösterirken aynı zamanda vaka sayısı, hastalık şiddeti ve ölüm oranları açısından erkekler kadınlara göre daha çok etkilendiği görülmektedir (2-6). Eşlik eden kalp damar hastalıkları, kronik solunum yolu hastalıkları, kanser, hipertansiyon, diyabet gibi ko-morbiditeler ve yaşam tarzı etkenleri bu eğilimlere katkıda bulunurken, konakçı bireyin bağışıklık tepkisini ortaya koyan biyolojik-genetik faktörlerde bu açıdan önemli olabilmektedir. COVID-19 hastalığı hafif bir klinik seyir olan asemptomatikten, ağır ölümcül sonuçlar ile sonuçlanan geniş klinik seyrinde; bireyin yaşı,

cinsiyeti ve ilave hastalıklarının olmasının yanı sıra bireyin genetik yapısı da oldukça önemlidir (5-8). Hastalığa yatkınlığın/duyarlılığın moleküler temelini anlamak hayati öneme sahiptir ve bu konu üzerinde önemli çalışmalar yapılmakta ve sonuç olarak birden fazla genetik faktörün SARS-CoV-2 enfeksiyon riskine ve COVID-19 hastalığının prognozuna etkide bulunabileceğini düşündürmektedir.

COVID-19'A KARŞI GELİŞEN DİRENÇ VE DUYARLILIK İLE İLİŞKİLİ ADAY GENLER

SARS-Cov-2'nin yaşam döngüsü ve konak immün sistem mekanizması ile ilgili yollarda yer alan proteinler, genetik yatkınlığı belirleyen önemli bileşenleridir. Bu yollarda yer alan proteinleri kodlayan genlerde olan polimorfizm/mutasyonların COVID-19 duyarlılık ve direncine önemli katkıda bulunması beklenmektedir.

ACE2

SARS-CoV-2 için fonksiyonel bir reseptör olduğu bilinen Anjiyotensin dönüştürücü enzim'ni (ACE2), Anjiyotensin 1'de dâhil olduğu vazodilatör peptit üretimini katalize eden ve anjiyotensin II'nin vazokonstriktör etkilerinin dengelenmesinden sorumlu olduğu belirlenmiştir (5,7,9,10). İnsan dokularında, en yüksek ACE2 ifade seviyelerine; testis, tiroid, böbrekler,

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