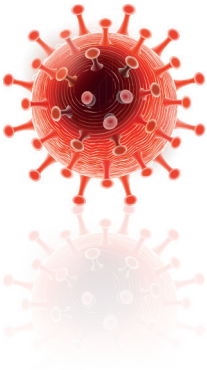

14. Bölüm

COVID-19 ve İmmünoloji

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11 Mart 2020 tarihinde Dünya Sağlık Örgütü tarafından pandemi ilan edilmesine neden olan ağır akut solunum yetmezliği sendromu koronavirüs 2 (SARS-CoV-2), Aralık 2019'da Çin'in Hubei eyaletine bağlı Wuhan şehrinde ortaya çıkmıştır. *Coronaviridae* ailesinde yer alan, zarflı, pozitif polariteli, tek zincirli RNA (+ssRNA) virüsüdür (1).

İnsanları enfekte eden koronavirüsler 1960'lı yıllarda ortaya çıkmış ve 2019 tarihine kadar altı tane koronavirüs tanımlanmıştır. Bunlar HCoV-229E, HCoV-NL63, HCoV-HKU1, HCoV-OC43,SARS-CoV ve MERS-CoV 'dur. Aralık 2019 tarihinde tanımlanan SARS-CoV-2, koronavirüs ailesinin insanları enfekte eden yedinci üyesidir (2).

SARS-CoV, MERS-CoV ve SARS-CoV-2 ağır akut solunum yetmezliği sendromuna neden olan patojenik virüslerdir ve alt solunum yollarını enfekte ederek şiddetli pnömoni tablosuna neden olabilirler (3,4).

SARS-CoV-2 genetik olarak %79 oranında SARS-CoV'a, %50 oranında da MERS-CoV'a benzemektedir (5). SARS-CoV-2'nin genomu zarf ile çevrelenmiş sirküler bir nükleokapsit protein içindedir ve 9860 aminoasit kodlayan 29891 nükleotide sahiptir (6). Genomda ORF1ab, ORF2 (spike protein), ORF3a, ORF4 (zarf protein), ORF5 (membran protein), ORF6, ORF7a, ORF7b, ORF8, ORF9 (nükleokapsit protein) ve ORF10 olmak üzere 11 açık okuma çerçeveli (ORF:open reading frames) toplam 11 gen bulunmaktadır (7). İlk gen olan ORF1ab total

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COVID-19'la ilişkili otoimmun tiroidit vakaları da bildirilmiştir. COVID-19 enfeksiyonlu 191 kişiyi içeren bir çalışmada, tiroid fonksiyonlarında %13.1'lik anormallikler görülmüştür (79). Ayrıca, COVID-19 enfeksiyonundan sonra Graves hastalığının yanı sıra, otoimmün tiroiditin karakteristik özelliklerine sahip atipik tiroidit vaka raporları da tanımlanmıştır (80,81).

COVID-19, yetişkinlere kıyasla çocuklar arasında genellikle hafif bir seyir gösterir. Son kanıtlar, çocuklarda da COVID-19 tarafından tetiklenen otoimmün bozuklukları göstermektedir. Örneğin, Kawasaki hastalığı (KD), 5 yaşından küçük çocuklarda, akut, kendini sınırlayan bir vaskülit olarak ortaya çıkan immünolojik bir reaksiyondur. SARS-CoV-2 sonrası akut başlangıçlı Kawasaki hastalığı tanımlanmıştır. Ayrıca, son çalışmalarda, mevcut pandemi sırasında sağlık merkezlerinde yeni başlayan diyabet tip 1'de bir artış olduğu ve SARS-CoV-2 enfeksiyonu vaka raporlarının ardından çocuklarda yeni başlayan diyabet tip 1 olduğu gösterilmiştir. Otoimmün hemolitik anemi (AIHA), hemolize neden olan eritrositleri hedef alan otoantikorlar ile karakterize edilen nispeten nadir bir hastalıktır. SARS-CoV-2-enfeksiyonundan sonra AIHA başlangıcını açıklayan makaleler yayınlanmıştır. İmmun trombositopenik purpura SARS-CoV-2 enfeksiyonu tarafından tetiklenen diğer bir otoimmün yanıt olarak vaka raporlarında bildirilmiştir. Diğer çalışmalar, SLE, post ortostatik taşikardi sendromu, viral artrit, miyastenia gravis gibi SARS-CoV-2 enfeksiyonu ile ilişkili otoimmün bozuklukları bildirmişlerdir (68,70).

Tartışılan otoimmün bozukluklar, SARS-CoV-2'ye karşı anormal bir bağışıklık tepkisinin bir sonucu olarak ortaya çıkabilir. Bulguların çoğu literatürde yalnızca vaka raporları olarak yayınlanmıştır. Birçok otoimmun hastalığın antikor oluşumundan yıllar sonra ortaya çıktığı gözönüne alındığında SARS-CoV-2 enfeksiyonundan sonra otoimmun hastalıkların gelecek zamanda artma olasılığı vardır (68).

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